Keywords in Context for the NAG Fortran 77 Library

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Single 1-D complex discrete Fourier transform, extra workspace...
Single 1-D complex discrete Fourier transform, no extra...
1-D complex discrete Fourier transform of...
Multiple 1-D complex discrete Fourier transforms
1-D Gaussian quadrature
Single 1-D Hermitian discrete Fourier transform, extra...
Single 1-D Hermitian discrete Fourier transform, no extra...
Multiple 1-D Hermitian discrete Fourier transform, no extra...
Multiple 1-D Hermitian discrete Fourier transforms
1-D quadrature, adaptive, finite interval, allowing for...
1-D quadrature, adaptive, finite interval, method...
1-D quadrature, adaptive, finite interval, strategy due...
1-D quadrature, adaptive, finite interval, variant of...
1-D quadrature, adaptive, finite interval, variant of...
1-D quadrature, adaptive, finite interval, weight...
1-D quadrature, adaptive, finite interval, weight...
1-D quadrature, adaptive, finite interval, weight...
1-D quadrature, adaptive, semi-infinite interval, weight...
1-D quadrature, adaptive, semi-infinite interval, weight...
1-D quadrature, non-adaptive, finite interval
1-D quadrature, non-adaptive, finite interval
1-D quadrature, non-adaptive, finite interval
1-D real discrete Fourier transform, no extra workspace for...
Single 1-D real discrete Fourier transform, sextra workspace
Multiple 1-D real discrete Fourier transform, sextra workspace
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D01AKF
D01AHF
D01AJF
D01ATF
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D01APF
D01AMF
D01ASF
D01GAF
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            Elliptic PDE, Laplace's equation, 2-D arbitrary domain
2-D complex discrete Fourier transform
Sort 2-D data into panels for fitting bicubic splines
...of finite difference equations by SIP, five-point 2-D molecule, iterate to convergence
...of finite difference equations by SIP, five-point
2-D molecule, one iteration
2-D quadrature, finite region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        D03EBF
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       Elliptic PDE, Helmholtz equation, 3-D Cartesian co-ordinates
3-D complex discrete Fourier transform
...of finite difference equations by SIP, seven-point 3-D molecule, iterate to convergence
...of finite difference equations by SIP, seven-point 3-D molecule, one iteration
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D03ECF
D03UBF
   Nonlinear convolution Volterra-Abel equation, 1st kind, weakly singular Nonlinear convolution Volterra-Abel equation, 2nd kind, weakly singular Generate weights for use in solving weakly singular Abel type equations
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       D05BEF
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                                                                                                           Calculation of weights and abscissae for Gaussian quadrature rules, general choice... Pre-computed weights and abscissae for Gaussian quadrature rules, restricted...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       D01BCF
                                   Pre-computed weights and abscissae for Gaussian quadrature rules, general concern.

Pre-computed weights and abscissae for Gaussian quadrature rules, general concern.

Robust estimation, median, median absolute deviation, robust standard deviation

1-norm, ∞-norm, Frobenius norm, largest absolute element, complex band matrix

1-norm, ∞-norm, Frobenius norm, largest absolute element, complex Hermitian band matrix

1-norm, ∞-norm, Frobenius norm, largest absolute element, complex Hermitian matrix,

1-norm, ∞-norm, Frobenius norm, largest absolute element, complex Hermitian matrix,

1-norm, ∞-norm, Frobenius norm, largest absolute element, complex Hermitian matrix

1-norm, ∞-norm, Frobenius norm, largest absolute element, complex symmetric band matrix

1-norm, ∞-norm, Frobenius norm, largest absolute element, complex symmetric matrix, packed...

1-norm, ∞-norm, Frobenius norm, largest absolute element, complex symmetric matrix, packed...

1-norm, ∞-norm, Frobenius norm, largest absolute element, complex triangular matrix

1-norm, ∞-norm, Frobenius norm, largest absolute element, complex triangular band matrix

1-norm, ∞-norm, Frobenius norm, largest absolute element, real general matrix

1-norm, ∞-norm, Frobenius norm, largest absolute element, real general matrix

1-norm, ∞-norm, Frobenius norm, largest absolute element, real symmetric band matrix

1-norm, ∞-norm, Frobenius norm, largest absolute element, real symmetric band matrix

1-norm, ∞-norm, Frobenius norm, largest absolute element, real symmetric band matrix

1-norm, ∞-norm, Frobenius norm, largest absolute element, real symmetric band matrix

1-norm, ∞-norm, Frobenius norm, largest absolute element, real symmetric band matrix

1-norm, ∞-norm, Frobenius norm, largest absolute element, real symmetric band matrix

1-norm, ∞-norm, Frobenius norm, largest absolute element, real triangular matrix, packed storage

1-norm, ∞-norm, Frobenius norm, largest absolute element, real triangular matrix, packed storage

1-norm, ∞-norm, Frobenius norm, largest absolute e
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F06UBF
F06UAF
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F06UMF
F06UFF
F06UGF
F06UJF
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F06RAF
F06REF
F06REF
F06RDF
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F06FLF
F06JMF
F06JLF
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                                                                                                                                                                                                                               Acceleration of convergence of sequence, Shanks'...
                                                                                                                                                               Normal scores, accurate values
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       G01DAF
                                                                                                                                                                           ODEs, IVP, Adams method, until function of solution is zero,...
ODEs, IVP, Adams method with root-finding (forward communication,...
ODEs, IVP, Adams method with root-finding (reverse communication,...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       D02CJE
                                                                                                                                   1-D quadrature, adaptive, finite interval, allowing for singularities...

1-D quadrature, non-adaptive, finite interval

1-D quadrature, adaptive, finite interval, method suitable for...

1-D quadrature, adaptive, finite interval, strategy due to Patterson,...

1-D quadrature, adaptive, finite interval, strategy due to Piessens and...

1-D quadrature, adaptive, finite interval, variant of D01AJF efficient...

1-D quadrature, adaptive, finite interval, variant of D01AKF efficient...

1-D quadrature, adaptive, finite interval, weight function 1/(x-c)...

1-D quadrature, adaptive, finite interval, weight function cos(\omega...

1-D quadrature, adaptive, finite interval with provision for indefinite...

1-D quadrature, non-adaptive, finite interval with provision for indefinite...

1-D quadrature, infinite or semi-infinite interval
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D01AHF
D01AJF
D01ATF
D01AUF
D01AQF
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                                                                                                                                                  Multi-dimensional adaptive quadrature over hyper-rectangle
Multi-dimensional adaptive quadrature over hyper-rectangle, multiple...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      D01ASF
                                                                                                                                                          1-D quadrature, adaptive, semi-infinite interval, weight function...
                                                                                                                                                                                                                                 Add a new variable to a general linear regression model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       G02DEF
                                                                                                                                                                                                                                 Add a scalar times a complex sparse vector to another...
Add a scalar times a real sparse vector to another real...
Add scalar times complex vector to complex vector...
Add scalar times real vector to real vector...
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                                                                                                                                                                                                                                 Add/delete an observation to/from a general linear...
Real inner product added to initial value, basic/additional precision Complex inner product added to initial value, basic/additional precision
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X03ABF
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Return or set unit number for advisory messages
                                                                 Airy function Ai(x)
                                                                                                                                                                                                                   S17AGF
                                                                 Airy function \operatorname{Ai}'(x)
                                                                                                                                                                                                                   S17AJF
                                                               Airy functions Ai(z) and Ai'(z), complex z
                                                                                                                                                                                                                   S17DGF
                                              Airy functions \mathrm{Ai}(z) and \mathrm{Ai}'(z), complex z
                                                                                                                                                                                                                   S17DGF
                                                                                         Airy function Ai(x)
                                                                                                                                                                                                                   S17AGF
                                                                                         Airy function Ai'(x)
Airy function Bi(x)
                                                                                                                                                                                                                   S17AJF
                                                                                                                                                                                                                   S17AHF
                                                                                         Airy function Bi'(x)
                                                                                                                                                                                                                   S17AKF
                                                                                         Airy functions Ai(z) and Ai'(z), complex z
Airy functions Bi(z) and Bi'(z), complex z
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                                                      Interpolated values, Aitken's technique, unequally spaced data, one variable
                                                                  Basic Linear Algebra Subprograms
                                                                                                                                                                                                                   F06
Differential/algebraic equations
...shooting and matching technique, subject to extra algebraic equations, general parameters to be...
Implicit/algebraic ODEs, stiff IVP, banded Jacobian...
Implicit/algebraic ODEs, stiff IVP, full Jacobian...
Implicit/algebraic ODEs, stiff IVP (reverse communication,...
Implicit/algebraic ODEs, stiff IVP, sparse Jacobian...
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D02SAF
D02NHF
D02NGF
D02NNF
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      ...weight function with end-point singularities of algebraico-logarithmic type
                                                                                                                                                                                                                   D01APF
                                                                                         Allocates observations to groups according to selected...
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                                               LU factorization of real {\bf almost} block diagonal matrix Solution of real {\bf almost} block diagonal simultaneous linear equations...
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                                     \label{eq:multivariate time series, cross} \textbf{ amplitude } \text{spectrum, squared coherency, bounds,}...
                                                                                                                                                                                                                   G03FAF
                                      Performs principal coordinate analysis, classical metric scaling
                                     Performs principal component analysis
                                                                                                                                                                                                                   G03AAF
 Performs cannoical variate analysis
Performs canonical variate analysis
Performs canonical correlation analysis
...covariance matrices and matrices for discriminant analysis
Hierarchical cluster analysis
K-means cluster analysis
...likelihood estimates of the parameters of a factor analysis model, factor loadings, communalities and...
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                                                                                                                                                                                                                   G03ADF
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G03ECF
G03EFF
G03CAF
                                                                                         Analysis of variance, complete factorial design,...
Analysis of variance, general row and column design,...
                                                                                                                                                                                                                   G04CAF
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                                               Two-way analysis of variance, hierarchical classification,... Friedman two-way analysis of variance on k matched samples Kruskal–Wallis one-way analysis of variance on k samples of unequal size
                                                                                                                                                                                                                   G04AGF
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                                                                                         Analysis of variance, randomized block or completely...
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                                          Two-way contingency table \mathbf{analysis}, with \chi^2/\mathrm{Fisher}'s exact test
                                                                                                                                                                                                                   G01AFF
                                                                              Padé-approximants
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                                                                                   L_1-approximation by general linear function L_\infty-approximation by general linear function L_1-approximation by general linear function subject to...
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                                                                                         Approximation of special functions
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S09AAF
S11ABF
S11AAF
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           Univariate time series, estimation, seasonal ARIMA model (comprehensive)
Univariate time series, estimation, seasonal ARIMA model (easy-to-use)
...time series, preliminary estimation, seasonal ARIMA model
set and forecasts, from fully specified seasonal ARIMA model
...time series, filtering (pre-whitening) by an ARIMA model
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                          Parameter of floating-point arithmetic model, b
Parameter of floating-point arithmetic model, e_{\max}
Parameter of floating-point arithmetic model, e_{\min}
Parameter of floating-point arithmetic model, p
Parameter of floating-point arithmetic model, ROUNDS
Safe range of floating-point arithmetic
Safe range of complex floating-point arithmetic
                                                                                                                                                                                                                    X02BHF
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X02BKF
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            Set up reference vector for univariate \mathbf{ARMA} time series model Generate next term from reference vector for \mathbf{ARMA} time series model
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                                                          ODEs, IVP, error assessment diagnostics for D02PCF and D02PDF
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                                    Univariate time series, sample autocorrelation function
Univariate time series, partial autocorrelations from autocorrelations
Univariate time series, partial autocorrelations from autocorrelations
Multivariate time series, multiple squared partial autocorrelations
                                                                                                                                                                                                                   G13ACF
                                                                                                                                                                                                                   G13DBF
      Least-squares surface fit by bicubic splines with automatic knot placement, data on rectangular grid Least-squares cubic spline curve fit, automatic knot placement Least-squares surface fit by bicubic splines with automatic knot placement, scattered data
                                                                                                                                                                                                                   E02DCF
E02BEF
                                                                                                                                                                                                                   E02DDF
                                  Multivariate time series, partial autoregression matrices
                                                                                                                                                                                                                   G13DPF
                                  Calculates the zeros of a vector autoregressive (or moving average) operator
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      ...the zeros of a vector autoregressive (or moving \mathbf{average}) operator
                                                                                                                                                                                                                   G13DXF
                                                                                                                                                                                                                   F08NVF
F08NHF
                                                                                         Balance complex general matrix (CGEBAL/ZGEBAL)
Balance real general matrix (SGEBAL/DGEBAL)
                             Transform eigenvectors of real balanced matrix to those of original matrix supplied to...
Transform eigenvectors of complex balanced matrix to those of original matrix supplied to...
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F08NWF

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Determinant of real symmetric positive-definite band matrix (Black Box)

Matrix-vector product, complex rectangular band matrix (CGBMV/ZGBMV)

LU factorization of complex mermitian band matrix (CGBMV/ZGBMV)

Matrix-vector product, complex thermitian band matrix (CGBMV/ZGBMV)

Matrix-vector product, complex triangular band matrix (CTBMV/ZTBMV)

System of equations, complex triangular band matrix (CTBMV/ZTBMV)

System of equations, complex triangular band matrix (CTBMV/ZTBMV)

Matrix-vector product, complex triangular band matrix

...factorization of real symmetric positive-definite band matrix

...frobenius norm, largest absolute element, real triangular band matrix

...norm, largest absolute element, complex band matrix

...norm, largest absolute e
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F07BRF
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F06SGF
F06SKF
F01BUF
F06RBF
F06REF
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F06ULF
F07BGF
F07BUF
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F07HDF
F06PDF
F06PGF
F06PKF
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F07BSF
F07HEF
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F07VUF
F07VGF
F07VVF
F07VSF
F07VHF
F07VEF
                                 Convert real matrix between packed banded and rectangular storage schemes
Convert complex matrix between packed banded and rectangular storage schemes
Eigenvector of generalized real banded eigenproblem by inverse iteration
...to standard form, generalized real symmetric-definite banded eigenproblem
Explicit ODEs, stiff IVP, banded Jacobian (comprehensive)
Implicit/algebraic ODEs, stiff IVP, banded Jacobian (comprehensive)
ODEs, IVP, for use with D02M-N routines, banded Jacobian, linear algebra set-up
Print a real packed banded matrix (comprehensive)
Print a complex packed banded matrix (comprehensive)
Print a real packed banded matrix (easy-to-use)
All eigenvalues of generalized banded real symmetric-definite eigenproblem (Black Box)
Solution of real symmetric positive-definite banded simultaneous linear equations with multiple...
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F01BVF
D02NCF
D02NHF
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                                              ...of real symmetric positive-definite variable-bandwidth matrix
Solution of real symmetric positive-definite variable-bandwidth simultaneous linear equations (coefficient...
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                                       ...series, smoothed sample spectrum using rectangular, Bartlett, Tukey or Parzen lag window ...smoothed sample cross spectrum using rectangular, Bartlett, Tukey or Parzen lag window
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                                                                                                                                                                                                                                             Basic Linear Algebra Subprograms
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                                                                    Real inner product added to initial value, <code>basic/additional</code> precision Complex inner product added to initial value, <code>basic/additional</code> precision
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X03ABF
                                                                                                                                                                                ODEs, IVP, BDF method, set-up for D02M-N routines ODEs, stiff IVP, BDF method, until function of solution is zero,...
                                                                                                                                                                                                            Modified Bessel function e^{-|x|}I_0(x)
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                                                                                                                                                                                                           Modified Bessel function e^{-|x|}I_0(x) Modified Bessel function e^{-|x|}I_1(x) Modified Bessel function e^xK_0(x) Modified Bessel function e^xK_1(x) Modified Bessel function I_0(x) Modified Bessel function I_1(x) Bessel function I_0(x) Bessel function I_0(x) Modified Bessel function I_0(x) Modified Bessel function I_0(x) Modified Bessel function I_0(x)
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S18AEF
S18AFF
S17AEF
S17AFF
S18ACF
                                                                                                                                                                                                          \begin{array}{ll} \text{Modified Bessel function } K_0(x) \\ \text{Modified Bessel function } K_1(x) \\ \text{Bessel function } Y_0(x) \\ \text{Bessel function } Y_1(x) \\ \text{Modified Bessel function } I_{\nu+a}(z), \text{ real } a \geq 0, \dots \\ \text{Bessel functions } I_{\nu+a}(z), \text{ real } a \geq 0, \dots \\ \text{Modified Bessel functions } K_{\nu+a}(z), \text{ real } a \geq 0, \dots \\ \text{Bessel functions } Y_{\nu+a}(z), \text{ real } a \geq 0, \dots \\ \end{array}
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S18ADF
S17ACF
S17ADF
S18DEF
S17DEF
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                                     ...probabilities and probability density function for the beta distribution
Computes deviates for the beta distribution
Computes probabilities for the non-central beta distribution
Generates a vector of pseudo-random numbers from a beta distribution
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                                                                                                                                                                                         Airy function Bi(x)
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                                                                                                                                                                                         Airy function Bi'(x)
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                                                                                                                                                                                         Airy functions \mathrm{Bi}(z) and \mathrm{Bi}'(z), complex z
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S17DHF
                                                                                                                                                 Airy functions \mathrm{Bi}(z) and \mathrm{Bi}'(z), complex z
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...unsymmetric linear systems, preconditioned RGMRES, CGS or Bi-CGSTAB
...real sparse unsymmetric linear system, RGMRES, CGS, or Bi-CGSTAB method, Jacobi or SSOR preconditioner (Black Box)
...real sparse unsymmetric linear system, RGMRES, CGS or Bi-CGSTAB method, preconditioner computed by F11DAF...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       F11BBF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        F11DEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       F11DCF
                                                                                                       Evaluation of a fitted bicubic spline at a mesh of points
Evaluation of a fitted bicubic spline at a vector of points
Interpolating functions, fitting bicubic spline, data on rectangular grid
Least-squares surface fit, bicubic splines
Sort 2-D data into panels for fitting bicubic splines
Least-squares surface fit by bicubic splines with automatic knot placement, data on...
Least-squares surface fit by bicubic splines with automatic knot placement,...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       E02DFF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      E02DEF
E01DAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       E02DAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       E02ZAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        E02DCF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        E02DDF
                                                reduction of complex general rectangular matrix to bidiagonal form (CGEBRD/ZGEBRD).

thogonal transformation matrices from reduction to bidiagonal form determined by F08KEF (SORGBR/DORGBR). Apply orthogonal transformations from reduction to bidiagonal form determined by F08KEF (SORMBR/DORMBR).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      F08KSF
F08KFF
F08KGF
```

```
...unitary transformation matrices from reduction to bidiagonal form determined by F08KSF (CUNGBR/ZUNGBR)
Apply unitary transformations from reduction to bidiagonal form determined by F08KSF (CUNMBR/ZUNMBR)
...reduction of real general rectangular matrix to bidiagonal form (SGEBRD/DGEBRD)
SVD of real bidiagonal matrix reduced from complex general matrix...
SVD of real bidiagonal matrix reduced from real general matrix...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    F08KEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    F08MSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F08MEF
                                              Performs the Cochran Q test on cross-classified binary data Contingency table, latent variable model for binary data ...Bus and Dekker algorithm, from given starting value, binary search for interval
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   G08ALE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  G11SAF
C05AGF
                                                                                                                                                                                                                                                                                     Binary search for interval containing zero of...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C05AVF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  G01BJF
                                                                                                                                                                                                                                                                                     Binomial distribution function
                                        ...reference vector for generating pseudo-random integers, binomial distribution
...vector for generating pseudo-random integers, negative binomial distribution
Computes confidence interval for the parameter of a binomial distribution
Fits a generalized linear model with binomial errors
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   G05EDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    G05EEF
                                                       ...eigenvalues of real symmetric tridiagonal matrix by bisection (SSTEBZ/DSTEBZ)
                                                ...spectrum, squared coherency, bounds, univariate and bivariate (cross) spectra
...time series, gain, phase, bounds, univariate and bivariate (cross) spectra
Computes probability for the bivariate Normal distribution
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  G01HAF
                                                                                                                                                                                                                                                                                     BLAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  F06
                                                                                                                                                                                                                                  ODEs, IVP, Blend method, set-up for D02M-N routines
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   D02NWF
                                                                                                                                           LU \ \ {\rm factorization \ of \ real \ almost \ block} \ \ {\rm diagonal \ matrix} Solution of real almost block diagonal simultaneous linear equations...} Analysis of variance, randomized block or completely randomized design, treatment means...}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FOILHE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  F04LHF
G04BBF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  G05DZF
                                                                                                                                                                                   Pseudo-random logical (boolean) value
                                                                                                    Integer programming problem, branch and bound method
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  H02BBF
                                          nth order linear ODEs, boundary value problem, collocation and least-squares
ODEs, boundary value problem, collocation and least-squares...
ODEs, boundary value problem, collocation and least-squares...
ODEs, boundary value problem, collocation technique
ODEs, general nonlinear boundary value problem, continuation facility for...
ODEs, general nonlinear boundary value problem, diagnostics for D02TKF
ODEs, general nonlinear boundary value problem, finite difference technique...
ODEs, boundary value problem, finite difference technique...
ODEs, boundary value problem, finite difference technique...
ODEs, general nonlinear boundary value problem, inite difference technique...
ODEs, general nonlinear boundary value problem, set-up for D02TKF
ODEs, general nonlinear boundary value problem, shooting and matching, boundary...
ODEs, boundary value problem, shooting and matching, general...
ODEs, boundary value problem, shooting and matching...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DOZTGE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   D02TGF
D02JAF
D02JBF
D02TKF
D02TXF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   D02TZF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   D02RAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  D02GBF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  D02GAF
D02TYF
D02TVF
D02HAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   D02HBF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   D02AGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   D02SAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  D02HAF
                                                                                                                                                                                                                                         Error bounds for solution of complex band triangular system...
Error bounds for solution of complex triangular system of...
Error bounds for solution of complex triangular system of...
Error bounds for solution of real band triangular system of...
Error bounds for solution of real triangular system of linear...
Error bounds for solution of real triangular system of linear...
Computes bounds for the significance of a Durbin-Watson...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  F07VVF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F07THF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  G01EPF
                                                                                                             Multivariate \ time \ series, \ noise \ spectrum, \ \textbf{bounds}, \ impulse \ response \ function \ and \ its \ standard...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  G13CGF
                                                                                                                                                                  Refined solution with error bounds of complex band system of linear equations,...
Refined solution with error bounds of complex Hermitian indefinite system of linear...
Refined solution with error bounds of complex Hermitian positive-definite band...
Refined solution with error bounds of complex Hermitian positive-definite band...
Refined solution with error bounds of complex Hermitian positive-definite system of...
Refined solution with error bounds of complex Hermitian positive-definite system of...
Refined solution with error bounds of complex symmetric system of linear equations,...
Refined solution with error bounds of complex system of linear equations,...
Refined solution with error bounds of complex system of linear equations,...
Refined solution with error bounds of real band system of linear equations,...
Refined solution with error bounds of real symmetric indefinite system of linear...
Refined solution with error bounds of real symmetric indefinite system of linear...
Refined solution with error bounds of real symmetric positive-definite band system...
Refined solution with error bounds of real symmetric positive-definite system of...
Refined solution with error bounds of real symmetric positive-definite system of...
Refined solution with error bounds of real symmetric positive-definite system of...
Refined solution with error bounds of real symmetric positive-definite system of...
Refined solution with error bounds of real symmetric positive-definite system of...
Refined solution with error bounds of real symmetric positive-definite system of...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  F07BVF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  F07BVF
F07MVF
F07PVF
F07HVF
F07FVF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F07GVF
F07NVF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  F07NVF
F07QVF
F07AVF
F07BHF
F07PHF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F07HHF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F07GHF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    F07FHF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F07AHF
...series, cross amplitude spectrum, squared coherency, bounds, univariate and bivariate (cross) spectra
Multivariate time series, gain, phase, bounds, univariate and bivariate (cross) spectra
...of several variables, modified Newton algorithm, simple bounds, using 1st and 2nd derivatives (comprehensive)
...function of several variables, modified Newton algorithm, simple bounds, using 1st and 2nd derivatives (easy-to-use)
...of several variables, modified Newton algorithm, simple bounds, using 1st derivatives (comprehensive)
...function of several variables, quasi-Newton algorithm, simple bounds, using 1st derivatives (easy-to-use)
...function of several variables, modified Newton algorithm, simple bounds, using 1st derivatives (easy-to-use)
...function of several variables, modified Newton algorithm, simple bounds, using 1st derivatives (easy-to-use)
...function of several variables, quasi-Newton algorithm, simple bounds, using function values only (easy-to-use)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  G13CEF
G13CFF
E04LBF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   E04LYF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   E04KDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   E04KYF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    E04KZF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   E04JYF
                                        Constructs a box and whisker plot
...system of 1st order PDEs, method of lines, Keller box discretisation, one space variable
...1st order PDEs, coupled DAEs, method of lines, Keller box discretisation, one space variable
...1st order PDEs, coupled DAEs, method of lines, Keller box discretisation, remeshing, one space variable
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   G01ASF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  D03PKF
D03PRF
                             ...1st order PDEs, coupled DAEs, method of lines, Keller box d
...and Schur factorization of real general matrix (Black Box)
...and eigenvectors of real general matrix (Black Box)
...and eigenvectors of real nonsymmetric matrix (Black Box)
...and eigenvectors of real symmetric matrix (Black Box)
...and eigenvectors of real symmetric matrix (Black Box)
...of real symmetric-definite generalized problem (Black Box)
...Schur factorization of complex general matrix (Black Box)
...and eigenvectors of complex general matrix (Black Box)
...and eigenvectors of complex nonsymmetric matrix (Black Box)
...and eigenvectors of complex Hermitian matrix (Black Box)
...and eigenvectors of complex Hermitian matrix (Black Box)
...complex Hermitian-definite generalized problem (Black Box)
SVD of real matrix (Black Box)
SVD of real matrix (Black Box)
SVD of complex upper triangular matrix (Black Box)
SVD of complex upper triangular matrix (Black Box)
Determinant of real matrix (Black Box)
...of real symmetric positive-definite matrix (Black Box)
Determinant of complex matrix (Black Box)
...of real symmetric positive-definite band matrix (Black Box)
Determinant of complex matrix (Black Box)
...linear equations with multiple right-hand sides (Black Box)
...right-hand sides using iterative refinement (Black Box)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F02EAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    F02EBF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    F02ECF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  F02FAF
F02FCF
F02FDF
F02GAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F02GBF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F02GCF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    F02HAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    F02HCF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F02HDF
F02WEF
F02WUF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    F02XEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    F02XUF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    F03AAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F03ABF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F03ACF
F03ADF
F04AAF
F04ABF
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KWIC.4 [NP3086/18/pdf]

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...linear equations with multiple right-hand sides (Black Box) ...linear equations with multiple right-hand sides (Black Box) ...right-hand sides using iterative refinement (Black Box) ...rank = n, m ≥ n using iterative refinement (Black Box) ...linear equations, one right-hand side (Black Box) ...one right-hand side using iterative refinement (Black Box) ...one right-hand side using iterative refinement (Black Box) ...one right-hand side using iterative refinement (Black Box) ...linear equations, one right-hand side (Black Box) ...linear equations, one right-hand side (Black Box) ...method, preconditioner computed by F11JAF (Black Box) ...method, Jacobi or SSOR preconditioner (Black Box)
                                                                                                                                                                                                                                                                                                                F04ACF
F04ADF
                                                                                                                                                                                                                                                                                                                F04AEF
                                                                                                                                                                                                                                                                                                                F04AMF
                                                                                                                                                                                                                                                                                                                 F04ARF
                                                                                                                                                                                                                                                                                                                F04AKF
F04ASF
F04ATF
F04EAF
F04FAF
                                                                                                                                                                                                                                                                                                                 F11JCF
                                                                                                                                                                                                                                                                                                                F11JEF
                                                                              Integer programming problem, \mathbf{branch} and bound method
                                                                                                                                                                                                                                                                                                                H02BBF
                              ...interval, allowing for singularities at user-specified break-points
...finite/infinite range, eigenvalue only, user-specified break-points
...range, eigenvalue and eigenfunction, user-specified break-points
                                                                                                                                                                                                                                                                                                                D01ALF
                                                                                                                                                                                                                                                                                                                F06HBF
                                                                                                                                                   Broadcast scalar into complex vector
                                                                                                                                                  Broadcast scalar into integer vector
Broadcast scalar into real vector
                                                                                                                                                                                                                                                                                                                F06FBF
                                                                                                                                                  B-splines
                                                                                                                                                                                                                                                                                                                E02
                                                                                                                                                  Bunch-Kaufman factorization of complex Hermitian...
Bunch-Kaufman factorization of complex Hermitian...
Bunch-Kaufman factorization of complex symmetric matrix...
Bunch-Kaufman factorization of complex symmetric...
Bunch-Kaufman factorization of real symmetric...
Bunch-Kaufman factorization of real symmetric...
                                                                                                                                                                                                                                                                                                                F07MRF
                                                                                                                                                                                                                                                                                                                F07MRF
F07PRF
F07NRF
F07QRF
F07PDF
                                                                                                                                                                                                                                                                                                                F07MDF
                                         Zero of continuous function in given interval, Bus and Dekker algorithm
Zero of continuous function, Bus and Dekker algorithm, from given starting value,...
Zero in given interval of continuous function by Bus and Dekker algorithm (reverse communication)
                                                                                                                                                                                                                                                                                                                C05ADF
                                                                                                                                                                                                                                                                                                                C05AZF
                                                                                                              Fresnel integral C(x)
                                                                                                                                                                                                                                                                                                                S20ADF
                                                                                                                              Performs canonical correlation analysis
Performs canonical variate analysis
                                                      ...quadrature over hyper-rectangle, Monte Carlo method
                                                                                                                                                                                                                                                                                                                D01GBF
                                                                                                                                                                                                                                                                                                                D03FAF
                                                             Elliptic PDE, Helmholtz equation, 3-D Cartesian co-ordinates
                              \qquad \qquad \text{Pseudo-random real numbers, } \textbf{Cauchy} \text{ distribution} \\ ... \textbf{adaptive, finite interval, weight function } 1/(x-c), \textbf{Cauchy} \text{ principal value (Hilbert transform)} 
                                                                                                                                                                                                                                                                                                                G05DFF
                                                                                                                                                                                                                                                                                                                D01AQF
                                    ...of the Normal distribution from grouped and/or censored data
Regression using ranks, right-censored data
                                                                                                                                                                                                                                                                                                                G07BBF
G08RBF
                                                                                                                                                                                                                                                                                                                G01GEF
                                                                     Computes probabilities for the non-central beta distribution
                                                                     Computes probabilities for the non-central F-distribution Computes probabilities for the non-central Student's t-distribution Computes probabilities for the non-central \chi^2 distribution
                                                                                                                                                                                                                                                                                                                 G01GDF
                                                                                                                                                                                                                                                                                                                G01GBF
                                                                                                                                                                                                                                                                                                                G01GCF
                                    ..lower tail probability for a linear combination of (central) \chi^2 variables
                                                                                                                                                                                                                                                                                                                G01JDF
Real sparse unsymmetric linear systems, preconditioned RGMRES, CGS or Bi-CGSTAB
Solution of real sparse unsymmetric linear system, RGMRES, CGS, or Bi-CGSTAB method, Jacobi or SSOR preconditioner...
Solution of real sparse unsymmetric linear system, RGMRES, CGS or Bi-CGSTAB method, preconditioner computed by F11DAF...
                                                                                                                                                                                                                                                                                                                 F11BBF
                                                                                                                                                                                                                                                                                                                F11DEF
F11DCF
                        Sort a vector, character data
Rank a vector, character data
Rearrange a vector according to given ranks, character data
Convert array of integers representing date and time to character string
Compare two character strings representing date and time
                                                                                                                                                                                                                                                                                                                M01CCF
                                                                                                                                                                                                                                                                                                                 M01DCF
                                                                                                                                                                                                                                                                                                                 M01ECF
                                                                                                                                                                                                                                                                                                                 X05ABF
                            General system of parabolic PDEs, method of lines, Chebyshev C^0 collocation, one space variable ...of parabolic PDEs, coupled DAEs, method of lines, Chebyshev C^0 collocation, one space variable Sum of a Chebyshev series of Derivative of fitted polynomial in Chebyshev series form Integral of fitted polynomial in Chebyshev series form Evaluation of fitted polynomial in one variable, from Chebyshev series form Evaluation of fitted polynomial in one variable from Chebyshev series form (simplified parameter list)
                                                                                                                                                                                                                                                                                                                D03PDF
                                                                                                                                                                                                                                                                                                                D03PJF
C06DBF
                                                                                                                                                                                                                                                                                                                E02AHF
                                                                                                                                                                                                                                                                                                                E02AJE
                                                                                                                                                                                                                                                                                                                E02AKF
E02AEF
                                                                                                                                                  Check initial grid data in D03RBF
Check user's routine for calculating 1st derivatives
Check user's routine for calculating 1st derivatives of...
Check user's routine for calculating 2nd derivatives of...
Check user's routine for calculating Hessian of a sum...
Check user's routine for calculating Jacobian of 1st...
Check user's routines for calculating 1st derivatives...
Check validity of a permutation
                                                                                                                                                                                                                                                                                                                \begin{array}{c} {\rm C05ZAF} \\ {\rm E04HCF} \end{array}
                                                                                                                                                                                                                                                                                                                E04HDF
                                                                                                                                                                                                                                                                                                                E04YBF
E04YAF
                                                                                                                                                                                                                                                                                                                 E04ZCE
                                                                                                                                                                                                                                                                                                                 M01ZBF
                                                                    Univariate time series, diagnostic checking of residuals, following G13AEF or G13AFF Multivariate time series, diagnostic checking of residuals, following G13DCF
                                                                                                                                                                                                                                                                                                                G13DSF
                                                     Real sparse symmetric matrix, incomplete Cholesky factorization
Cholesky factorization of a real symmetric...
Cholesky factorization of complex Hermitian...
Cholesky factorization of complex Hermitian...
Cholesky factorization of complex Hermitian...
Cholesky factorization of real symmetric...
Cholesky factorization of real symmetric...
                                                                                                                                                                                                                                                                                                                F11JAF
                                                                                                                                                                                                                                                                                                                 F07GDF
                                                                                                                                                                                                                                                                                                                 F07HRF
F07FRF
                                                                                                                                                                                                                                                                                                                F07FRF
F07GRF
F07HDF
F07FDF
                                                                                                                                                  Circular convolution or correlation of two real...
Circular convolution or correlation of two real...
                                                                                                                                                                                                                                                                                                                C06FKF
                                                             Performs principal coordinate analysis, classical metric scaling
                                                                                                                                                                                                                                                                                                                G03FAF
                                                                 Computes multiway table from set of classification factors using given percentile/quantile Computes multiway table from set of classification factors using selected statistic
                                                                                                                                                                                                                                                                                                                G11BBF
                                                      Two-way\ analysis\ of\ variance,\ hierarchical\ {\bf classification},\ subgroups\ of\ unequal\ size
                                                                                                                                                                                                                                                                                                                G04AGF
                       ...orthogonal polynomials or dummy variables for factor/classification variable
                                                                                                                                                                                                                                                                                                                G04EAF
                                                                                                                                                                                                                                                                                                                G08ALF
                                                               Performs the Cochran Q test on cross-classified binary data
                                             Interpolating functions, method of Renka and Cline, two variables
                                                                                                                                                                                                                                                                                                                E01SAF
                                                                                                                       Hierarchical cluster analysis
                                                                                                                                                                                                                                                                                                                G03ECF
                                                                                                                          K-means cluster analysis
Computes cluster indicator variable (for use after G03ECF)
                                                                                                                                                                                                                                                                                                                G03EFF
G03EJF
                                                                                Jacobian elliptic functions sn, cn and dn
                                                                                                                                                                                                                                                                                                                S21CAF
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```
Performs the Cochran Q test on cross-classified binary data
                                                                                                                                                                                                                                                                                                                                  G08DAF
                                                                                                                      Kendall's coefficient of concordance
                                                                                                      Correlation-like coefficients (about zero), all variables, casewise...
Correlation-like coefficients (about zero), all variables, no missing...
Correlation-like coefficients (about zero), all variables, pairwise...
Correlation-like coefficients (about zero), subset of variables,...
Correlation-like coefficients (about zero), subset of variables, no...
Correlation-like coefficients (about zero), subset of variables,...
                                                                                                                                                                                                                                                                                                                                  G02BEF
                                                                                                                                                                                                                                                                                                                                  G02BDF
                                                                                                                                                                                                                                                                                                                                  G02BFF
                                                                                                                                                                                                                                                                                                                                  G02BLF
                                                                                                                                                                                                                                                                                                                                 G02BKF
G02BMF
              Pearson product-moment correlation coefficients, all variables, casewise treatment of...
Pearson product-moment correlation coefficients, all variables, no missing values
Pearson product-moment correlation coefficients, all variables, pairwise treatment of...
Kendall/Spearman non-parametric rank correlation coefficients, casewise treatment of missing values,...
Kendall/Spearman non-parametric rank correlation coefficients, casewise treatment of missing values,...
                                                                                                                                                                                                                                                                                                                                  G02BBF
                                                                                                                                                                                                                                                                                                                                  G02BAF
                                                                                                                                                                                                                                                                                                                                  G02BCF
                                                                                                                                                                                                                                                                                                                                  G02BPF
                                                                                                                                                                                                                                                                                                                                  G02BRF
                                                                                     Computes factor score coefficients (for use after G03CAF)

Korobov optimal coefficients for use in D01GCF or D01GDF, when number...

Korobov optimal coefficients for use in D01GCF or D01GDF, when number...
                                                                                                                                                                                                                                                                                                                                  COSCCE
                                                                                                                                                                                                                                                                                                                                 D01GYF
D01GZF
               Kendall/Spearman non-parametric rank correlation coefficients, no missing values, overwriting input data
                                                                                                                                                                                                                                                                                                                                  G02BNF
              Kendall/Spearman non-parametric rank correlation coefficients, no missing values, overwriting input data Kendall/Spearman non-parametric rank correlation coefficients, no missing values, preserving input data Kendall/Spearman non-parametric rank correlation coefficients, survise treatment of missing values

Pearson product-moment correlation coefficients, subset of variables, casewise treatment...

Pearson product-moment correlation coefficients, subset of variables, no missing values

Pearson product-moment correlation coefficients, subset of variables, pairwise treatment...

Multiple linear regression, from correlation coefficients, with constant term

Multiple linear regression, from correlation-like coefficients, without constant term
                                                                                                                                                                                                                                                                                                                                  G02BOF
                                                                                                                                                                                                                                                                                                                                  G02BSF
                                                                                                                                                                                                                                                                                                                                  G02BHF
                                                                                                                                                                                                                                                                                                                                 G02BHF
G02BGF
G02BJF
G02CGF
G02CHF
                                                                                                                                                                                                                                                                                                                                 G13CEF
                    ...time series, cross amplitude spectrum, squared coherency, bounds, univariate and bivariate (cross)...
                    nth order linear ODEs, boundary value problem, collocation and least-squares ODEs, boundary value problem, collocation and least-squares, single nth order... ODEs, boundary value problem, collocation and least-squares, system of 1st order...
                                                                                                                                                                                                                                                                                                                                 D02TGF
                                                                                                                                                                                                                                                                                                                                  D02JBF
              .of parabolic PDEs, method of lines, Chebyshev C^0 collocation, one space variable
                                                                                                                                                                                                                                                                                                                                  D03PDF
   ...PDEs, coupled DAEs, method of lines, Chebyshev C^0 collocation, one space variable
                                                                                                                                                                                                                                                                                                                                  D03PJF
                  ODEs, general nonlinear boundary value problem, collocation technique
                                                                                                                                                                                                                                                                                                                                 D02TKF
                                                 Analysis of variance, general row and column design, treatment means and standard errors
                                                                                                                                                                                                                                                                                                                                  G04BCF
                                                                                      QR factorization with column pivoting of complex general rectangular matrix... QR factorization with column pivoting of real general rectangular matrix...
                                                                                                                                                                                                                                                                                                                                  F08BEF
                                                                                                    Permute rows or columns, complex rectangular matrix, permutations... Permute rows or columns, complex rectangular matrix, permutations...
                                                                                                                                                                                                                                                                                                                                 F06VKF
...or LP solutions with user specified names for rows and {\bf columns}
                                                                                                                                Rank columns of a matrix, integer numbers
                                                                                                                               Rank columns of a matrix, real numbers
                                                                                                                                                                                                                                                                                                                                  M01DJF
                                                                                                    Permute rows or columns, real rectangular matrix, permutations... Permute rows or columns, real rectangular matrix, permutations...
                                                                                                                                                                                                                                                                                                                                  F06QKF
   ...parameters of a factor analysis model, factor loadings, communalities and residual correlations
                                                                                                                                                                                                                                                                                                                                  G03CAF
                                                                                                                                               Compare two character strings representing date and...
                                                                                                                                                                                                                                                                                                                                  X05ACF
                                                                                                                                              Complement of cumulative normal distribution function...
                                                                                                                                                                                                                                                                                                                                 S15ACF
                                                                                                       Scaled complex complement of error function, e^{-z^2}\operatorname{erfc}(-iz)
                                                                                                                                                                                                                                                                                                                                 S15DDF
                                                                                                                                              Complement of error function erfc(x)
                                                                                                                                                                                                                                                                                                                                  S15ADF
                                                                                          Analysis of variance, \mathbf{complete} factorial design, treatment means and standard...
                                                                                                                                                                                                                                                                                                                                  G04CAF
                                                                                    Kendall's coefficient of concordance
                                                                       Norm estimation (for use in condition estimation), complex matrix

Estimate condition number of complex band matrix, matrix already...

Estimate condition number of complex band triangular matrix...

Estimate condition number of complex Hermitian indefinite...

Estimate condition number of complex Hermitian indefinite...

Estimate condition number of complex Hermitian positive-definite...

Estimate condition number of complex symmetric matrix, matrix...

Estimate condition number of complex symmetric matrix, matrix...

Estimate condition number of complex symmetric matrix, matrix...

Estimate condition number of complex triangular matrix...

Estimate condition number of real band matrix, matrix already...

Estimate condition number of real band triangular matrix...

Estimate condition number of real symmetric indefinite matrix,...

Estimate condition number of real symmetric indefinite matrix,...

Estimate condition number of real symmetric positive-definite...

Estimate condition number of real symmetric positive-definite...
                                                                             orm estimation (for use in condition estimation), complex matrix
                                                                                                                                                                                                                                                                                                                                  F04ZCF
                                                                                                                                                                                                                                                                                                                                  F04YCF
                                                                                                                                                                                                                                                                                                                                  F07BUF
                                                                                                                                                                                                                                                                                                                                  F07VUF
                                                                                                                                                                                                                                                                                                                                  F07MUF
                                                                                                                                                                                                                                                                                                                                  F07MUF
F07PUF
F07HUF
F07FUF
F07GUF
                                                                                                                                                                                                                                                                                                                                  F07AUF
                                                                                                                                                                                                                                                                                                                                  F07NUF
                                                                                                                                                                                                                                                                                                                                 F07NUF
F07QUF
F07TUF
F07UUF
F07BGF
F07VGF
F07AGF
F07MGF
F07PGF
                                                                                                                                                                                                                                                                                                                                  F07HGF
                                                                                                                                                                                                                                                                                                                                 F07FGF
F07GGF
F07UGF
F07TGF
                                                                                                                                                                                                                                                                                                                                  E04DGF
                                                                       Unconstrained minimum, preconditioned conjugate gradient algorithm, function of...
Computes confidence interval for the parameter of a binomial...
Computes confidence interval for the parameter of a Poisson...
...a difference in means between two Normal populations, confidence intervals, 1 sample
Robust confidence intervals, 2 sample
Computes confidence intervals for differences between means...
                                                                                                                                                                                                                                                                                                                                  G07AAF
                                                                                                                                                                                                                                                                                                                                  G07ABF
                                                                                                                                                                                                                                                                                                                                 G07CAF
G07EAF
G07EBF
G04DBF
        Unconstrained minimum, preconditioned conjugate gradient algorithm, function of several...

Real sparse symmetric linear systems, preconditioned conjugate gradient or Lanczos

Solution of real sparse symmetric linear system, conjugate gradient/Lanczos method, Jacobi or SSOR/
Solution of real sparse symmetric linear system, conjugate gradient/Lanczos method, preconditioner/

Complex conjugate of complex sequence

Complex conjugate of Hermitian sequence

Complex conjugate of multiple Hermitian sequences
                                                                                                                                                                                                                                                                                                                                  F11JEF
                                                                                                                                                                                                                                                                                                                                  F11JCF
                                                                                                                                                                                                                                                                                                                                  C06GCF
                               Dot product of two complex sparse vector, conjugated (CDOTCI/ZDOTCI)

Dot product of two complex vectors, conjugated (CDOTC/ZDOTC)

Rank-1 update, complex rectangular matrix, conjugated vector (CGERC/ZGERC)
                                                                                                                                                                                                                                                                                                                                 F06SNF
              ...AX + XB = C, A and B are upper triangular or conjugate-transposes (CTRSYL/ZTRSYL)
                                                                                                                                                                                                                                                                                                                                  F08QVF
```

[NP3086/18/pdf]

```
...of convection-diffusion PDEs with source terms in conservative form, coupled DAEs, method of lines,...
...of convection-diffusion PDEs with source terms in conservative form, coupled DAEs, method of lines,...
's approximate Riemann solver for Euler equations in conservative form, for use with D03PFF, D03PLF and...
'Modified HLL Riemann solver for Euler equations in conservative form, for use with D03PFF, D03PLF and D03PSF
Exact Riemann Solver for Euler equations in conservative form, for use with D03PFF, D03PLF and D03PSF
...approximate Riemann solver for Euler equations in conservative form, for use with D03PFF, D03PLF and...
...of convection-diffusion PDEs with source terms in conservative form, method of lines, upwind scheme using...
                                                                                                                                                                                                                                                                                                                                                                                                                                        D03PLF
                                                                                                                                                                                                                                                                                                                                                                                                                                        D03PSF
D03PUF
                                                                                                                                                                                                                                                                                                                                                                                                                                        D03PWF
                                                                                                                                                                                                                                                                                                                                                                                                                                        D03PXF
                                                                                                                                                                                                                                                                                                                                                                                                                                        D03PVF
                                                                                                                                                          Machine Constants
Mathematical Constants
                                                   ...polynomial fit, values and derivatives may be constrained, arbitrary data points,
                                                                                                                                                                                                                                                                                                                                                                                                                                       E02AGF
                                                                                                                                                                          Equality-constrained complex linear least-squares
                                                                                                                                                                                                                                                                                                                                                                                                                                        F04KMF
                                                                                                    Convex QP problem or linearly-constrained linear least-squares problem

Equality-constrained real linear least squares problem
                                                                                                                                                                                                                                                                                                                                                                                                                                        E04NCF
                                                                                                                                                                                                                                                                                                                                                                                                                                        F04JMF
                         ...by general linear function subject to linear inequality constraints
...for calculating 1st derivatives of function and constraints
...of a general linear regression model for given constraints
...of parameters of a general linear model for given constraints
                                                                                                                                                                                                                                                                                                                                                                                                                                        E02GBF
                                                                                                                                                                                                                                                                                                                                                                                                                                        G02DKF
G02GKF
Minimum of a sum of squares, nonlinear constraints, sequential QP method, using function...
...of several variables, sequential QP method, nonlinear constraints, using function values and optionally 1st...
...function of several variables, sequential QP method, nonlinear constraints, using function values and optionally 1st derivatives...
                                                                                                                                                                                                                                                                                                                                                                                                                                       E04UNF
                                                                                                                                                                                                                                                                                                                                                                                                                                       E04UFF
                                                                                                                                                                         Two-way contingency table analysis, with \chi^2/Fisher's...
                                                                                                                                                                                                                                                                                                                                                                                                                                       G01AFF
                                                                                                                        \chi^2 statistics for two-way contingency table
                                                                                                                                                                                                                                                                                                                                                                                                                                       G11AAF
                                                                                                                                                                                                     Contingency table, latent variable model for binary...
                                ODEs, IVP, set-up for continuation calls to integrator, for use with D02M-N...
...finite difference technique with deferred correction, continuation facility
ODEs, general nonlinear boundary value problem, continuation facility for D02TKF
Zero of continuous function, continuation method, from a given starting value
Zero of continuous function by continuation method, from given starting value (reverse...
                                                                                                                                                                                                                                                                                                                                                                                                                                       D02NZF
                                                                                                                                                                                                                                                                                                                                                                                                                                        D02RAF
                                                                                                                                                                                                                                                                                                                                                                                                                                        D02TXF
                                                             \text{...the } \chi^2 \text{ goodness of fit test, for standard } \mathbf{continuous} \text{ distributions} \\ \text{Zero of } \mathbf{continuous} \text{ function, Bus and Dekker algorithm, from...} \\ \text{Zero in given interval of } \mathbf{continuous} \text{ function by Bus and Dekker algorithm...} \\ \text{Zero of } \mathbf{continuous} \text{ function by continuation } \mathbf{method, from given...} \\ \text{Zero of } \mathbf{continuous} \text{ function, continuation } \mathbf{method, from a given...} \\ \text{Zero of } \mathbf{continuous} \text{ function in given interval, Bus and Dekker...} \\ \text{Binary search for interval containing zero of } \mathbf{continuous} \text{ function (reverse communication)} \\ \end{aligned} 
                                                                                                                                                                                                                                                                                                                                                                                                                                        G08CGF
                                                                                                                                                                                                                                                                                                                                                                                                                                        COSAGE
                                                                                                                                                                                                                                                                                                                                                                                                                                        C05AZF
C05AXF
C05AJF
                                                                                                                                                                                                                                                                                                                                                                                                                                       C05AVF
                                                                                                                                                                                                                                                                                                                                                                                                                                      G04DAF
                                                                                                            Computes sum of squares for contrast between means
                                                                                                                                              General system of convection-diffusion PDEs with source terms in... General system of convection-diffusion PDEs with source terms in... General system of convection-diffusion PDEs with source terms in...
                                                                                                                                                                                                                                                                                                                                                                                                                                       D03PLF
                                                                                                                                                                                                                                                                                                                                                                                                                                        D03PFF
                                                                                                                                                                                                        Convert array of integers representing date and time to...
Convert complex matrix between packed banded and...
Convert complex matrix between packed triangular and...
                                                                                                                                                                                                                                                                                                                                                                                                                                        F01ZBF
                                                                                                                                                                                                        Convert Hermitian sequences to general complex...

Convert real matrix between packed banded and...

Convert real matrix between packed triangular and...
                                                                                                                                                                                                                                                                                                                                                                                                                                        C06GSF
                                                                                                                                                                                                                                                                                                                                                                                                                                       F01ZAF
                                                                                                                                                                                                        Convex QP problem or linearly-constrained linear...
                                                                                                                                                                                                                                                                                                                                                                                                                                       E04NCF
                                                                                                                                          Nonlinear Volterra convolution equation, 2nd kind
Circular convolution or correlation of two real vectors, extra...
Circular convolution or correlation of two real vectors, no...
Nonlinear convolution Volterra—Abel equation, 1st kind, weakly...
Nonlinear convolution Volterra—Abel equation, 2nd kind, weakly...
                                                                                                                                                                                                                                                                                                                                                                                                                                       D05BAF
                                                                                                                                                                                                                                                                                                                                                                                                                                        C06FKF
C06EKF
                                                                                                                                                                                                                                                                                                                                                                                                                                       D05BEF
                                                                                                                                                                                                                                                                                                                                                                                                                                       D05BDF
                                                                                                                                                                                {\bf Matrix} \ {\bf copy}, \ {\bf complex} \ {\bf rectangular} \ {\bf or} \ {\bf trapezoidal} \ {\bf matrix}
                                                                                                                                                                                                                                                                                                                                                                                                                                       FOSTEE
                                                                                                                                                                                                        \begin{array}{l} \textbf{Copy} \ \mathrm{complex} \ \mathrm{vector} \ (\mathrm{CCOPY}/\mathrm{ZCOPY}) \\ \textbf{Copy} \ \mathrm{integer} \ \mathrm{vector} \end{array}
                                                                                                                                                                                                                                                                                                                                                                                                                                       F06GFF
F06DFF
                                                                                                                                                                                Matrix copy, real rectangular or trapezoidal matrix
                                                                                                                                                                                                                                                                                                                                                                                                                                       F06QFF
                                                                                                                                                                                                      Copy real vector (SCOPY/DCOPY)
Copy real vector to complex vector
                                                                                                                                                                                                                                                                                                                                                                                                                                        F06EFF
                                                                                                                                                                                                                                                                                                                                                                                                                                        F06KFF
                                       ...problem, finite difference technique with deferred correction, continuation facility ...problem, finite difference technique with deferred correction, general linear problem ...problem, finite difference technique with deferred correction, simple nonlinear problem
                                                                                                                                                                                                                                                                                                                                                                                                                                        D02RAF
                                                                                                                                                                                                                                                                                                                                                                                                                                        D02GAF
                                                             Performs canonical correlation analysis

Computes (optionally weighted) correlation and covariance matrices

Pearson product-moment correlation coefficients, all variables, casewise...

Pearson product-moment correlation coefficients, all variables, pairwise...

Pearson product-moment correlation coefficients, all variables, pairwise...

Kendall/Spearman non-parametric rank correlation coefficients, casewise treatment of missing...

Kendall/Spearman non-parametric rank correlation coefficients, casewise treatment of missing...

Kendall/Spearman non-parametric rank correlation coefficients, casewise treatment of missing...

Kendall/Spearman non-parametric rank correlation coefficients, no missing values,...

Kendall/Spearman non-parametric rank correlation coefficients, no missing values, preserving...

Kendall/Spearman non-parametric rank correlation coefficients, subset of variables, casewise...

Pearson product-moment correlation coefficients, subset of variables, casewise...

Pearson product-moment correlation coefficients, subset of variables, no...

Pearson product-moment correlation coefficients, subset of variables, pairwise...

Multivariate time series, sample partial lag correlation matrics, \(\chi^2\) subset of variables, pairwise...

Computes a correlation matrix from a sum of squares matrix

Calculates a robust estimation of a correlation matrix, tuber's weight function

Calculates a robust estimation of a correlation matrix, user-supplied weight function

Calculates a robust estimation of a correlation matrix, user-supplied weight function plus...

Circular convolution or correlation of two real vectors, covar workspace for...

Circular convolution or correlation of two real vectors, no extra workspace

Multivariate time series, sample cross-covariation of two real vectors, no extra workspace
                                                                                                                                                                                                                                                                                                                                                                                                                                       G03ADF
G02BXF
G02BBF
                                                                                                                                                                                                                                                                                                                                                                                                                                        G02BAF
                                                                                                                                                                                                                                                                                                                                                                                                                                        G02BCF
                                                                                                                                                                                                                                                                                                                                                                                                                                        G02BPF
G02BRF
                                                                                                                                                                                                                                                                                                                                                                                                                                       G02BNF
G02BQF
G02BSF
G02BHF
                                                                                                                                                                                                                                                                                                                                                                                                                                        G02BGF
                                                                                                                                                                                                                                                                                                                                                                                                                                        G02BJF
                                                                                                                                                                                                                                                                                                                                                                                                                                        G02CGF
                                                                                                                                                                                                                                                                                                                                                                                                                                        G13DNF
                                                                                                                                                                                                                                                                                                                                                                                                                                        G02BWF
                                                                                                                                                                                                                                                                                                                                                                                                                                        G05GBF
                                                                                                                                                                                                                                                                                                                                                                                                                                        G02HKF
                                                                                                                                                                                                                                                                                                                                                                                                                                        G02HKF
G02HMF
G02HLF
C06FKF
                                                                                                                                                                                                                                                                                                                                                                                                                                       C06EKF
G13DMF
                                                                                                                                                                                                      Correlation-like coefficients (about zero), all...
Correlation-like coefficients (about zero), all...
Correlation-like coefficients (about zero), all...
Correlation-like coefficients (about zero), subset of...
Correlation-like coefficients (about zero), subset of...
Correlation-like coefficients (about zero), subset of...
                                                                                                                                                                                                                                                                                                                                                                                                                                       G02BEF
                                                                                                                                                                                                                                                                                                                                                                                                                                        G02BDF
G02BFF
G02BLF
G02BKF
                                                                                                    Multiple linear regression, from correlation-like coefficients, without constant term
                                                                                                                                                                                                                                                                                                                                                                                                                                       G02CHF
                                  \dots model, factor loadings, communalities and residual {\bf correlations} Multivariate time series, cross-{\bf correlations}
                                                                                                                                                                                                                                                                                                                                                                                                                                       G03CAF
                                                                                                                                                                                                                                                                                                                                                                                                                                        G13BCF
```

```
...partial correlation/variance-covariance matrix from correlation/variance-covariance matrix computed by... Computes partial correlation/variance-covariance matrix from...
                                                                                                                                                                                                                                                   G02BYF
G02BYF
                          Largest permissible argument for SIN and COS
                                                                                                                                                                                                                                                   X02AHF
                                                                                                                                                                                                                                                   S10ACF
 ...of plane rotations, complex rectangular matrix, real cosine and complex sine
of plane rotations, complex rectangular matrix, complex cosine and real sine
...of plane rotations, complex rectangular matrix, real cosine and sine
Recover cosine and sine from given complex tangent, real cosine
Recover cosine and sine from given complex tangent, real sine
Recover cosine and sine from given real tangent
Generate complex plane rotation, storing tangent, real cosine
...cosine and sine from given complex tangent, real cosine
                                                                                                                                                                                                                                                   F06TXF
                                                                                                                                                                                                                                                   F06TXF
F06TXF
F06VXF
F06CCF
F06CDF
                                                                                                                                                                                                                                                    F06BCF
                                                                                                                                                                                                                                                    F06CAF
                                                                                                                                                                                                                                                   F06CCF
                                                                                                          Cosine integral Ci(x)
                                                                                                                                                                                                                                                   S13ACF
                                                                Compute cosine of angle between two real vectors
Discrete cosine transform
Discrete quarter-wave cosine transform
                                                                                                                                                                                                                                                   FO6FAF
                                                                                                                                                                                                                                                   C06HBF
C06HDF
               General system of parabolic PDEs, coupled DAEs, method of lines, Chebyshev C^0... General system of parabolic PDEs, coupled DAEs, method of lines, finite differences, one... General system of parabolic PDEs, coupled DAEs, method of lines, finite differences,... General system of 1st order PDEs, coupled DAEs, method of lines, Keller box... General system of 1st order PDEs, coupled DAEs, method of lines, Keller box... ... PDEs with source terms in conservative form, coupled DAEs, method of lines, upwind scheme using... ... PDEs with source terms in conservative form, coupled DAEs, method of lines, upwind scheme using...
                                                                                                                                                                                                                                                   DUSPIE
                                                                                                                                                                                                                                                   D03PJF
D03PHF
D03PPF
D03PKF
                                                                                                                                                                                                                                                   D03PRF
                                                                                                                                                                                                                                                   D03PLF
                                                                                                                                                                                                                                                   D03PSF
   ...iteration of Kalman filter, time-varying, square root covariance filter
...of Kalman filter, time-invariant, square root covariance filter
Computes test statistic for equality of within-group covariance matrices and matrices for discriminant...
...squared distances for group or pooled variance-covariance matrices (for use after G03DAF)
Computes (optionally weighted) correlation and covariance matrices
...time series, sample cross-correlation or cross-covariance matrices
...matrix from correlation/variance-covariance matrix computed by G02BXF
Robust regression, variance-covariance matrix following G02HDF
                                                                                                                                                                                                                                                   G13EAF
                                                                                                                                                                                                                                                   G13EAF
G13EBF
G03DAF
G03DBF
                                                                                                                                                                                                                                                   G02BXF
                                                                                                                                                                                                                                                   G13DMF
                                                                                                                                                                                                                                                   G02BYF
                                                                                                                                                                                                                                                   G02HFF
                                                                                                          Covariance matrix for linear least-squares problems,...
Covariance matrix for nonlinear least-squares problem
                                                                                                                                                                                                                                                   F04YAF
E04YCF
                                  Computes\ partial\ correlation/variance - {\bf covariance}\ matrix\ from\ correlation/variance - covariance...
                                                                                                                                                                                                                                                    G02BYF
                                     Normal scores, approximate variance-covariance matrix
                                                                                                                                                                                                                                                   G01DCF
                                                                                                 Fits Cox's proportional hazard model
                                                                                                                                                                                                                                                   G12BAF
                                                                                    Return the CPU time
                                                                                                                                                                                                                                                   X05BAF
                                                           \label{eq:multivariate time series, {\bf cross} \ {\bf amplitude} \ {\bf spectrum}, \ {\bf squared} \ {\bf coherency}, \ {\bf bounds}, \dots
                                                                                                                                                                                                                                                   G13CEF
  ...squared coherency, bounds, univariate and bivariate (cross) spectra ...series, gain, phase, bounds, univariate and bivariate (cross) spectra
                          Multivariate time series, smoothed sample cross spectrum using rectangular, Bartlett, Tukey or... Multivariate time series, smoothed sample cross spectrum using spectral smoothing by the...
                                                                                                                                                                                                                                                   G13CCF
G13CDF
                                             Performs the Cochran Q test on cross-classified binary data
                                                                                                                                                                                                                                                   G08ALF
                                             Multivariate time series, sample cross-correlation or cross-covariance matrices
                                                                                                                                                                                                                                                   G13DMF
                                                           Multivariate time series, cross-correlations
                                                                                                                                                                                                                                                   G13BCF
        Multivariate time series, sample cross-correlation or cross-covariance matrices
                                                                                                                                                                                                                                                   G13DMF
                                                      Inverse Laplace transform, Crump's method
                                                                                                                                                                                                                                                   C06LAF
               ...functions, monotonicity-preserving, piecewise cubic Hermite, one variable

Fit cubic smoothing spline, smoothing parameter estimated

Fit cubic smoothing spline, smoothing parameter given

Least-squares cubic spline curve fit, automatic knot placement

Evaluation of fitted cubic spline, definite integral

Least-squares curve cubic spline fit (including interpolation)

Evaluation of fitted cubic spline, function and derivatives

Evaluation of fitted cubic spline, function only

Interpolating functions, cubic spline interpolant, one variable
                                                                                                                                                                                                                                                   E01BEF
                                                                                                                                                                                                                                                   G10ACF
G10ABF
                                                                                                                                                                                                                                                   E02BEF
                                                                                                                                                                                                                                                   E02BDF
                                                                                                                                                                                                                                                   E02BDF
E02BAF
E02BCF
E02BBF
E01BAF
                                                                                                          Cumulants and moments of quadratic forms in Normal...
                                                                                                                                                                                                                                                   G01NAF
                                                                                                                                                                                                                                                  G05EXF
                                   Set up reference vector from supplied cumulative distribution function or probability...
                                                                                                          Cumulative normal distribution function P(x)
                                                                                                                                                                                                                                                   S15ABF
                                                                             Complement of cumulative normal distribution function Q(x)
                                                                                                                                                                                                                                                   S15ACF
                                                        Least-squares curve cubic spline fit (including interpolation)
Least-squares cubic spline curve fit, automatic knot placement
Least-squares curve fit, by polynomials, arbitrary data points
Minimax curve fit by polynomials
                                                                                                                                                                                                                                                   E02BAE
                                                                                                                                                                                                                                                   E02ACF
D03PJF
D03PHF
                                                                                                                                                                                                                                                   D03PPF
                                                                                                                                                                                                                                                   D03PKF
                                                                                                                                                                                                                                                   D03PRF
                                                                                                                                                                                                                                                    D03PLF
                                                                                                                                                                                                                                                   D03PSF
...using spectral smoothing by the trapezium frequency (\mathbf{Daniell}) window ...using spectral smoothing by the trapezium frequency (\mathbf{Daniell}) window
                                                                                                                                                                                                                                                   G13CDF
                                                                                                                                                                                                                                                   D02MVF
                                                                                   ODEs, IVP, DASSL method, set-up for D02M-N routines
                                                                                           Return date and time as an array of integers
                                                                                                                                                                                                                                                   X05AAF
                       Convert array of integers representing date and time to character string Compare two character strings representing date and time
                                                                                                                                                                                                                                                   X05ACF
                                                                                   Mood's and \mathbf{David's} tests on two samples of unequal size
                                                                                                                                                                                                                                                   G08BAF
                                                                                                          Dawson's integral
                                                                                                                                                                                                                                                   S15AFF
                                                                                                          Decompose a permutation into cycles
                                                                                                                                                                                                                                                   M01ZCF
              ...value problem, finite difference technique with deferred correction, continuation facility
...value problem, finite difference technique with deferred correction, general linear problem
...value problem, finite difference technique with deferred correction, simple nonlinear problem
                                                                                                                                                                                                                                                   D02RAF
                                                                                                                                                                                                                                                    D02GBF
                                                                                                                                                                                                                                                   D02GAF
```

KWIC.8 [NP3086/18/pdf]

```
F03ACF
F07HRF
F01BUF
F07HGF
                                                                                                                                                                                                                                                                                                                                                                         F07HUF
                                                                                                                                                                                                                                                                                                                                                                       F07HOF
F07HVF
F07HEF
F07HSF
                                                                                                                                                                                                                                                                                                                                                                        F07HHF
                                                                                                                                                                                                                                                                                                                                                                        F01BVF
                                                                                                                                                                                                                                                                                                                                                                         F04ACF
                                                                                                                                                                                                                                                                                                                                                                       F04ACF
F02FHF
F08SSF
F08SEF
F08TSF
F08TEF
                                                                                                                                                                                                                                                                                                                                                                        F02FDF
                                                                                                                                                                                                                                                                                                                                                                        F02HDF
                                                                                                                                                                                                                                                                                                                                                                        E02BDF
                                                                                                                                                                                                                                                                                                                                                                        E01BHE
                                                                                                                                                                                                                                                                                                                                                                       F03ABF
F07FRF
F08JUF
F01ADF
F03AEF
                                                                                                                                                                                                                                                                                                                                                                        F07FGF
                                                                                                                                                                                                                                                                                                                                                                        F07FJF
                                                                                                                                                                                                                                                                                                                                                                        F07FUF
F07FWF
F07GGF
F07GJF
                                                                                                                                                                                                                                                                                                                                                                        F07GUF
                                                                                                                                                                                                                                                                                                                                                                        F07GWF
                                                                                                                                                                                                                                                                                                                                                                        F07GRF
                                                                                                                                                                                                                                                                                                                                                                       F07GRF
F07GDF
F07FDF
F08JGF
F01ABF
F04AGF
                                                                                                                                                                                                                                                                                                                                                                        F04AFF
                                                                                                                                                                                                                                                                                                                                                                         F04ABF
                                                                                                                                                                                                                                                                                                                                                                       F04ABF
F07FVF
F07FEF
F07FSF
F07GEF
F07GSF
                                                                                                                                                                                                                                                                                                                                                                        F07GVF
F07GHF
                                                                                                                                                                                                                                                                                                                                                                         F07FHF
                                                                                                                                                                                                                                                                                                                                                                       F07FHF
F04MEF
F04FEF
F04FFF
F08JUF
                                                                                                                                                                                                                                                                                                                                                                        F04FAF
                                                  LDL^T \ \ \text{factorization of real symmetric positive-definite variable-bandwidth matrix} \\ Solution of real symmetric positive-definite variable-bandwidth simultaneous linear...}
                                                                                                                                                                                                                                                                                                                                                                        F01MCF
                                                                                                                                                                                                                                                                                                                                                                        F04MCF
                                                                                                                                                                             Degenerate symmetrised elliptic integral of 1st kind...
                                                                                                                                                                                                                                                                                                                                                                       S21BAF
                                Zero of continuous function in given interval, Bus and Dekker algorithm

Zero of continuous function, Bus and Dekker algorithm, from given starting value, binary...

...in given interval of continuous function by Bus and Dekker algorithm (reverse communication)
                                                                                                                                                                                                                                                                                                                                                                        C05ADE
                                                                                                                                                                                                                                                                                                                                                                        C05AZF
                                                                                                                                                                             Delete a variable from a general linear regression...
                                                                                                                                                                                                                                                                                                                                                                       G02DCF
                                                                                                                                                                Add/delete an observation to/from a general linear...
                                                                                                                                                                                                                                                                                                                                                                       G03EHF
                                                                                                                                               Constructs dendrogram (for use after G03ECF)
                                       Kernel \ \ \textbf{density} \ estimate \ using \ Gaussian \ kernel \ ... upper \ and \ lower \ tail \ probabilities \ and \ probability \ \ \textbf{density} \ function \ for \ the \ beta \ distribution \ 
                                                                                                                                                                                                                                                                                                                                                                        G10BAF
                                                                                                                                                                                                                                                                                                                                                                        G01EEF
                                                        \label{eq:minimum} \mbox{Minimum, function of one variable, using 1st } \mbox{\bf derivative}
                                                                                                                                                                                                                                                                                                                                                                        E04BBF
                                                                                                                                                                             Derivative of fitted polynomial in Chebyshev series...
                                  ...interpolant computed by E01BEF, function and 1st derivative, one variable
                                ... functions, \ polynomial \ interpolant, \ data \ may \ include \ \textbf{derivative} \ values, \ one \ variable
                                                                                                                                                                                                                                                                                                                                                                        E01AEF
Check user's routine for calculating 1st derivatives

Solution of system of nonlinear equations using 1st derivatives (comprehensive)

....algorithm, function of several variables using 1st derivatives (comprehensive)

....Guass-Newton and quasi-Newton algorithm using 1st derivatives (comprehensive)

....Guass-Newton and modified Newton algorithm using 1st derivatives (comprehensive)

....Guass-Newton and modified Newton algorithm using 2nd derivatives (comprehensive)

....modified Newton algorithm, simple bounds, using 1st derivatives (comprehensive)

....mostraints, using function values and optionally 1st derivatives (comprehensive)

....Constraints, using function values and optionally 1st derivatives (comprehensive)

....QP method, using function values and optionally 1st derivatives (comprehensive)

....QP method, using function values and optionally 1st derivatives (comprehensive)

....QP method, using function values and optionally 1st derivatives

Check user's routine for calculating Jacobian of 1st derivatives

Solution of system of nonlinear equations using 1st derivatives (easy-to-use)

....combined Gauss-Newton and modified Newton algorithm, using 1st derivatives (easy-to-use)

.....Gauss-Newton and modified Newton algorithm using 1st derivatives (easy-to-use)

....variables, quasi-Newton algorithm, simple bounds, using 1st derivatives (easy-to-use)

....variables, quasi-Newton algorithm, simple bounds, using 1st derivatives (easy-to-use)

....variables, modified Newton algorithm, simple bounds, using 1st derivatives (easy-to-use)

....correlation matrix, user-supplied weight function plus derivatives

Least-squares polynomial fit, values and derivatives may be constrained, arbitrary data points, Check user's routine for calculating 1st derivatives of function

Check user's routine for calculating 1st derivatives of function

Check user's routine for calculating 1st derivatives (easy-to-use)

Numerical differentiation, derivatives (reverse communication)

Numerical differentiation, derivatives up t
                                                                       Check user's routine for calculating 1st derivatives
                                                                                                                                                                                                                                                                                                                                                                        C05ZAF
                                                                                                                                                                                                                                                                                                                                                                         C05PCF
                                                                                                                                                                                                                                                                                                                                                                        E04DGF
                                                                                                                                                                                                                                                                                                                                                                       E04GBF
E04GDF
E04HEF
E04KDF
                                                                                                                                                                                                                                                                                                                                                                         E04LBF
                                                                                                                                                                                                                                                                                                                                                                         E04UCF
                                                                                                                                                                                                                                                                                                                                                                        E04UNF
                                                                                                                                                                                                                                                                                                                                                                       E04UNF
E02BCF
E04YAF
C05PBF
E04GYF
E04GZF
                                                                                                                                                                                                                                                                                                                                                                        E04HYF
                                                                                                                                                                                                                                                                                                                                                                        E04KYF
                                                                                                                                                                                                                                                                                                                                                                         E04KZE
                                                                                                                                                                                                                                                                                                                                                                        E04KZF
E04LYF
G02HLF
E02AGF
E04ZCF
                                                                                                                                                                                                                                                                                                                                                                        E04HCF
                                                                                                                                                                                                                                                                                                                                                                        E04HDF
                                                                                                                                                                                                                                                                                                                                                                        S14ADF
C05PDF
                                                                                                                                                                                                                                                                                                                                                                       E04UFF
D04AAF
                     Analysis of variance, general row and column design, treatment means and standard errors ...of variance, randomized block or completely randomized design, treatment means and standard errors Analysis of variance, complete factorial design, treatment means and standard errors
                                                                                                                                                                                                                                                                                                                                                                         G04BCF
                                                                                                                                                                                                                                                                                                                                                                        G04CAF
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Determinant of complex matrix (Black Box)
Determinant of real matrix (Black Box)
                                                                                                                                                                                                                                                                                         F03ADF
F03AAF
                                                                               LU factorization and determinant of real matrix
                                                                                                                                                                                                                                                                                         F03AFF
                                                                                                                              Determinant of real symmetric positive-definite band...
                                                                                                                                                                                                                                                                                         F03ACF
                                                                                                                              Determinant of real symmetric positive-definite matrix...
                                                                                                                                                                                                                                                                                          F03ABF
                                                                           {\it LL}^T factorization and {\it determinant} of real symmetric positive-definite matrix
                                                                                                                                                                                                                                                                                         F03AEF
                                                                                                                                                                                                                                                                                         G01FBF
                                                                                                       Computes deviates for Student's t-distribution
                                                                                                      Computes deviates for Student's t-distribution Computes deviates for the beta distribution Computes deviates for the F-distribution Computes deviates for the gamma distribution Computes deviates for the standard Normal distribution Computes deviates for the Studentized range statistic Computes deviates for the \chi^2 distribution
                                                                                                                                                                                                                                                                                          G01FEF
                                                                                                                                                                                                                                                                                          G01FDF
                                                                                                                                                                                                                                                                                         G01FDF
G01FFF
G01FAF
G01FMF
                                                                                                                                                                                                                                                                                         G01FCF
        ...median, median absolute deviation, robust standard deviation
                                                                                                                                                                                                                                                                                         G07DAF
                             Robust estimation, median, median absolute deviation, robust standard deviation
                                                                                                                                                                                                                                                                                         G13AUF
    Computes quantities needed for range-mean or standard deviation-mean plot
                                     Univariate time series, diagnostic checking of residuals, following G13AEF or...
Multivariate time series, diagnostic checking of residuals, following G13DCF
Real sparse unsymmetric linear systems, diagnostic for F11BBF
Real sparse symmetric linear systems, diagnostic for F11GBF
                                                                                                                                                                                                                                                                                         G13ASF
                                                                                                                                                                                                                                                                                          G13DSF
                                                                                                                                                                                                                                                                                         F11GCF
                2nd order ODEs, IVP, diagnostics for D02LAF
ODEs, IVP, integration diagnostics for D02PCF and D02PDF
ODEs, IVP, error assessment diagnostics for D02PCF and D02PDF
ODEs, IVP, diagnostics for D02PCF and D02PDF
ODEs, IVP, root-finding diagnostics for D02QFF and D02QGF
ODEs, IVP, root-finding diagnostics for D02QFF and D02QGF
ODEs, general nonlinear boundary value problem, diagnostics for D02TKF
                                                                                                                                                                                                                                                                                         D02LYF
                                                                                                                                                                                                                                                                                         D02PYF
D02PZF
                                                                                                                                                                                                                                                                                         D02QXF
                                                                                                                                                                                                                                                                                         D02OYF
                                                                                                                                                                                                                                                                                         D02TZF
                              ODEs, IVP, sparse Jacobian, linear algebra {f diagnostics}, for use with D02M-N routines ODEs, IVP, integrator {f diagnostics}, for use with D02M-N routines
                                                                                                                                                                                                                                                                                         D02NXF
                                            LU factorization of real almost block {f diagonal} matrix
                                                                                                                                                                                                                                                                                          F01LHF
                                             Multiply real vector by diagonal matrix
Multiply complex vector by complex diagonal matrix
Multiply complex vector by real diagonal matrix
Solution of real almost block diagonal simultaneous linear equations (coefficient...
                                                                                                                                                                                                                                                                                          F06HCF
                                                                                                                                                                                                                                                                                          F06KCF
                                                                                                                                                                                                                                                                                         F04LHF
   Elliptic PDE, solution of finite difference equations by a multigrid technique Elliptic PDE, solution of finite difference equations by SIP, five-point 2-D molecule,... Elliptic PDE, solution of finite difference equations by SIP, five-point 2-D molecule,... Elliptic PDE, solution of finite difference equations by SIP, seven-point 3-D... Elliptic PDE, solution of finite difference equations by SIP, seven-point 3-D molecule,... Computes t-test statistic for a difference in means between two Normal populations,... Sum or difference in means between two Normal populations,... Sum or difference of two complex matrices, optional scaling... Sum or difference technique with deferred correction,... ODEs, general nonlinear boundary value problem, finite difference technique with deferred correction, general... ODEs, boundary value problem, finite difference technique with deferred correction, simple...
                                                                                                                                                                                                                                                                                         DOSEDE
                                                                                                                                                                                                                                                                                         D03ECF
                                                                                                                                                                                                                                                                                         D03UBF
                                                                                                                                                                                                                                                                                         G07CAF
F01CWF
                                                                                                                                                                                                                                                                                         F01CTF
D02RAF
D02GBF
D02GAF
                                                   Multivariate time series, differences and/or transforms (for use before G13DCF) Computes confidence intervals for differences between means computed by G04BBF or G04BCF
                                                                                                                                                                                                                                                                                         G04DBF
...system of parabolic PDEs, method of lines, finite differences, one space variable
...parabolic PDEs, coupled DAEs, method of lines, finite differences, one space variable
...parabolic PDEs, coupled DAEs, method of lines, finite differences, remeshing, one space variable
General system of 2nd order PDEs, method of lines, finite differences, remeshing, two space variables, rectangular region
General system of 2nd order PDEs, method of lines, finite differences, remeshing, two space variables, rectilinear region
                                                                                                                                                                                                                                                                                         D03PCF
                                                                                                                                                                                                                                                                                          D03PHF
                                                                                                                                                                                                                                                                                          D03PPF
                   Univariate time series, seasonal and non-seasonal differencing
                                                                                                                                                                                                                                                                                         G13AAF
                                                                                                        Ordinary Differential Equations See ODEs
Partial Differential Equations See PDEs
                                                                                                                             Differential/algebraic equations
                                                                                                                                                                                                                                                                                         D02M-N
                                                                                                      Numerical differentiation, derivatives up to order 14, function...
                                                                                                                                                                                                                                                                                         D04AAF
                                                                   Estimate (using numerical differentiation) gradient and/or Hessian of a function
                                                                                                                                                                                                                                                                                         E04XAF
                                                             General system of convection-diffusion PDEs with source terms in conservative form,... General system of convection-diffusion PDEs with source terms in conservative form,... General system of convection-diffusion PDEs with source terms in conservative form,...
                                                                                                                                                                                                                                                                                         D03PLF
                                                                                                                                                                                                                                                                                         D03PSF
D03PFF
                                                                          Shortest path problem, Dijkstra's algorithm
                                                                                                                                                                                                                                                                                         H03ADF
                                                                                                                             Discrete cosine transform
                                                                                                                                                                                                                                                                                         C06HBF
                                                                 2-D complex discrete Fourier transform
3-D complex discrete Fourier transform
Single 1-D real discrete Fourier transform, extra workspace for greater...
Single 1-D transform, extra workspace for greater...
Single 1-D complex discrete Fourier transform, extra workspace for greater...
Single 1-D complex discrete Fourier transform, no extra workspace
Single 1-D transform transform, no extra workspace
Single 1-D complex discrete Fourier transform, no extra workspace
1-D complex discrete Fourier transform of multi-dimensional data
Multi-dimensional complex discrete Fourier transform of multi-dimensional data
Multiple 1-D real discrete Fourier transforms
Multiple 1-D complex discrete Fourier transforms
Multiple 1-D complex discrete Fourier transforms
Multiple 1-D complex discrete Fourier transforms
                                                                                                                                                                                                                                                                                         C06FUF
C06FXF
C06FAF
C06FBF
                                                                                                                                                                                                                                                                                         C06FCF
                                                                                                                                                                                                                                                                                         C06EAF
                                                                                                                                                                                                                                                                                         C06EBF
                                                                                                                                                                                                                                                                                          COSECE
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C06FFF
C06FPF
                                                                                                                                                                                                                                                                                         C06FQF
C06FRF
                                                                                                                                                                                                                                                                                         C06HDF
                                                                                                                              Discrete quarter-wave cosine transform
                                                                                                                              Discrete quarter-wave sine transform
Discrete sine transform
                                                                                                                                                                                                                                                                                         C06HAF
                                                                                                                             Discretize a 2nd order elliptic PDE on a rectangle
                                                                                                                                                                                                                                                                                         D03EEF
      \dotsof within-group covariance matrices and matrices for {\bf discriminant} analysis
                                                                                                                                                                                                                                                                                         G03DAF
                                                                                                                             Dispersion tests
                                                                                                                                                                                                                                                                                         G08
                                                                                                                                                                                                                                                                                         G03EAF
                                                                                                      Computes distance matrix
                                                                                                                                                                                                                                                                                         G03DBF
                                                        Computes Mahalanobis squared distances for group or pooled variance-covariance...
             ... likelihood\ estimates\ for\ parameters\ of\ the\ Normal\ \textbf{distribution}\ from\ grouped\ and/or\ censored\ data
                                                                                                                                                                                                                                                                                         G07BBF
                                                                                          Binomial distribution from great Binomial distribution function Poisson distribution function Hypergeometric distribution function
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KWIC.10 [NP3086/18/pdf]

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...cumulative distribution function or probability distribution function Set up reference vector from supplied cumulative distribution function or probabilities for the standard Normal distribution function (2) Computes probabilities for the standard Normal distribution Computes probabilities for Student's t-distribution Computes probabilities for Student's t-distribution Computes probabilities for F-distribution Computes probabilities for F-distribution Computes probabilities for F-distribution Computes probabilities for the samma distribution Computes probabilities for the samma distribution Computes deviates for the standard Normal distribution Computes deviates for the standard Normal distribution Computes deviates for the standard Normal distribution Computes deviates for the F-distribution Computes deviates for the the standard Normal distribution Computes deviates for the heta distribution Computes deviates for the heta distribution Computes probabilities for the non-central F-distribution Pseudo-random real numbers, Normal distribution Pseudo-random real numbers, Student's t-distribution Pseudo-random rea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S15ABF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S15ACF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  G01EYF
G01EZF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  G01FAF
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G01FEF
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G01GBF
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G01HAF
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G01HBF
G05DBF
G05DCF
G05DDF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 G05DRF
G05DYF
G05EAF
G05EBF
G05ECF
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G05FAF
G05FBF
G05FEF
G05FFF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 G07ABF
G07BEF
G08CCF
G05CAF
G05DAF
                  ...the one-sample Kolmogorov-Smirnov test for standard distributions
...goodness of fit test, for standard continuous distributions
Inverse distributions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  G08CBF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  G01F
                                                                                              Jacobian elliptic functions sn, cn and dn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S21CAF
                                                 ...finite interval, strategy due to Piessens and de Doncker, allowing for badly-behaved integrands
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  D01AJF
                                                                                                                                                                                                                                                     Dot product of two complex sparse vector, conjugated.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 F06GSF
F06GRF
                                                                                                                                                                                                                                                    Dot product of two complex sparse vector, unconjugated...
Dot product of two complex vectors, conjugated...
Dot product of two complex vectors, unconjugated...
Dot product of two real sparse vectors (SDOTI/DDOTI)
Dot product of two real vectors (SDOT/DDOT)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  F06GBF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F06GAF
                                                                                                                               Performs the runs up or runs \mathbf{down} test for randomness
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  G08EAF
                                                                            Computes bounds for the significance of a Durbin–Watson statistic Computes Durbin–Watson test statistic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  G02FCF
                                                             ...system, finite/infinite range, eigenvalue and eigenfunction, user-specified break-points
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 D02KEF
          ...standard form of complex Hermitian-definite generalized eigenproblem Ax = \lambda Bx, ABx = \lambda x or...
...to standard form of real symmetric-definite generalized eigenproblem Ax = \lambda Bx, ABx = \lambda x or...
...to standard form of complex Hermitian-definite generalized eigenproblem Ax = \lambda Bx, ABx = \lambda x or...
...to standard form of real symmetric-definite generalized eigenproblem Ax = \lambda Bx, ABx = \lambda x or...
...of generalized banded real symmetric-definite eigenproblem (Black Box)
...eigenvalues and eigenvectors of sparse symmetric eigenproblem (Black Box)
Eigenvector of generalized real banded eigenproblem by inverse iteration
...and optionally eigenvectors of generalized complex eigenproblem by QZ algorithm (Black Box)
...eigenvalues and optionally eigenvectors of generalized eigenproblem by QZ algorithm, real matrices (Black...
...form, generalized real symmetric-definite banded eigenproblem
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  F08SSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F08SEF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F02BJF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  F01BVF
                   ...regular/singular system, finite/infinite range, eigenvalue and eigenfunction, user-specified...

Compute eigenvalue of 2 by 2 real symmetric matrix

...Sturm-Liouville problem, regular system, finite range, eigenvalue only

...regular/singular system, finite/infinite range, eigenvalue only, user-specified break-points
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 D02KEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 F06BPF
D02KAF
D02KDF
                                                                                                All eigenvalues and eigenvectors of complex general matrix...

All eigenvalues and eigenvectors of complex general matrix...

All eigenvalues and eigenvectors of complex Hermitian...

Selected eigenvalues and eigenvectors of complex Hermitian...

All eigenvalues and eigenvectors of complex Hermitian...

Selected eigenvalues and eigenvectors of complex nonsymmetric...

Estimates of sensitivities of selected eigenvalues and eigenvectors of complex upper...

All eigenvalues and eigenvectors of real general matrix...

Selected eigenvalues and eigenvectors of real nonsymmetric matrix...

Selected eigenvalues and eigenvectors of real symmetric matrix...

Selected eigenvalues and eigenvectors of real symmetric matrix...

All eigenvalues and eigenvectors of real symmetric positive...

All eigenvalues and eigenvectors of real symmetric...

All eigenvalues and optionally eigenvectors of generalized...

All eigenvalues and optionally eigenvectors of generalized...

All eigenvalues and Schur factorization of complex upper...

Eigenvalues and Schur factorization of complex upper...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  F02GBF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  F02HAF
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F08JGF
F08JSF
F08JEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  F02FDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  F08QLF
F02FJF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  F02GJF
                                                                                                                                                                                                                                                     Eigenvalues and Schur factorization of complex upper...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 F08PSF
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All eigenvalues and Schur factorization of real general...
                                                                                                                                                                                                           Eigenvalues and Schur factorization of real upper...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       F08PEF
                                                                                                                                                                          All eigenvalues of generalized banded real...
Selected eigenvalues of real symmetric tridiagonal matrix by...
All eigenvalues of real symmetric tridiagonal matrix,...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       F02FHF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       F08JFF
                                             basis of right invariant subspace for selected eigenvalues, with estimates of sensitivities... basis of right invariant subspace for selected eigenvalues, with estimates of sensitivities...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       F08OUE
               Eigenvector of generalized real banded eigenproblem by...

...tridiagonal matrix by inverse iteration, storing eigenvectors in complex array (CSTEIN/ZSTEIN)

...tridiagonal matrix by inverse iteration, storing eigenvectors in real array (SSTEIN/DSTEIN)

Left and right eigenvectors of a complex upper triangular matrix...

Transform eigenvectors of complex upper triangular matrix...

All eigenvalues and eigenvectors of complex balanced matrix to those of...

All eigenvalues and eigenvectors of complex Beneral matrix (Black Box)

All eigenvalues and eigenvectors of complex Hermitian matrix (Black Box)

Selected eigenvalues and eigenvectors of complex Hermitian-definite generalized...

Selected right and/or left eigenvectors of complex upper Hessenberg matrix by...

All eigenvalues and optionally eigenvectors of complex upper principle by...

All eigenvalues and optionally eigenvectors of generalized complex eigenproblem by...

All eigenvalues and eigenvectors of real balanced matrix to those of...

All eigenvalues and eigenvectors of real general matrix (Black Box)

Selected eigenvalues and eigenvectors of real general matrix (Black Box)

Selected eigenvalues and eigenvectors of real symmetric matrix (Black Box)

All eigenvalues and eigenvectors of real symmetric matrix (Black Box)

All eigenvalues and eigenvectors of real symmetric matrix (Black Box)

All eigenvalues and eigenvectors of real symmetric matrix (Black Box)

Selected eigenvectors of real symmetric matrix (Black Box)

All eigenvalues and eigenvectors of real symmetric matrix (Black Box)

All eigenvalues and eigenvectors of real symmetric matrix (Black Box)

All eigenvalues and eigenvectors of real symmetric matrix (Black Box)

All eigenvalues and eigenvectors of real symmetric matrix (Black Box)

Selected eigenvectors of real symmetric robitive definite...

All eigenvalues and eigenvectors of real symmetric tridiagonal matrix by...

Selected eigenvectors of real symmetric tridiagonal matrix,...

All eigenvalues and eigenvectors of real symmetric tridi
                                                                                                                                                                                                          Eigenvector of generalized real banded eigenproblem by...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       F08JXF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       F08JKF
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F08QKF
F08NWF
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F02HAF
F02HCF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                       F08PXF
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F08QYF
F02GJF
F02BJF
F08NJF
F02EBF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                       F02FAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       F02FCF
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F08JUF
F08JGF
F08JXF
F08JKF
F08JSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       F08JEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       F02FDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       F08PKF
                                                                                                                                         Generate complex elementary reflection
Apply complex elementary reflection
Generate real elementary reflection, LINPACK style
Apply real elementary reflection, LINPACK style
Generate real elementary reflection, NAG style
Apply real elementary reflection, NAG style
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       F06HRF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        F06FSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        F06FUF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        F06FRF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FO6FTF
                                                                                                                                                                        Gaussian elimination See LU factorization
                                                                                                                  Jacobian elliptic functions sn, cn and dn Degenerate symmetrised elliptic integral of 1st kind R_C(x,y) Symmetrised elliptic integral of 1st kind R_F(x,y,z) Symmetrised elliptic integral of 2nd kind R_D(x,y,z)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S21CAF
S21BAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S21BBF
                                                                                                                                                           Symmetrised elliptic integral of 3rd kind R_J(x, y, z, r)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S21BDF
                                                                                                                                                                                                          Elliptic PDE, Helmholtz equation, 3-D Cartesian...
Elliptic PDE, Laplace's equation, 2-D arbitrary domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       D03FAF
                                                                                                                           Discretize a 2nd order elliptic PDE on a rectangle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       D03EEF
                                                                                                                                                                                                         Elliptic PDE, solution of finite difference equations... Elliptic PDE, solution of finite difference equations...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       D03EDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        D03EBF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        D03UAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       D03ECF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       D03UBF
                                                                                                                                        ODEs, IVP, resets {f end} of range for D02PDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       D02PWF
                                   ...adaptive, finite interval, weight function with end-point singularities of algebraico-logarithmic type
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       D01APF
\ldots of convergence of sequence, Shanks' transformation and \mathbf{epsilon} algorithm
                                                                                                                                                              ODEs, IVP, {f error} assessment diagnostics for D02PCF and D02PDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       D02PZF
                                                                                                                                                                                                           Error bounds for solution of complex band triangular...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       F07VVF
                                                                                                                                                                                                         Error bounds for solution of complex band triangular...

Error bounds for solution of complex triangular system...

Error bounds for solution of complex triangular system...

Error bounds for solution of real band triangular...

Error bounds for solution of real triangular system of...

Error bounds for solution of real triangular system of...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        F07TVF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       F07UVF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       F07VHF
F07UHF
F07THF
                                                                           Error bounds for solution of real triangular system of...

Refined solution with error bounds of complex band system of linear...

Refined solution with error bounds of complex Hermitian indefinite system of...

Refined solution with error bounds of complex Hermitian indefinite system of...

Refined solution with error bounds of complex Hermitian positive-definite...

Refined solution with error bounds of complex Hermitian positive-definite...

Refined solution with error bounds of complex system of linear...

Refined solution with error bounds of complex system of linear...

Refined solution with error bounds of complex system of linear equations,...

Refined solution with error bounds of real band system of linear equations,...

Refined solution with error bounds of real symmetric indefinite system of...

Refined solution with error bounds of real symmetric indefinite system of...

Refined solution with error bounds of real symmetric positive-definite band...

Refined solution with error bounds of real symmetric positive-definite system...

Refined solution with error bounds of real symmetric positive-definite system...

Refined solution with error bounds of real symmetric positive-definite system...

Refined solution with error bounds of real symmetric positive-definite system...

Refined solution with error bounds of real symmetric positive-definite system...

Refined solution with error bounds of real symmetric positive-definite system...

Refined solution with error bounds of real system of linear equations,...

ODEs, IVP, weighted norm of local error estimate for DO2M-N routines

Scaled complex complement of error function, e^{-\frac{2}{z}} erfc(-iz)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       F07BVF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       F07MVF
F07PVF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       F07HVF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       F07HVF
F07FVF
F07GVF
F07NVF
F07QVF
F07AVF
F07BHF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       F07PHF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       F07MHF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FO7HHF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       F07HHF
F07GHF
F07FHF
F07AHF
D02ZAF
                                                                                            Scaled complex complement of error function, e^{-z^2} erfc(-iz) Complement of error function erfc(x)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S15DDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S15AEF
                                                                                                                                                                                                         Error function erf(x)
 ...of a general linear regression model and its standard error
...function of a generalized linear model and its standard error
...bounds, impulse response function and its standard error
Return value of error indicator/terminate with error message
Return value of error indicator/terminate with error message
Return or set unit number for error messages
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        G02DNF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        G02GNF
G13CGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        P01ABF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        P01ABF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       X04AAF
                                         Fits a generalized linear model with Normal errors
Fits a generalized linear model with binomial errors
Fits a generalized linear model with Poisson errors
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       G02GAF
```

KWIC.12 [NP3086/18/pdf]

```
Fits a generalized linear model with gamma errors
...randomized design, treatment means and standard errors
...row and column design, treatment means and standard errors
...complete factorial design, treatment means and standard errors
...time series, forecasts and their standard errors
...time series, updates forecasts and their standard errors
...time series, updates forecasts and their standard errors of parameters of a general linear model for...
Estimates and standard errors of parameters of a general linear regression...
                                                                                                                                                                                                                                                                                                                                                        G02GDF
                                                                                                                                                                                                                                                                                                                                                        G04BBF
                                                                                                                                                                                                                                                                                                                                                       G04BCF
                                                                                                                                                                                                                                                                                                                                                       G04CAF
                                                                                                                                                                                                                                                                                                                                                       G13DJF
                                                                                                                                                                                                                                                                                                                                                        G13DKF
                                                                                                                                Computes estimable function of a general linear regression model...
                                                                                                                               Computes estimable function of a generalized linear model and...
                                                                                                                                                         Estimate condition number of complex band matrix,...

Estimate condition number of complex band triangular...

Estimate condition number of complex Hermitian...

Estimate condition number of complex matrix, matrix...

Estimate condition number of complex symmetric matrix,...

Estimate condition number of complex symmetric matrix,...

Estimate condition number of complex triangular matrix...

Estimate condition number of complex triangular matrix...

Estimate condition number of real band matrix, matrix...

Estimate condition number of real matrix, matrix...

Estimate condition number of real symmetric indefinite...

Estimate condition number of real symmetric...

Estimate condition number of real triangular matrix...
                                                                                                                                                                                                                                                                                                                                                       G02GNF
                                                                                                                                                                                                                                                                                                                                                       F07BUF
                                                                                                                                                                                                                                                                                                                                                        F07VUF
                                                                                                                                                                                                                                                                                                                                                       F07MUF
                                                                                                                                                                                                                                                                                                                                                       F07PUF
F07HUF
F07FUF
F07GUF
                                                                                                                                                                                                                                                                                                                                                       F07AUF
F07NUF
                                                                                                                                                                                                                                                                                                                                                       F07NUF
F07QUF
F07TUF
F07UUF
F07BGF
F07VGF
F07AGF
                                                                                                                                                                                                                                                                                                                                                       F07MGF
                                                                                                                                                                                                                                                                                                                                                       F07PGF
                                                                                                                                                                                                                                                                                                                                                       F07HGF
                                                                                                                                                                                                                                                                                                                                                       F07FGF
F07GGF
F07UGF
F07TGF
                                               ODEs, IVP, weighted norm of local error {f estimate} for D02M-N routines Kernel density {f estimate} using Gaussian kernel
                                                                                                                                                                                                                                                                                                                                                       D02ZAF
                                                                                                                                                          \textbf{Estimate} \ (\text{using numerical differentiation}) \ \operatorname{gradient}...
                                                                                                                                                                                                                                                                                                                                                       E04XAF
                                                                                                                                                           Estimates and standard errors of parameters of a... Estimates and standard errors of parameters of a...
                                                                                                                                                                                                                                                                                                                                                       G02GKF
                                                                        Robust estimation, M-estimates for location and scale parameters, standard... Robust estimation, M-estimates for location and scale parameters,... Computes maximum likelihood estimates for parameters of the Normal distribution... Computes maximum likelihood estimates for parameters of the Weibull distribution Robust regression, standard M-estimates
                                                                                                                                                                                                                                                                                                                                                       G07DBF
                                                                                                                                                                                                                                                                                                                                                       G07DCF
G07BBF
                                                                                                                                                                                                                                                                                                                                                        G07BEF
                                                                                                                                                                                                                                                                                                                                                       G02HAF
                                                                                                                                                           \textbf{Estimates} \ \ \text{of linear parameters and general linear}...
                                                                                                                                                                                                                                                                                                                                                       G02DDF
         ... right invariant \ subspace \ for \ selected \ eigenvalues, \ with \ \textbf{estimates} \ of \ sensitivities \ (CTRSEN/ZTRSEN)
                                                                                                                                                                                                                                                                                                                                                       F08QUF
                                                                                                                                                           Estimates of sensitivities of selected eigenvalues and... Estimates of sensitivities of selected eigenvalues and...
                                                                                                                                                                                                                                                                                                                                                       F08QYF
F08QLF
     ...right invariant subspace for selected eigenvalues, with estimates of sensitivities (STRSEN/DTRSEN)

Computes Kaplan-Meier (product-limit) estimates of survival probabilities

Computes the maximum likelihood estimates of the parameters of a factor analysis model,...

a trimmed and winsorized mean of a single sample with estimates of their variance
                                                                                                                                                                                                                                                                                                                                                       F08QGF
                                                                                                                                                                                                                                                                                                                                                        G03CAF
                                                                                                                                                                                                                                                                                                                                                       G07DDF
                                                                                                                                        Huber estimates See Robust
                                                      Norm estimation (for use in condition estimation), complex matrix
                                                                                                                                                                                                                                                                                                                                                       F04ZCF
                                                                                                                                          Norm estimation (for use in condition estimation), complex...
Norm estimation (for use in condition estimation), real...
                                                                                                                                       Robust estimation, median, median absolute deviation, robust... Robust estimation, M-estimates for location and scale... Robust estimation, M-estimates for location and scale...
                                                                                                                                                                                                                                                                                                                                                       G07DAF
                                                                                                                                                                                                                                                                                                                                                        G07DBF
                                                                                                                                                                                                                                                                                                                                                       G07DCF
                                                         Calculates a robust estimation of a correlation matrix, Huber's weight...
Calculates a robust estimation of a correlation matrix, user-supplied...
Calculates a robust estimation of a correlation matrix, user-supplied...
Multivariate time series, estimation of multi-input model
Multivariate time series, preliminary estimation of transfer function model
Multivariate time series, estimation of VARMA model
                                                                                                                                                                                                                                                                                                                                                       G02HKF
                                                                                                                                                                                                                                                                                                                                                        G02HMF
G02HLF
                                                                                                                                                                                                                                                                                                                                                       G13BDF
                                                                                                                                                                                                                                                                                                                                                       G13DCF
                                                        Norm estimation (for use in condition estimation), real matrix
                                                                                                                                                                                                                                                                                                                                                       F04YCF
                                                               Univariate time series, estimation, seasonal ARIMA model (comprehensive) Univariate time series, estimation, seasonal ARIMA model (easy-to-use) Univariate time series, preliminary estimation, seasonal ARIMA model
                                                                                                                                                                                                                                                                                                                                                       G13AEE
                                                                                                                                                                                                                                                                                                                                                       G13AFF
G13ADF
                                                                                                         Compute Euclidean norm from scaled form
Update Euclidean norm of complex vector in scaled form
Compute Euclidean norm of complex vector (SCNRM2/DZNRM2)
Compute weighted Euclidean norm of real vector
Update Euclidean norm of real vector in scaled form
Compute Euclidean norm of real vector (SNRM2/DNRM2)
                                                                                                                                                                                                                                                                                                                                                       F06BMF
                                                                                                                                                                                                                                                                                                                                                        F06KJF
                                                                                                                                                                                                                                                                                                                                                       F06JJF
                                                                                                                                                                                                                                                                                                                                                        F06FKF
                                                                                                                                                                                                                                                                                                                                                       F06EJF
                                                 Roe's approximate Riemann solver for Euler equations in conservative form, for use with...

Osher's approximate Riemann solver for Euler equations in conservative form, for use with...

Modified HLL Riemann solver for Euler equations in conservative form, for use with...

Exact Riemann Solver for Euler equations in conservative form, for use with...
                                                                                                                                                                                                                                                                                                                                                       D03PUF
D03PVF
                                                                                                                                                                                                                                                                                                                                                       D03PWF
                                                                                                                                                                                                                                                                                                                                                       D03PXF
                                                                                                                                                           Euler's constant. \( \gamma \)
                                                                                                                                                                                                                                                                                                                                                       X01ABF
                                                                                                      Interpolated values, evaluate interpolant computed by E01SAF, two variables
                                                                                                                                                                                                                                                                                                                                                       E01SBF
                                                                                                                                                           Evaluate inverse Laplace transform as computed by...
                                                                                                                                                                                                                                                                                                                                                       C06LCF
                                                                                                      Interpolated\ values,\ \textbf{evaluate}\ rational\ interpolant\ computed\ by\ E01RAF,\ one...
                                                                                                                                                                                                                                                                                                                                                       E01RBF
                                                                                                                                                          Evaluation of a fitted bicubic spline at a mesh of...
Evaluation of a fitted bicubic spline at a vector of...
Evaluation of fitted cubic spline, definite integral
Evaluation of fitted cubic spline, function and...
Evaluation of fitted cubic spline, function only
Evaluation of fitted polynomial in one variable, from...
Evaluation of fitted polynomial in one variable from...
Evaluation of fitted polynomial in two variables
Evaluation of fitted rational function as computed by...
                                                                                                                                                                                                                                                                                                                                                       E02DFF
                                                                                                                                                                                                                                                                                                                                                        E02DEF
                                                                                                                                                                                                                                                                                                                                                       E02BDF
                                                                                                                                                                                                                                                                                                                                                       E02BCF
                                                                                                                                                                                                                                                                                                                                                       E02BBF
E02AKF
E02AEF
                                                                                                                                                                                                                                                                                                                                                       E01ABF
                                                                                                     Interpolated values, Everett's formula, equally spaced data, one variable
                                                                                                                     Computes the exact probabilities for the Mann-Whitney U statistic,...
                                                                                                                                                                                                                                                                                                                                                       G08AJF
```

```
Computes the \mathbf{exact} probabilities for the Mann–Whitney U statistic,...
                                                 ...contingency table analysis, with \chi^2/Fisher's exact test
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                G01AFF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                D02NCF
D02NBF
D02NMF
                                                                                                                                                                                                                              Explicit ODEs, stiff IVP, banded Jacobian...
Explicit ODEs, stiff IVP, full Jacobian (comprehensive)
Explicit ODEs, stiff IVP (reverse communication,...
Explicit ODEs, stiff IVP, sparse Jacobian...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                D02NDF
   Pseudo-random real numbers, (negative) exponential distribution Generates a vector of random numbers from an (negative) exponential distribution
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                G05DBF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                G05FBF
                                                                                                                                                                                            Complex exponential, e^z
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S01EAF
                                                                                                                                                                                                                              Exponential integral E_1(x)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S13AAF
                       Ranks, Normal scores, approximate Normal scores or exponential (Savage) scores
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                G01DHF
                                                                                                                                                                                                                              Extract grid data from D03RBF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               D03RZF
                       Computes a five-point summary (median, hinges and extremes)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                G01ALF
                                                             {\it Computes probabilities for $F$-{\bf distribution}$ } \\ {\it Computes deviates for the $F$-{\bf distribution}$ } \\ {\it Computes probabilities for the non-central $F$-{\bf distribution}$ } \\ {\it Computes probabilities for the non-central $F$-{\bf distribution}$ } \\ {\it Computes probabilities for the non-central $F$-{\bf distribution}$ } \\ {\it Computes probabilities for the non-central $F$-{\bf distribution}$ } \\ {\it Computes probabilities for the non-central $F$-{\bf distribution}$ } \\ {\it Computes probabilities for the non-central $F$-{\bf distribution}$ } \\ {\it Computes probabilities for the non-central $F$-{\bf distribution}$ } \\ {\it Computes probabilities for the non-central $F$-{\bf distribution}$ } \\ {\it Computes probabilities for the non-central $F$-{\bf distribution}$ } \\ {\it Computes probabilities for the non-central $F$-{\bf distribution}$ } \\ {\it Computes probabilities for the non-central $F$-{\bf distribution}$ } \\ {\it Computes probabilities for the non-central $F$-{\bf distribution}$ } \\ {\it Computes probabilities for the non-central $F$-{\bf distribution}$ } \\ {\it Computes probabilities for the non-central $F$-{\bf distribution}$ } \\ {\it Computes probabilities for the non-central $F$-{\bf distribution}$ } \\ {\it Computes probabilities for the non-central $F$-{\bf distribution}$ } \\ {\it Computes probabilities for the non-central $F$-{\bf distribution}$ } \\ {\it Computes probabilities for the non-central $F$-{\bf distribution}$ } \\ {\it Computes probabilities for the non-central $F$-{\bf distribution}$ } \\ {\it Computes probabilities for the non-central $F$-{\bf distribution}$ } \\ {\it Computes probabilities for the non-central $F$-{\bf distribution}$ } \\ {\it Computes probabilities for the non-central $F$-{\bf distribution}$ } \\ {\it Computes probabilities for the non-central $F$-{\bf distribution}$ } \\ {\it Computes probabilities for the non-central $F$-{\bf distribution}$ } \\ {\it Computes probabilities for the non-central $F$-{\bf distribution}$ } \\ {\it Computes probabilities for the non-central $F$-{\bf distribution}$ } \\ {\it Computes probabilities for the non-central $F$-{\bf distrib
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                G01EDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 G01GDF
                                                                                                             Pseudo-random real numbers, F-distribution
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                G05DKF
...the maximum likelihood estimates of the parameters of a factor analysis model, factor loadings, communalities...
...estimates of the parameters of a factor analysis model, factor loadings, communalities and residual...
Computes factor score coefficients (for use after G03CAF)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 G03CAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 G03CAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                G03CCF
            Analysis of variance, complete factorial design, treatment means and standard errors

LU factorization and determinant of real matrix

LU factorization and determinant of real matrix

LU factorization by FUQJF
...with unitary matrices, form rows of Q, after R factorization by FUQJF
...with unitary matrices, form rows of Q, after R factorization by sequence of plane rotations, complex...

QR or RQ factorization by sequence of plane rotations, complex...

QR or RQ factorization by sequence of plane rotations, complex...

QR or RQ factorization by sequence of plane rotations, complex...

QR or RQ factorization by sequence of plane rotations, complex...

QR or RQ factorization by sequence of plane rotations, real...

QR or RQ factorization by sequence of plane rotations, real...

QR or RQ factorization by sequence of plane rotations, real...

QR or RQ factorization by sequence of plane rotations, real...

QR or RQ factorization determined by FOSAHF (SORGICQ/DORGLQ)

Form all or part of orthogonal Q from QR factorization determined by FOSAHF (SORGICQ/DORGLQ)

Form all or part of orthogonal Q from QR factorization determined by FOSAHF (SORGICQ/DORGLQ)

Real sparse symmetric matrix, incomplete Cholesky factorization determined by FOSAHF (SORGICQ/DORGLQ)

Real sparse unsymmetric linear systems, incomplete LQ factorization of complex general matrix (Black Box)

All eigenvalues and Schur factorization of complex general matrix (Black Box)

QR factorization of complex general matrix (Black Box)

QR factorization of complex Hermitian indefinite matrix...

Cholesky factorization of complex Hermitian indefinite matrix...

Cholesky factorization of complex m by n matrix (m \leftarrow 1)

Reorder Schur factorization of complex m by n matrix (m \leftarrow 1)

Reorder Schur factorization of complex m by n matrix (m \leftarrow 1)

Reorder Schur factorization of complex m by n matrix (m \leftarrow 1)

Reorder Schur factorization of real general rectangular matrix...

Reorder Schur factorization of real general rectangular matrix..
   Computes orthogonal polynomials or dummy variables for factor/classification variable
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               G04EAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               G04CAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               F03AFF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                F03AEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               F03AEF
F01QKF
F01RKF
F06TRF
F06TSF
F06TQF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                F06QPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               F06QRF
F06QSF
F06QQF
F08AFF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                F08AJF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                F08ATF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                F08AWF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                F11JAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               F11DAF
F07GDF
F02GAF
F08AVF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               F08ASF
F07MRF
F07PRF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                F07HRF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               F07HRF
F07FRF
F07GRF
F07BRF
F07ARF
F01RJF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                F01RGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FORGF
FO8QUF
FO8QTF
FO7NRF
FO7QRF
FO8PSF
FO1LHF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                F02EAF
F08AHF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               F08AHF
F08AEF
F07BDF
F01QJF
F07ADF
F01QGF
F08QGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                F01BRF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                F01BSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                F07PDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                F07MDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                F01BUF
F07HDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               F07FDF
                                                                                                        LDLT factorization of real symmetric positive-definite...

LULT factorization of real symmetric positive-definite...

LU factorization of real tridiagonal matrix

Eigenvalues and Schur factorization of real upper Hessenberg matrix reduced...

QR factorization of UZ or RQ factorization of ZU,...

QR factorization of UZ or RQ factorization of UZ or U factorization of UZ or U complex upper triangular,...

QR factorization of UZ or U factorization of UZ or U complex upper triangular,...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                F01MCF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                F01MCF
F01LEF
F08PEF
F06TTF
F06QTF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 F06TTF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               F06QTF
                                                                                                                                                                                                               QR factorization, possibly followed by {\rm SVD}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               F02WDF
                                                                                                                                                                                                                QR factorization with column pivoting of complex general... QR factorization with column pivoting of real general...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                F08BSF
                                                                                                                                                                                                                              Failures
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               P01
       ...measurement and time update, one iteration of Kalman filter, time-invariant, square root covariance filter ...measurement and time update, one iteration of Kalman filter, time-varying, square root covariance filter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                G13EBF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                G13EAF
            ...of Kalman filter, time-varying, square root covariance filter ...Kalman filter, time-invariant, square root covariance filter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                G13EAF
                                                                                                                                  Multivariate time series, filtering by a transfer function model Multivariate time series, filtering (pre-whitening) by an ARIMA model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               D02QYF
                                                                                                                                                             ODEs, IVP, root-finding diagnostics for D02QFF and D02QGF
```

KWIC.14 [NP3086/18/pdf]

```
ODEs, IVP, Adams method with root-finding (forward communication, comprehensive) ODEs, IVP, Adams method with root-finding (reverse communication, comprehensive)
                                                                                                                                                                                                                                                                                                                                                                                D02QFF
D02QGF
             Elliptic PDE, solution of finite difference equations by a multigrid technique
Elliptic PDE, solution of finite difference equations by SIP, five-point 2-D...
Elliptic PDE, solution of finite difference equations by SIP, five-point 2-D...
Elliptic PDE, solution of finite difference equations by SIP, seven-point 3-D...
Elliptic PDE, solution of finite difference equations by SIP, seven-point 3-D...
Elliptic PDE, solution of finite difference equations by SIP, seven-point 3-D...
ODEs, boundary value problem, finite difference technique with deferred correction,...
ODEs, boundary value problem, finite difference technique with deferred correction,...
ODEs, boundary value problem, finite difference technique with deferred correction,...
ODEs, boundary value problem, finite differences, one space variable
...of parabolic PDEs, coupled DAEs, method of lines, finite differences, one space variable
...of parabolic PDEs, coupled DAEs, method of lines, finite differences, remeshing, two space variables.
General system of 2nd order PDEs, method of lines, finite differences, remeshing, two space variables, rectangular region
General system of 2nd order PDEs, method of lines, finite differences, remeshing, two space variables, rectangular region
1-D quadrature, adaptive, finite interval, allowing for singularities at...

1-D quadrature, adaptive, finite interval, method suitable for oscillating...
1-D quadrature, adaptive, finite interval, strategy due to Patterson, suitable...
1-D quadrature, adaptive, finite interval, variant of D01AJF efficient on vector...
1-D quadrature, adaptive, finite interval, variant of D01AJF efficient on vector...
1-D quadrature, adaptive, finite interval, variant of D01AJF efficient on vector...
1-D quadrature, adaptive, finite interval, weight function 1/(x-c), Cauchy...
1-D quadrature, adaptive, finite interval, weight function with end-point...
1-D quadrature, regular system, finite interval with provision for indefinite integrals
2-D quadrature, finite interval, weight function with end-p
                                                                                             Elliptic PDE, solution of finite difference equations by a multigrid technique
                                                                                                                                                                                                                                                                                                                                                                                D03EDF
                                                                                                                                                                                                                                                                                                                                                                                 D03EBF
                                                                                                                                                                                                                                                                                                                                                                                D03UAF
                                                                                                                                                                                                                                                                                                                                                                                D03ECF
D03UBF
D02RAF
D02GBF
                                                                                                                                                                                                                                                                                                                                                                                 D02GAF
D03PCF
                                                                                                                                                                                                                                                                                                                                                                                 D03PHF
                                                                                                                                                                                                                                                                                                                                                                                D03PHF
D03PPF
D03RAF
D03RBF
D01ALF
                                                                                                                                                                                                                                                                                                                                                                                D01AKF
D01AHF
D01AJF
                                                                                                                                                                                                                                                                                                                                                                                D01AJF
D01ATF
D01AUF
D01AQF
D01APF
                                                                                                                                                                                                                                                                                                                                                                                 D01ARF
                                                                                                                                                                                                                                                                                                                                                                                 D02KAF
                                                                                                                                                                                                                                                                                                                                                                                D01DAF
...order Sturm-Liouville problem, regular/singular system, finite/infinite range, eigenvalue and eigenfunction,...
...order Sturm-Liouville problem, regular/singular system, finite/infinite range, eigenvalue only, user-specified...
                                                                                                                                                                                                                                                                                                                                                                                D02KEF
                                   Two-way contingency table analysis, with \chi^2/{\bf Fisher's} exact test
                                                                                                                                                                                                                                                                                                                                                                                G01AFF
                                                                        Least-squares cubic spline curve fit, automatic knot placement
Least-squares surface fit, bicubic splines
                                                                                                                                                                                                                                                                                                                                                                                 E02BEE
                                                                                                        \label{least-squares} Least-squares \ surface \ \textbf{fit} \ by \ bicubic \ splines \ with \ automatic \ knot \ placement,... Least-squares surface \( \textbf{fit} \ by \ bicubic \ splines \ with \ automatic \ knot \ placement,...
                                                                                                                                                                                                                                                                                                                                                                                E02DCF
E02DDF
                                                                                                                                                                                                                                                                                                                                                                                E02ADF
                                                                                                            Least-squares curve fit, by polynomials, arbitrary data points
                                                                                                      Least-squares surface fit by polynomials, data on lines Minimax curve fit by polynomials
                                                                                                                                                                                                                                                                                                                                                                                 E02CAF
                                                                                                                                                                                                                                                                                                                                                                                 E02ACF
                                                                                                                                                                    Fit cubic smoothing spline, smoothing parameter...
Fit cubic smoothing spline, smoothing parameter given
                                                                                                                                                                                                                                                                                                                                                                                 GLOACE
                                                                                                                                                                                                                                                                                                                                                                                 G10ABF
                                                                         Least-squares curve cubic spline fit (including interpolation)
                                                                                                                                                                                                                                                                                                                                                                                E02BAF
                                                                                            Least-squares polynomial fit, special data points (including interpolation)
                                                                                                                                                                                                                                                                                                                                                                                E02AFF
                                                                                  Performs the \chi^2 goodness of fit test, for standard continuous distributions Goodness of fit tests
                                                                                                                                                                                                                                                                                                                                                                                 G08CGF
G08
                                                                                                                                                                                                                                                                                                                                                                                E02AGF
                                                                                            Least-squares polynomial fit, values and derivatives may be constrained,...
                                                                                                                                                                     Fits a general linear regression model for new...
                                                                                                                                                                                                                                                                                                                                                                                 G02DGF
                                                                                                                                                                     Fits a general innear regression model for new...
Fits a general (multiple) linear regression model
Fits a generalized linear model with binomial errors
Fits a generalized linear model with Normal errors
Fits a generalized linear model with Normal errors
Fits a generalized linear model with Poisson errors
Fits a linear regression model by forward selection
Fits Cox's proportional hazard model
                                                                                                                                                                                                                                                                                                                                                                                  G02DAF
                                                                                                                                                                                                                                                                                                                                                                                 G02GBF
                                                                                                                                                                                                                                                                                                                                                                                  G02GDF
                                                                                                                                                                                                                                                                                                                                                                                G02GDF
G02GAF
G02GCF
G02EEF
G12BAF
                                                                                                                       Evaluation of a fitted bicubic spline at a mesh of points
Evaluation of a fitted bicubic spline at a vector of points
Evaluation of fitted cubic spline, definite integral
Evaluation of fitted cubic spline, function and derivatives
Evaluation of fitted cubic spline, function only
Derivative of fitted polynomial in Chebyshev series form
Integral of fitted polynomial in Chebyshev series form
Evaluation of fitted polynomial in one variable, from Chebyshev...
Evaluation of fitted polynomial in one variable from Chebyshev series...
Evaluation of fitted polynomial in two variables
Evaluation of fitted polynomial in two variables
Evaluation of fitted polynomial in two variables
                                                                                                                                                                                                                                                                                                                                                                                 E02DFF
E02DEF
                                                                                                                                                                                                                                                                                                                                                                                 E02BDF
                                                                                                                                                                                                                                                                                                                                                                                 E02BCE
                                                                                                                                                                                                                                                                                                                                                                                E02BBF
E02AHF
E02AJF
                                                                                                                                                                                                                                                                                                                                                                                 E02AKF
                                                                                                                                                                                                                                                                                                                                                                                 E02AEF
                                                                                                                                                                                                                                                                                                                                                                                 E02CBF
                                                                                                                                                                                                                                                                                                                                                                                E02RBF
                                                                                 Interpolating functions, {f fitting} bicubic spline, data on rectangular grid Sort 2-D data into panels for {f fitting} bicubic splines
                                                                                                                                                                                                                                                                                                                                                                                ^{\rm E01DAF}_{\rm E02ZAF}
             ...PDE, solution of finite difference equations by SIP, five-point 2-D molecule, iterate to convergence ...PDE, solution of finite difference equations by SIP, five-point 2-D molecule, one iteration Computes a five-point summary (median, hinges and extremes)
                                                                                                                                                                                                                                                                                                                                                                                 D03EBF
                                                                                                                                                                                                                                                                                                                                                                                G01ALF
                                                                                                    Parameter of floating-point arithmetic model, b
Parameter of floating-point arithmetic model, emax
Parameter of floating-point arithmetic model, emin
Parameter of floating-point arithmetic model, p
Parameter of floating-point arithmetic model, ROUNDS
Safe range of floating-point arithmetic
Safe range of complex floating-point arithmetic
                                                                                                                                                                                                                                                                                                                                                                                 X02BHF
                                                                                                                                                                                                                                                                                                                                                                                  X02BLF
X02BKF
X02BJF
X02DJF
                                                                                                                                                                                                                                                                                                                                                                                 X02AMF
                                                                                                                                                                                                                                                                                                                                                                                X02ANF
  ...DAEs, method of lines, upwind scheme using numerical flux function based on Riemann solver, one space ...form, method of lines, upwind scheme using numerical flux function based on Riemann solver, one space... ...DAEs, method of lines, upwind scheme using numerical flux function based on Riemann solver, remeshing
                                                                                                                                                                                                                                                                                                                                                                                D03PLF
                                                                                                                                                                                                                                                                                                                                                                                D03PSF
                                     Multivariate time series, update state set for forecasting from multi-input model
Univariate time series, forecasting from state set
Multivariate time series, forecasting from state set of multi-input model
Univariate time series, update state set for forecasting
                                                                                                                                                                                                                                                                                                                                                                                G13BGF
G13AHF
                                                                                                                                                                                                                                                                                                                                                                                G13BHF
G13AGF
                                                        Multivariate time series, forecasts and their standard errors
Multivariate time series, updates forecasts and their standard errors
Multivariate time series, state set and forecasts from fully specified multi-input model
                                                                                                                                                                                                                                                                                                                                                                                G13DJF
                                                                                                                                                                                                                                                                                                                                                                                G13BJF
                                                              Univariate time series, state set and forecasts, from fully specified seasonal ARIMA model
                                                                                                                                                                                                                                                                                                                                                                                G13AJF
                                  ODEs, IVP, Adams method with root-finding (forward communication, comprehensive)

Fits a linear regression model by forward selection
                                                                                                        2-D complex discrete Fourier transform
                                                                                                                                                                                                                                                                                                                                                                                 C06FUF
                                                                               3-D complex discrete Fourier transform
Single 1-D real discrete Fourier transform, extra workspace for greater speed
Single 1-D Hermitian discrete Fourier transform, extra workspace for greater speed
Single 1-D complex discrete Fourier transform, extra workspace for greater speed
                                                                                                                                                                                                                                                                                                                                                                                  C06FXF
                                                                                                                                                                                                                                                                                                                                                                                  C06FAF
                                                                                                                                                                                                                                                                                                                                                                                  C06FBF
                                                                                                                                                                                                                                                                                                                                                                                 COSECE
```

```
Single 1-D real discrete Fourier transform, no extra workspace
Single 1-D Hermitian discrete Fourier transform, no extra workspace
Single 1-D complex discrete Fourier transform, no extra workspace
1-D complex discrete Fourier transform of multi-dimensional data
Multi-dimensional complex discrete Fourier transform of multi-dimensional data
Multiple 1-D real discrete Fourier transforms
Multiple 1-D Hermitian discrete Fourier transforms
Multiple 1-D complex discrete Fourier transforms
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C06EBF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C06ECF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C06FFF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C06FJF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C06FPF
                                                                                                                                                      Linear non-singular {f Fredholm} integral equation, 2nd kind, smooth kernel Linear non-singular {f Fredholm} integral equation, 2nd kind, split kernel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      D05AAF
                                                                                                                                                                                                                                     Frequency count for G11SAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      G11SBF
           ...spectrum using spectral smoothing by the trapezium {f frequency} (Daniell) window ...spectrum using spectral smoothing by the trapezium {f frequency} (Daniell) window
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       G13CBF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       G13CDF
                                                                                                                                                                                                                                       Frequency table from raw data
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      G01AEF
                 ...variance, skewness, kurtosis etc, one variable, from frequency table
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       G01ADF
                                                                                                                                                                                                                                       Fresnel integral C(x)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S20ADF
                                                                                                                                                                                                                                       Fresnel integral S(x)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S20ACF
                                                                                                                                                                                                                                      Friedman two-way analysis of variance on k matched...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      G08AEF
                                                                                                                                                            Friedman two-way analysis of variance on k matched...

1-norm, ∞-norm, Frobenius norm, largest absolute element, complex...

1-norm, ∞-norm, Frobenius norm, largest absolute element, realpex...

1-norm, ∞-norm, Frobenius norm, largest absolute element, real general...

1-norm, ∞-norm, Frobenius norm, largest absolute element, real...

1-norm, ∞-norm, Frobenius norm, largest absolute element, real...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       F06UBF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      F06UAF
F06UEF
F06UCF
F06UDF
F06UMF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       F06UHF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       F06UFF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      F06UFF
F06UGF
F06UJF
F06ULF
F06UKF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       F06RAF
F06RMF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       F06REF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     F06REF
F06RCF
F06RDF
F06RJF
F06RLF
F06RKF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      G13CFF
                                                                                                                                  Multivariate time series, gain, phase, bounds, univariate and bivariate (cross)...
               Computes probabilities for the gamma distribution
Computes deviates for the gamma distribution
Generates a vector of pseudo-random numbers from a gamma distribution
Fits a generalized linear model with gamma errors
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       G01EFF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        G01FFF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       G02GDF
                                                                                                                                                                                                                    Gamma function
Log Gamma function
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S14AAF
S14ABF
                                                                                                                                                                                       Incomplete gamma functions P(a, x) and Q(a, x)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S14BAF
                                                                                                                                                                Euler's constant, \( \gamma \)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      X01ABF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       G08EDF
                                                                                                                                                                                 Performs the {\bf gaps} test for randomness
                                                                                                                                                                                                                                      Gather a complex sparse vector (CGTHR/ZGTHR)
Gather a real sparse vector (SGTHR/DGTHR)
Gather and set to zero a complex sparse vector...
Gather and set to zero a real sparse vector...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FO6GUE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      F06GUF
F06GVF
F06EVF
                                                                     Kernel density estimate using Gaussian kernel
1-D Gaussian quadrature
Multi-dimensional Gaussian quadrature over hyper-rectangle
Calculation of weights and abscissae for Gaussian quadrature rules, general choice of rule
Pre-computed weights and abscissae for Gaussian quadrature rules, restricted choice of rule
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       G10BAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       D01BAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       D01FBF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       D01BCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      D01BBF
                                                                                                                                                                  Real general Gauss–Markov linear model (including weighted... Complex general Gauss–Markov linear model (including weighted...
        Unconstrained minimum of a sum of squares, combined Gauss-Newton and modified Newton algorithm using 1st...
Unconstrained minimum of a sum of squares, combined Gauss-Newton and modified Newton algorithm using 1st...
Unconstrained minimum of a sum of squares, combined Gauss-Newton and modified Newton algorithm, using 2nd...
Unconstrained minimum of a sum of squares, combined Gauss-Newton and modified Newton algorithm using 2nd...
Unconstrained minimum of a sum of squares, combined Gauss-Newton and modified Newton algorithm using...
Unconstrained minimum of a sum of squares, combined Gauss-Newton and modified Newton algorithm using...
Unconstrained minimum of a sum of squares, combined Gauss-Newton and quasi-Newton algorithm using 1st...
Unconstrained minimum of a sum of squares, combined Gauss-Newton and quasi-Newton algorithm, using 1st...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       E04GZF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       E04HEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       E04HYF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      E04FYF
E04FYF
E04GBF
E04GYF
Unconstrained minimum of a sum of squares, combined Gauss-Newton and quasi-Newton algorithm, using 1st...

All eigenvalues of generalized banded real symmetric-definite eigenproblem...

All eigenvalues and optionally eigenvectors of generalized complex eigenproblem by QZ algorithm...

... to standard form of complex Hermitian-definite generalized eigenproblem Ax = \lambda Bx, ABx = ...

Reduction to standard form of real symmetric-definite generalized eigenproblem Ax = \lambda Bx, ABx = ...

... to standard form of complex Hermitian-definite generalized eigenproblem Ax = \lambda Bx, ABx = \lambda ...

Reduction to standard form of real symmetric-definite generalized eigenproblem Ax = \lambda Bx, ABx = \lambda ...

All eigenvalues and optionally eigenvectors of generalized eigenproblem by QZ algorithm, real...

Computes estimable function of a generalized linear model with binomial errors Fits a generalized linear model with gamma errors Fits a generalized linear model with gamma errors Fits a generalized linear model with Normal errors Fits a generalized linear model with Poisson errors Computes orthogonal rotations for loading matrix, generalized orthomax criterion ... eigenvalues and eigenvectors of real symmetric-definite generalized problem (Black Box)

... and eigenvectors of complex Hermitian-definite generalized real banded eigenproblem by inverse... Reduction to standard form, generalized real symmetric-definite banded eigenproblem
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      F02FHF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       F02GJF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       F08SSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      F08SEF
F08TSF
F08TEF
F02BJF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       G02GNF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       G02GBF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        G02GDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        G02GAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        G02GCF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       G02GCF
G03BAF
F02FDF
F02HDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      F01BVF
                                                                                                                                                                                                                                    Generate complex elementary reflection
Generate complex plane rotation, storing tangent, real...
Generate complex plane rotation, storing tangent, real...
Generate complex plane rotation, storing tangent, real...
Generate orthogonal transformation matrices from...
Generate orthogonal transformation matrix from...
Generate orthogonal transformation matrix from...
Generate real elementary reflection, LINPACK style
Generate real elementary reflection, LINPACK style
Generate real elementary reflection, NAG style
Generate real plane rotation
Generate real spane rotation
Generate real spane rotation (SROTG/DROTG)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       F06HRF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        F06CAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       F08FFF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       F08GFF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        F06FSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        F06FRF
```

KWIC.16 [NP3086/18/pdf]

```
Generate real plane rotation, storing tangent
Generate sequence of complex plane rotations
Generate sequence of real plane rotations
Generate unitary transformation matrices from reduction...
Generate unitary transformation matrix from reduction...
Generate unitary transformation matrix from reduction...
Generate unitary transformation matrix from reduction...
Generate weights for use in solving Volterra equations
Generate weights for use in solving weakly singular...
                                                                                                                                                                                                                                                                                                                                                                                                                   F06FQF
F08KTF
                                                                                                                                                                                                                                                                                                                                                                                                                  F08RTF
F08NTF
F08FTF
F08GTF
D05BWF
D05BYF
                                                                                                                                                                                        Generates a realisation of a multivariate time series...
                                                                                                                                                                                                                                                                                                                                                                                                                  G05HDF
                                                                                                                                                                                       Generates a realisation of a multivariate time series...
Generates a vector of pseudo-random numbers from a beta...
Generates a vector of pseudo-random numbers from a...
Generates a vector of random numbers from a Normal...
Generates a vector of random numbers from a uniform...
Generates a vector of random numbers from a uniform...
Generates vector of pseudo-random variates from Von...
                                                                                                                                                                                                                                                                                                                                                                                                                   G05FEF
                                                                                                                                                                                                                                                                                                                                                                                                                   G05FFF
                                                                                                                                                                                                                                                                                                                                                                                                                   G05FDF
                                                                                                                                                                                                                                                                                                                                                                                                                   G05FAF
                                                                                                                                                                                                                                                                                                                                                                                                                  G05FBF
G05FSF
                                                                                   Set up reference vector for generating pseudo-random integers, binomial...

Set up reference vector for generating pseudo-random integers, hypergeometric...

Set up reference vector for generating pseudo-random integers, negative binomial...

Set up reference vector for generating pseudo-random integers, Poisson distribution

Set up reference vector for generating pseudo-random integers, uniform distribution

Save state of random number generating routines

Restore state of random number generating routines

Initialise random number generating routines to give non-repeatable sequence

Initialise random number generating routines to give repeatable sequence
                                                                                                                                                                                                                                                                                                                                                                                                                  G05EDF
                                                                                                                                                                                                                                                                                                                                                                                                                   G05EEF
                                                                                                                                                                                                                                                                                                                                                                                                                   G05ECF
                                                                                                                                                                                                                                                                                                                                                                                                                  G05ECF
G05EBF
G05CFF
G05CGF
                                                                                                                                                                                                                                                                                                                                                                                                                  G05CCF
G05CBF
                                    ...integration of function defined by data values, Gill-Miller method
                                                                                                                                                                                                                                                                                                                                                                                                                  D01GAF
                                                                                                                                    Performs the \chi^2 goodness of fit test, for standard continuous...
                                                                                                                                                                                                                                                                                                                                                                                                                  G08CGF
                                                                                                                                                                                       Goodness of fit tests
                                                                                                                                                                                                                                                                                                                                                                                                                  G08
                                                                                                                                                                                                                                                                                                                                                                                                                  E04DGF
                             Unconstrained minimum, preconditioned conjugate gradient algorithm, function of several variables using...
                        Estimate (using numerical differentiation) gradient and/or Hessian of a function ...symmetric linear systems, preconditioned conjugate gradient or Lanczos
                                                                                                                                                                                                                                                                                                                                                                                                                  F11GBF
                           ...of real sparse symmetric linear system, conjugate gradient/Lanczos method, Jacobi or SSOR preconditioner...
...of real sparse symmetric linear system, conjugate gradient/Lanczos method, preconditioner computed by...
                                                                                                                                                                                                                                                                                                                                                                                                                  F11JEF
                                                                                                                                                                                        {\bf Gram}\text{--}{\bf Schmidt} \ {\rm orthogonalisation} \ {\rm of} \ n \ {\rm vectors} \ {\rm of} \ {\rm order}...
                                                                                                                                                                                                                                                                                                                                                                                                                  F05AAF
                                                                                                                                             Extract grid data from D03RBF
Check initial grid data in D03RBF
                                                                                                                                                                                                                                                                                                                                                                                                                  D03RZF
                                                                                                                                                                                                                                                                                                                                                                                                                  D03RYF
                                              Computes test statistic for equality of within-group covariance matrices and matrices for discriminant... Computes Mahalanobis squared distances for group or pooled variance-covariance matrices (for use...
                                                                                                                                                                                                                                                                                                                                                                                                                   G03DAF
                                                                                                                                                                                                                                                                                                                                                                                                                  G03DBF
                                   ... for \ parameters \ of \ the \ Normal \ distribution \ from \ {\bf grouped} \ and/or \ censored \ data
                                                                                                                                                                                                                                                                                                                                                                                                                  G07BBF
                                                                                                          Allocates observations to {\tt groups} according to selected rules (for use after...
                                                                                                                                                                                                                                                                                                                                                                                                                  G03DCF
                                                                                                                                                                                      Hankel functions H_{\nu+a}^{(j)}(z), j = 1, 2, real a...
                                                                                                                                                                                                                                                                                                                                                                                                                  S17DLF
                                                                                                               Fits Cox's proportional hazard model
                                                                                                                                                                                                                                                                                                                                                                                                                  G12BAF
                                                                                                                                           Elliptic PDE, Helmholtz equation, 3-D Cartesian co-ordinates
                                                                                                                                                                                                                                                                                                                                                                                                                  D03FAF
Elliptic PDE, Helmholtz equation, 3-D Cartesian co-ordinates

...functions, monotonicity-preserving, piecewise cubic Hermita, one variable

Matrix-vector product, complex Hermitian band matrix

Unitary reduction of complex Hermitian band matrix to real symmetric tridiagonal...

Single 1-D Hermitian discrete Fourier transform, extra workspace...

Single 1-D Hermitian discrete Fourier transform, cextra...

Multiple 1-D Hermitian discrete Fourier transform octra...

Multiple 1-D Hermitian discrete Fourier transforms

Bunch-Kaufman factorization of complex Hermitian indefinite matrix, watrix already factorized...

Estimate condition number of complex Hermitian indefinite matrix, watrix already factorized...

Estimate condition number of complex Hermitian indefinite matrix, watrix already factorized...

Inverse of a complex Hermitian indefinite matrix, watrix already factorized...

Inverse of a complex Hermitian indefinite matrix, watrix already factorized...

Bunch-Kaufman factorization of complex Hermitian indefinite system of linear equations...

Solution of complex Hermitian indefinite system of linear equations...

Solution of complex Hermitian indefinite system of linear equations...

Solution of complex Hermitian indefinite system of linear equations...

Solution of complex Hermitian indefinite system of linear equations...

Solution of complex Hermitian indefinite system of linear equations...

All eigenvalues and eigenvectors of complex Hermitian matrix (Black Box)

Matrix-vector product, complex Hermitian matrix (GHERK/ZHERK)

Apply complex similarity relation to the substance of the subst
                      ...functions, monotonicity-preserving, piecewise cubic Hermite, one variable
                                                                                                                                                                                                                                                                                                                                                                                                                  E01BEF
                                                                                                                                                                                                                                                                                                                                                                                                                  F06SDF
                                                                                                                                                                                                                                                                                                                                                                                                                  F08HSF
C06FBF
C06EBF
                                                                                                                                                                                                                                                                                                                                                                                                                  C06FQF
F07MRF
F07MUF
F07MWF
                                                                                                                                                                                                                                                                                                                                                                                                                  F07MWF
F07PUF
F07PWF
F07PRF
F07MVF
                                                                                                                                                                                                                                                                                                                                                                                                                  F07PSF
                                                                                                                                                                                                                                                                                                                                                                                                                  F07PVF
                                                                                                                                                                                                                                                                                                                                                                                                                   F06TMF
                                                                                                                                                                                                                                                                                                                                                                                                                  F06TMF
F02HAF
F02HCF
F06SCF
F06ZRF
F06SRF
                                                                                                                                                                                                                                                                                                                                                                                                                   F06ZPF
                                                                                                                                                                                                                                                                                                                                                                                                                   F06SPF
                                                                                                                                                                                                                                                                                                                                                                                                                  F06SPF
F06CHF
F06UCF
F06ZCF
F06UDF
F08FSF
F08GSF
                                                                                                                                                                                                                                                                                                                                                                                                                  F08JSF
                                                                                                                                                                                                                                                                                                                                                                                                                  F06SEF
                                                                                                                                                                                                                                                                                                                                                                                                                  F06SSF
                                                                                                                                                                                                                                                                                                                                                                                                                  F06SSF
F06SQF
F08JUF
F07HRF
F07HUF
                                                                                                                                                                                                                                                                                                                                                                                                                  F07HSF
                                                                                                                                                                                                                                                                                                                                                                                                                  F07FRF
                                                                                                                                                                                                                                                                                                                                                                                                                  F07FUF
F07FWF
F07GUF
F07GWF
                                                                                                                                                                                                                                                                                                                                                                                                                  F07GRF
                                                                                                                                                                                                                                                                                                                                                                                                                  F07FVF
                                                                                                                                                                                                                                                                                                                                                                                                                  F07FSF
                                                                                                                                                                                                                                                                                                                                                                                                                   F07GSF
                                                                                                                                                                                                                                                                                                                                                                                                                  F07GSF
F07GVF
C06GBF
C06GQF
C06GSF
```

```
Reduction to standard form of complex Hermitian-definite generalized eigenproblem Ax=\dots Reduction to standard form of complex Hermitian-definite generalized eigenproblem Ax=\lambda All eigenvalues and eigenvectors of complex Hermitian-definite generalized problem (Black Box)
                                                                                                                                                                                                                                                                                                                                        F08SSF
                                                                                                                                                                                                                                                                                                                                        F02HDF
        Unitary reduction of complex general matrix to upper Hessenberg form (CGEHRD/ZGEHRD)
...orthogonal transformation matrix from reduction to Hessenberg form determined by F08NEF (SORGHR/DORGHR)
...orthogonal transformation matrix from reduction to Hessenberg form determined by F08NEF (SORGHR/DORMHR)
...unitary transformation matrix from reduction to Hessenberg form determined by F08NSF (CUNGHR/ZUNGHR)
Apply unitary transformation matrix from reduction to Hessenberg form determined by F08NSF (CUNGHR/ZUNGHR)
Orthogonal reduction of real general matrix to upper Hessenberg form (SGEHRD/DGEHRD)
...ipht and/or left eigenvectors of complex upper Hessenberg matrix by inverse iteration (CHSEIN/ZHSEIN)
Selected right and/or left eigenvectors of puper Hessenberg matrix by inverse iteration (SHSEIN/DHSEIN)
Compute upper Hessenberg matrix by sequence of plane rotations,...

Compute upper Hessenberg matrix by sequence of plane rotations, real...
Hessenberg matrix
...by sequence of plane rotations, complex upper Hessenberg matrix
...by sequence of plane rotations, complex upper Hessenberg matrix

Eigenvalues and Schur factorization of complex upper Hessenberg matrix
Eigenvalues and Schur factorization of real upper Hessenberg matrix reduced from complex general matrix...
                                                                                                                                                                                                                                                                                                                                        F08NSF
                                                                                                                                                                                                                                                                                                                                         F08NFF
                                                                                                                                                                                                                                                                                                                                        F08NFF
F08NGF
F08NTF
F08NUF
F08NEF
                                                                                                                                                                                                                                                                                                                                        F08PKF
                                                                                                                                                                                                                                                                                                                                        F08PKF
F06TVF
F06QVF
F06QRF
F06RMF
                                                                                                                                                                                                                                                                                                                                        F06UMF
                                                                                                                                                                                                                                                                                                                                         F08PSF
                                                                                                                                                                                                                                                                                                                                        F08PEF
                  ...(using numerical differentiation) gradient and/or Hessian of a function
Check user's routine for calculating Hessian of a sum of squares
                                                                                                                                                                                                                                                                                                                                        E04XAF
                                                                                                                                                                                                                                                                                                                                         E04YBF
                                                                      Two-way analysis of variance, hierarchical classification, subgroups of unequal size
                                                                                                                                                                                                                                                                                                                                        G04AGF
                                                                                                                                                  Hierarchical cluster analysis
                                                                                                                                                                                                                                                                                                                                        G03ECF
             ...weight function 1/(x-c), Cauchy principal value (Hilbert transform)
                                                                                                                                                                                                                                                                                                                                        D01AQF
                                         Computes a five-point summary (median, hinges and extremes)
                                                                                                                                                                                                                                                                                                                                        G01ALF
                                                                                                                    Lineprinter histogram of one variable
                                                                                                                                                                                                                                                                                                                                        G01AJF
                                                                                                                          Modified HLL Riemann solver for Euler equations in conservative form,...
                                                                                                                                                                                                                                                                                                                                        D03PWF
                                                                                                                                                  Householder matrix
                                                                                                                                                                                                                                                                                                                                        F06
        Calculates a robust estimation of a correlation matrix, Huber's weight function
                                                                                                                                                                                                                                                                                                                                        G02HKF
                                                                                                                                                  Hyperbolic Functions
                                                                                                                                                  Hypergeometric distribution function
                                                                                                                                                                                                                                                                                                                                        G01BLF
                                                                                                                                                                                                                                                                                                                                        G05EFF
 ...reference vector for generating pseudo-random integers, hypergeometric distribution
                                  Multi-dimensional Gaussian quadrature over {f hyper-rectangle} Multi-dimensional adaptive quadrature over {f hyper-rectangle}
                                                                                                                                                                                                                                                                                                                                        D01FBF
                                  Multi-dimensional quadrature over hyper-rectangle, Monte Carlo method Multi-dimensional adaptive quadrature over hyper-rectangle, multiple integrands
                                                                                                                                                                                                                                                                                                                                        D01GBF
                                                                                                                                                  IFAIL parameter
                                                                                                                                                                                                                                                                                                                                        P01
   ...matrix, reduced from complex Hermitian matrix, using implicit QL or QR (CSTEQR/ZSTEQR) ...matrix, reduced from real symmetric matrix using implicit QL or QR (SSTEQR/DSTEQR)
                                                                                                                                                                                                                                                                                                                                        ^{\rm F08JSF}_{\rm F08JEF}
                                                                                                                                                  Implicit/algebraic ODEs, stiff IVP, banded Jacobian...
Implicit/algebraic ODEs, stiff IVP, full Jacobian...
Implicit/algebraic ODEs, stiff IVP (reverse...
Implicit/algebraic ODEs, stiff IVP, sparse Jacobian...
                                                                                                                                                                                                                                                                                                                                        D02NHF
                                                                                                                                                                                                                                                                                                                                         D02NGF
                                                                                                                                                                                                                                                                                                                                         D02NNF
                     Multivariate time series, noise spectrum, bounds, impulse response function and its standard error
                                                                                                                                                                                                                                                                                                                                        G13CGF
                                                          Real sparse symmetric matrix, incomplete Cholesky factorization
Solution of linear system involving incomplete Cholseky preconditioning matrix generated by...
                                                                                                                                                                                                                                                                                                                                        F11JBF
                                                                                                                                               Incomplete gamma functions P(a, x) and Q(a, x)
                                                                                                                                                                                                                                                                                                                                        S14BAF
                                           Real sparse unsymmetric linear systems, incomplete LU factorization Solution of linear system involving incomplete LU preconditioning matrix generated by F11DAF
                                                                                                                                                                                                                                                                                                                                        F11DAF
                                                                                                                                                                                                                                                                                                                                        F11DBF
Solution of linear system involving incomplete LU preconditioning matrix generated by F11DD ....non-adaptive, finite interval with provision for indefinite integrals

Bunch-Kaufman factorization of complex Hermitian indefinite matrix (CHETRF/ZHETRF)

Estimate condition number of real symmetric indefinite matrix, matrix already factorized by F07MDF...

Inverse of a real symmetric indefinite matrix, matrix already factorized by F07MDF...

Estimate condition number of complex Hermitian indefinite matrix, matrix already factorized by F07MRF...

Estimate condition number of real symmetric indefinite matrix, matrix already factorized by F07MRF...

Estimate condition number of real symmetric indefinite matrix, matrix already factorized by F07PDF,...

Estimate condition number of real symmetric indefinite matrix, matrix already factorized by F07PDF,...

Estimate condition number of complex Hermitian indefinite matrix, matrix already factorized by F07PDF,...

Bunch-Kaufman factorization of complex Hermitian indefinite matrix, packed storage (CHPTRF/ZHPTRF)

Bunch-Kaufman factorization of real symmetric indefinite matrix, packed storage (SSPTRF/DSPTRF)

Bunch-Kaufman factorization of real symmetric indefinite matrix, packed storage (SSPTRF/DSPTRF)

Refined solution with error bounds of complex Hermitian indefinite system of linear equations, multiple...

Solution of complex Hermitian indefinite system of linear equations, multiple...

Solution of real symmetric indefinite system of linear equations, multiple...

Solution of complex Hermitian indefinite system of linear equations, multiple...

Refined solution with error bounds of complex Hermitian indefinite system of linear equations, multiple...

Refined solution with error bounds of real symmetric indefinite system of linear equations, multiple...

Refined solution with error bounds of real symmetric indefinite system of linear equations, multiple...

Refined solution with error bounds of real symmetric indefinite system of linear equations, multiple...

Refined solut
                                                                                                                                                                                                                                                                                                                                        D01ARF
                                                                                                                                                                                                                                                                                                                                        F07MRF
F07MGF
F07MJF
                                                                                                                                                                                                                                                                                                                                        F07MUF
                                                                                                                                                                                                                                                                                                                                        F07MWF
                                                                                                                                                                                                                                                                                                                                        F07MWI
F07PGF
F07PJF
F07PUF
F07PWF
                                                                                                                                                                                                                                                                                                                                        F07PDF
                                                                                                                                                                                                                                                                                                                                        F07MDF
                                                                                                                                                                                                                                                                                                                                        F07MVF
                                                                                                                                                                                                                                                                                                                                        F07MEF
F07MSF
F07PEF
F07PSF
                                                                                                                                                                                                                                                                                                                                         F07PVF
                                                                                                                                                                                                                                                                                                                                         F07PHF
                                                                                                                                                                                                                                                                                                                                        F07MHF
                                                                                                                                                  {\bf Index}, \ complex \ vector \ element \ with \ largest \ absolute... \\ {\bf Index}, \ real \ vector \ element \ with \ largest \ absolute \ value... \\
                                                                                                                                                                                                                                                                                                                                        F06JMF
                                                                                                                                                                                                                                                                                                                                        F06JLF
                                                                                                      Computes cluster indicator variable (for use after G03ECF)
                                                                                                                                                                                                                                                                                                                                        G03EJF
                                                                                            Return value of error indicator/terminate with error message
                                                                                                                                                                                                                                                                                                                                        P01ABF
                                 ...by general linear function subject to linear inequality constraints
                                                                                                                                                                                                                                                                                                                                        E02GBF
                                       1-D quadrature, adaptive, infinite or semi-infinite interval
                                                                                                                                                                                                                                                                                                                                        D01AMF
                                       1-D quadrature, adaptive, semi-infinite interval, weight function \cos(\omega x) or...
1-D quadrature, adaptive, infinite or semi-infinite interval
...problem, regular/singular system, finite/infinite range, eigenvalue and eigenfunction,...
...problem, regular/singular system, finite/infinite range, eigenvalue only, user-specified...
                                                                                                                                                                                                                                                                                                                                         D01ASE
                                                                                                                                                                                                                                                                                                                                        D01AMF
D01AMF
D02KEF
D02KDF
                                                                                                                            Bounded Influence See Robust
                                                   Calculates standardized residuals and influence statistics
                                                                                                                                                                                                                                                                                                                                        G02FAF
                                                               Real inner product added to initial value, basic/additional precision Complex inner product added to initial value, basic/additional precision
                                                                                                                                                                                                                                                                                                                                         X03AAF
                                                                                                                                                                                                                                                                                                                                        X03ABF
                                                                                                                               Matrix initialisation, complex rectangular matrix
                                                                                                                                                                                                                                                                                                                                        FOSTHE
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KWIC.18 [NP3086/18/pdf]

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{\bf Matrix} \ {\bf initialisation}, \ {\bf real} \ {\bf rectangular} \ {\bf matrix}
                                                                                                                                                                                                                                                                                                            F06QHF
                                                                                                                                                                                                                                                                                                           G05CCF
G05CBF
                                                                                                                                       Initialise random number generating routines to give... Initialise random number generating routines to give...
                                                                                                                 Real inner product added to initial value, basic/additional... Complex inner product added to initial value, basic/additional...
                                                                                                                                                                                                                                                                                                            X03AAF
                                                                                                                                                                                                                                                                                                            X03ABF
                   Multivariate time series, estimation of multi-input model ...series, update state set for forecasting from multi-input model ...time series, forecasting from state set of multi-input model ...state set and forecasts from fully specified multi-input model
                                                                                                                                                                                                                                                                                                            G13BEE
                                                                                                                                                                                                                                                                                                           G13BEF
G13BGF
G13BHF
G13BJF
                                                                                                                                      Input output utilities
                                                                                                                                                                                                                                                                                                            X04
 ...real rectangular matrix, permutations represented by an integer array ...rectangular matrix, permutations represented by an integer array
                                                                                                                                                                                                                                                                                                            F06QJF
F06VJF
                                                                                                Pseudo-random integer, Poisson distribution
                                                                                                                                                                                                                                                                                                            G05DRF
                                                                                                                                      Integer programming problem, branch and bound method Integer programming solution, supplies further...
                                                                                                                                                                                                                                                                                                           H02BBF
H02BZF
                                                                                    Largest representable integer
                                                                                                                                                                                                                                                                                                           X02BBF
                                       Evaluation of fitted cubic spline, definite integral C(x) Exponential integral E_1(x) Linear non-singular Fredholm integral equation, 2nd kind, smooth kernel Linear non-singular Fredholm integral equation, 2nd kind, split kernel Degenerate symmetrised elliptic integral of 1st kind R_C(x,y) Symmetrised elliptic integral of 1st kind R_C(x,y,z) Symmetrised elliptic integral of 2nd kind R_D(x,y,z) Symmetrised elliptic integral of 3nd kind R_D(x,y,z) Symmetrised elliptic integral of 3nd kind R_D(x,y,z,z)
                                                                                                                                                                                                                                                                                                            S20ADF
                                                                                                                                                                                                                                                                                                            E02BDF
                                                                                                                                                                                                                                                                                                            S13AAF
                                                                                                                                                                                                                                                                                                            D05ABE
                                                                                                                                                                                                                                                                                                           D05ABF
D05AAF
S21BAF
S21BBF
                                                                                                                                                                                                                                                                                                           S21BDF
                                                                                                                                     Integral of fitted polynomial in Chebyshev series form
                                                                                                                                                                                                                                                                                                           E02AJF
                                                                                                                                                                                                                                                                                                           E01BHE
               ...values, interpolant computed by E01BEF, definite integral, one variable
                                                                                                                Cosine integral \mathrm{Ci}(x)
Sine integral \mathrm{Si}(x)
Dawson's integral
Fresnel integral S(x)
                                                                                                                                                                                                                                                                                                            S13ACE
                                                                                                                                                                                                                                                                                                           S20ACF
                                                                                                                                                                                                                                                                                                           D01ARF
                                ...finite interval with provision for indefinite integrals
                                                                                                              Numerical integration
                                                                                                                                                                                                                                                                                                            D01
 Numerical integration
ODEs, IVP, integration diagnostics for D02PCF and D02PDF
1-D quadrature, integration of function defined by data values,...
ODEs, IVP, Runge-Kutta method, integration over one step
...Runge-Kutta method, until function of solution is zero, integration over range with intermediate output (simple driver)
ODEs, IVP, Runge-Kutta method, integration over range with output
                                                                                                                                                                                                                                                                                                            D02PYF
                                                                                                                                                                                                                                                                                                           D02FTF
D01GAF
D02PDF
D02BJF
D02PCF
                                                                                                                                                                                                                                                                                                            D02NYF
                                                                                                          ODEs, IVP, integrator diagnostics, for use with D02M-N routines
                                  ODEs, IVP, set-up for continuation calls to integrator, for use with D02M-N routines,
                                                                                                                                                                                                                                                                                                           D02NZF
          ... problem, shooting and matching technique, allowing {\bf interior} \ {\bf matching} \ point, \ general \ parameters \ to \ be...
                                                                                                                                                                                                                                                                                                           D02AGF
      Interpolated values, interpolant computed by E01BEF, definite integral, one...

Interpolated values, interpolant computed by E01BEF, function and 1st...

Interpolated values, interpolant computed by E01BEF, function only, one...

Interpolated values, evaluate rational interpolant computed by E01RAF, one variable
Interpolated values, evaluate interpolant computed by E01SAF, two variables
ODEs, IVP, interpolation for D02M-N routines, natural interpolant
ODEs, IVP, interpolation for D02M-N routines, natural interpolant
                                                                                                                                                                                                                                                                                                           E01BHF
                                                                                                                                                                                                                                                                                                            E01SBF
                                                                                                                                                                                                                                                                                                            D02MZF
                                                                                                                                                                                                                                                                                                            D02XJF
                  ODEs, IVP, interpolation for D02M-N routines, C_1 interpolant
                                                                                                                                                                                                                                                                                                            D02XKF
                                                   Interpolating functions, polynomial interpolant, data may include derivative values, one... Interpolating functions, cubic spline interpolant, one variable

Interpolating functions, rational interpolant, one variable
                                                                                                                                                                                                                                                                                                           E01AEE
                                                                                                                                                                                                                                                                                                           E01BAF
E01RAF
                                                                                                                                       Interpolated values, Aitken's technique, unequally..
                                                                                                                                                                                                                                                                                                            E01AAF
                                                                                                                                      Interpolated values, Altken's technique, unequally...
Interpolated values, evaluate interpolant computed by...
Interpolated values, evaluate rational interpolant...
Interpolated values, Everett's formula, equally spaced...
Interpolated values, interpolant computed by E01BEF,...
Interpolated values, interpolant computed by E01BEF,...
Interpolated values, interpolant computed by E01BEF,...
                                                                                                                                                                                                                                                                                                            E01SBF
                                                                                                                                                                                                                                                                                                            E01BBF
                                                                                                                                                                                                                                                                                                           E01ABF
E01BHF
E01BGF
E01BFF
                                                                                                                                      Interpolating functions, cubic spline interpolant, one...
Interpolating functions, fitting bicubic spline, data...
Interpolating functions, method of Renka and Cline, two...
Interpolating functions, modified Shepard's method, two...
Interpolating functions, monotonicity-preserving...
Interpolating functions, polynomial interpolant, data...
Interpolating functions, rational interpolant, one...
                                                                                                                                                                                                                                                                                                            E01DAF
                                                                                                                                                                                                                                                                                                            E01SAF
                                                                                                                                                                                                                                                                                                            E01SGF
                                                                                                                                                                                                                                                                                                           E01BEF
E01AEF
E01RAF
                           ...polynomial fit, special data points (including interpolation)
Least-squares curve cubic spline fit (including interpolation)
                                                                                                                                                                                                                                                                                                           E02AFF
E02BAF
                   2nd order ODEs, IVP, interpolation for D02LAF
ODEs, IVP, interpolation for D02M-N routines, C<sub>1</sub> interpolant
ODEs, IVP, interpolation for D02M-N routines, natural interpolant
ODEs, IVP, interpolation for D02M-N routines, natural interpolant
ODEs, IVP, interpolation for D02PDF
ODEs, IVP, interpolation for D02QFF or D02QGF
ODEs, IVP, interpolation for D02TKF
PDEs, spatial interpolation with D03PCF, D03PFF, D03PHF,...
PDEs, spatial interpolation with D03PDF or D03PJF
                                                                                                                                                                                                                                                                                                            D02LZF
                                                                                                                                                                                                                                                                                                            D02XKF
                                                                                                                                                                                                                                                                                                            D02MZF
                                                                                                                                                                                                                                                                                                            D02XJF
                                                                                                                                                                                                                                                                                                            D02PXF
D02QZF
                                                                                                                                                                                                                                                                                                            D03PZF
                                                                                                                                                                                                                                                                                                           D03PYF
       ...and time update, one iteration of Kalman filter, time-invariant, square root covariance filter
                                                                                                                                                                                                                                                                                                           G13EBF
             ...of complex matrix, form orthonormal basis of right invariant subspace for selected eigenvalues, with...
...of real matrix, form orthonormal basis of right invariant subspace for selected eigenvalues, with...
                                                                                                                                                                                                                                                                                                            F08QUF
                                                                                                                    Pseudo-inverse and rank of a real m by n matrix (m > ...
                                                                                                                                                                                                                                                                                                           F01BLF
                                                                                                                                                                                                                                                                                                           G01F
                                                                                                                                      Inverse distributions
...left eigenvectors of complex upper Hessenberg matrix by inverse iteration (CHSEIN/ZHSEIN)

Eigenvector of generalized real banded eigenproblem by inverse iteration

...left eigenvectors of real upper Hessenberg matrix by inverse iteration (SHSEIN/DHSEIN)

...eigenvectors of real symmetric tridiagonal matrix by inverse iteration, storing eigenvectors in complex...

...eigenvectors of real symmetric tridiagonal matrix by inverse iteration, storing eigenvectors in real array...

Evaluate inverse Laplace transform as computed by C06LBF
                                                                                                                                                                                                                                                                                                            F08PXF
                                                                                                                                                                                                                                                                                                            F02SDF
                                                                                                                                                                                                                                                                                                            F08PKF
                                                                                                                                                                                                                                                                                                            FOSIXE
                                                                                                                                                                                                                                                                                                            FOSIKE
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Inverse Laplace transform, Crump's method
Inverse Laplace transform, modified Weeks' method
Inverse of a complex Hermitian indefinite matrix,...
Inverse of a complex Hermitian positive-definite...
Inverse of a complex Hermitian positive-definite...
Inverse of a complex Hermitian positive-definite...
Inverse of a complex symmetric matrix, matrix already...
Inverse of a complex symmetric matrix, matrix already...
Inverse of a complex symmetric matrix, matrix already...
Inverse of a complex triangular matrix (CTRTRI/ZTRTRI)
Inverse of a complex triangular matrix, packed storage...
Inverse of a real symmetric indefinite matrix, matrix...
Inverse of a real symmetric indefinite matrix, matrix...
Inverse of a real symmetric positive-definite matrix,...
Inverse of a real triangular matrix (STRTRI/DTRTRI)
Inverse of a real triangular matrix (STRTRI/DTRTRI)
Inverse of real symmetric positive-definite matrix
Inverse of real symmetric positive-definite matrix...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C06LBF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       F07MWF
F07PWF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         F07FWF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        F07FWF
F07GWF
F07AWF
F07NWF
F07QWF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         F07TWF
F07UWF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         F07AJF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         F07MJF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        F07PJF
F07FJF
F07GJF
F07UJF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         F07TJF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         F01ADF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        F01ABF
                                                                                                                                                                                                                                              Invert a permutation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        M01ZAF
                                                                                                  Interpret MPSX data file defining IP or LP problem, optimize and print solution

Converts MPSX data file defining IP or LP problem to format required by H02BBF or E04MFF

Prints IP or LP solutions with user specified names for rows...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         H02BFF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        H02BUF
H02BVF
            ...difference equations by SIP, five-point 2-D molecule, iterate to convergence ...equations by SIP, seven-point 3-D molecule, iterate to convergence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        D03EBF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        D03ECF
...of complex upper Hessenberg matrix by inverse iteration (CHSEIN/ZHSEIN)
...equations by SIP, five-point 2-D molecule, one iteration
...equations by SIP, seven-point 3-D molecule, one iteration
...of generalized real banded eigenproblem by inverse iteration
Combined measurement and time update, one iteration of Kalman filter, time-invariant, square...
Combined measurement and time update, one iteration of Kalman filter, time-varying, square root...
...eigenvectors of real upper Hessenberg matrix by inverse iteration (SHSEIN/DHSEIN)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        F08PXF
D03UAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        D03UBF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        F02SDF
G13EBF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        F08PKF
                                   ...of real symmetric tridiagonal matrix by inverse iteration, storing eigenvectors in complex array... ...of real symmetric tridiagonal matrix by inverse iteration, storing eigenvectors in real array...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        F08JXF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         F08JKF
           ...linear equations with multiple right-hand sides using iterative refinement (Black Box) ...linear equations with multiple right-hand sides using iterative refinement (Black Box) ...equations in n unknowns, rank = n, m \geq n using iterative refinement (Black Box) ...linear equations, one right-hand side using iterative refinement (Black Box) ...linear equations, one right-hand side using iterative refinement (Black Box) ...positive-definite simultaneous linear equations using iterative refinement (coefficient matrix already... Solution of real simultaneous linear equations using iterative refinement (coefficient matrix already... ...of real symmetric positive-definite matrix using iterative refinement
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FO4ABE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        F04AEF
F04AMF
F04ASF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        F04ATF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         F04AFF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         F04AHF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        F01ABF
                                                                                                              ODEs, IVP, Adams method, until function of solution is zero,...
ODEs, IVP, Adams method with root-finding (forward...
ODEs, IVP, Adams method with root-finding (reverse...
Explicit ODEs, stiff IVP, banded Jacobian (comprehensive)
Implicit/algebraic ODEs, stiff IVP, banded Jacobian (comprehensive)
ODEs, IVP, BDF method, set-up for D02M-N routines
ODEs, stiff IVP, BDF method, until function of solution is zero,...
ODEs, IVP, BIP method, set-up for D02M-N routines
ODEs, IVP, DASSL method, set-up for D02M-N routines
ODEs, IVP, DASSL method, set-up for D02M-N routines
2nd order ODEs, IVP, diagnostics for D02LAF
ODEs, IVP, diagnostics for D02LAF
ODEs, IVP, error assessment diagnostics for D02PCF and D02PDF
ODEs, IVP, for use with D02M-N routines, full Jacobian,...
ODEs, IVP, for use with D02M-N routines, sparse Jacobian,...
ODEs, IVP, for use with D02M-N routines, sparse Jacobian,...
Explicit ODEs, stiff IVP, full Jacobian (comprehensive)
Implicit/algebraic ODEs, stiff IVP, full Jacobian (comprehensive)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DOSCIE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       D02CJF
D02QFF
D02QGF
D02NCF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        D02NHF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        D02NVF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         D02EJF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       D02EJF
D02NWF
D02MVF
D02LYF
D02QXF
D02PZF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        D02NTF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        D02NSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        D02NRF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         D02NHF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         D02NBF
                                                                                                                                                                    ODEs, IVP, integration diagnostics for D02PCF and D02PDF ODEs, IVP, integrator diagnostics, for use with D02M-N...

2nd order ODEs, IVP, interpolation for D02LAF ODEs, IVP, interpolation for D02M-N routines, C_1...

ODEs, IVP, interpolation for D02M-N routines, natural...

ODEs, IVP, interpolation for D02PDF ODEs, IVP, resets end of range for D02PDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        D02NYF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        D02LZF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        D02XKF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        D02MZF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        D02MZF
D02XJF
D02PXF
D02QZF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        D02PWF
                                                                                                                  Explicit \ ODEs, \ stiff \ IVP \ (reverse \ communication, \ comprehensive) \\ Implicit/algebraic \ ODEs, \ stiff \ IVP \ (reverse \ communication, \ comprehensive) 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        D02NMF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        D02NNF
                                                                                                              ODEs, IVP, root-finding diagnostics for D02QFF and D02QGF
ODEs, IVP, Runge-Kutta method, integration over one step
ODEs, IVP, Runge-Kutta method, integration over range with...
ODEs, IVP, Runge-Kutta method, until function of solution is zero,...
ODEs, IVP, Runge-Kutta-Merson method, until a component...
ODEs, IVP, Runge-Kutta-Merson method, until function of...
2nd order ODEs, IVP, Runge-Kutta-Nystrom method
ODEs, IVP, set-up for continuation calls to integrator, for...
2nd order ODEs, IVP, set-up for D02LAF
ODEs, IVP, set-up for D02LAF
ODES, IVP, set-up for D02PGF and D02PGF
ODEs, IVP, set-up for D02QFF and D02QGF
Explicit ODEs, stiff IVP, sparse Jacobian (comprehensive)
Implicit/algebraic ODEs, stiff IVP, sparse Jacobian (comprehensive)
ODEs, IVP, sparse Jacobian, linear algebra diagnostics, for...
ODEs, IVP, weighted norm of local error estimate for D02M-N...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        D02OYE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        D02BGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        D02BHF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        D02LAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        D02NZF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       D02NZF
D02LXF
D02PVF
D02QWF
D02NDF
D02NJF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         D02NXF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        D02ZAF
  ...linear system, RGMRES, CGS, or Bi-CGSTAB method, Jacobi or SSOR preconditioner (Black Box) ...linear system, conjugate gradient/Lanczos method, Jacobi or SSOR preconditioner (Black Box) Generate real Jacobi plane rotation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        F11DEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        F06BEF
                                                            Explicit ODEs, stiff IVP, full Jacobian (comprehensive)
Explicit ODEs, stiff IVP, banded Jacobian (comprehensive)
Explicit ODEs, stiff IVP, sparse Jacobian (comprehensive)
Implicit/algebraic ODEs, stiff IVP, full Jacobian (comprehensive)
Implicit/algebraic ODEs, stiff IVP, banded Jacobian (comprehensive)
Implicit/algebraic ODEs, stiff IVP, sparse Jacobian (comprehensive)
Jacobian elliptic functions sn, cn and dn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         D02NCF
D02NDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        D02NGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        D02NHF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         D02NJF
                           ODEs, IVP, for use with D02M-N routines, sparse Jacobian, enquiry routine ODEs, IVP, sparse Jacobian, linear algebra diagnostics, for use with... ODEs, IVP, for use with D02M-N routines, full Jacobian, linear algebra set-up ODEs, IVP, for use with D02M-N routines, banded Jacobian, linear algebra set-up ODEs, IVP, for use with D02M-N routines, sparse Jacobian, linear algebra set-up
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        D02NRF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        D02NXF
D02NSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         D02NTF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        D02NUF
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KWIC.20 [NP3086/18/pdf]

```
Check user's routine for calculating Jacobian of 1st derivatives
                                                                                                                                                                                                                                                                                                                    E04YAF
                                                                                                                                        K-means cluster analysis
Combined measurement and time update, one iteration of Kalman filter, time-invariant, square root covariance... Combined measurement and time update, one iteration of Kalman filter, time-varying, square root covariance...
                                                                                                                                                                                                                                                                                                                    G13EBF
                                                                                                                                                                                                                                                                                                                    G13EAF
                                                                                                                Computes Kaplan-Meier (product-limit) estimates of survival...
                                                                                                                                                                                                                                                                                                                   G12AAF
                                                                                                                       Bunch-Kaufman factorization of complex Hermitian indefinite...
Bunch-Kaufman factorization of complex Hermitian indefinite...
Bunch-Kaufman factorization of complex symmetric matrix...
Bunch-Kaufman factorization of complex symmetric matrix...
Bunch-Kaufman factorization of real symmetric indefinite...
Bunch-Kaufman factorization of real symmetric indefinite...
                                                                                                                                                                                                                                                                                                                   F07MBF
                                                                                                                                                                                                                                                                                                                    F07QRF
                                                                                                                                                                                                                                                                                                                    F07PDF
                                                                                                                                                                                                                                                                                                                   F07MDF
           General system of 1st order PDEs, method of lines, Keller box discretisation, one space variable ...of 1st order PDEs, coupled DAEs, method of lines, Keller box discretisation, one space variable ...of 1st order PDEs, coupled DAEs, method of lines, Keller box discretisation, remeshing, one space...
                                                                                                                                                                                                                                                                                                                    D03PEF
                                                                                                                                                                                                                                                                                                                    D03PRF
                                                                                                                                        Kelvin function bei x
Kelvin function ber x
Kelvin function kei x
                                                                                                                                                                                                                                                                                                                    S19ABF
                                                                                                                                                                                                                                                                                                                    S19AAF
S19ADF
                                                                                                                                         Kelvin function ker x
                                                                                                                                                                                                                                                                                                                    S19ACF
                                                                                                                                         Kendall's coefficient of concordance
                                                                                                                                                                                                                                                                                                                    G08DAF
                                                                                                                                         Kendall/Spearman non-parametric rank correlation...
                                                                                                                                                                                                                                                                                                                    G02BPF
                                                                                                                                         Kendall/Spearman non-parametric rank correlation...
Kendall/Spearman non-parametric rank correlation...
Kendall/Spearman non-parametric rank correlation...
                                                                                                                                                                                                                                                                                                                   G02BRF
G02BNF
G02BQF
G02BSF
                                                                                                                                         Kendall/Spearman non-parametric rank correlation...
                                ..Fredholm integral equation, 2nd kind, split kernel
                                                                                                                                                                                                                                                                                                                    D05AAF
                       ...Fredholm integral equation, 2nd kind, smooth kernel
                                                                                                                                                                                                                                                                                                                    D05ABF
                                                                                                                                         Kernel density estimate using Gaussian kernel
                                                                                                                                                                                                                                                                                                                    G10BAF
                                          Kernel density estimate using Gaussian \mathbf{kernel}
                                                                                                                                                                                                                                                                                                                    G10BAF
                         ...surface fit by bicubic splines with automatic knot placement, data on rectangular grid Least-squares cubic spline curve fit, automatic knot placement ...surface fit by bicubic splines with automatic knot placement, scattered data
                                                                                                                                                                                                                                                                                                                    E02DCF
                                                                                                                                                                                                                                                                                                                    E02BEF
E02DDF
                                    Computes probabilities for the one-sample Kolmogorov-Smirnov distribution
                                   Computes probabilities for the two-sample Kolmogorov-Smirnov distribution
Performs the one-sample Kolmogorov-Smirnov test for a user-supplied...
Performs the one-sample Kolmogorov-Smirnov test for standard distributions
Performs the two-sample Kolmogorov-Smirnov test
                                                                                                                                                                                                                                                                                                                    G01EZF
                                                                                                                                                                                                                                                                                                                    G08CCF
                                                                                                                                                                                                                                                                                                                    G08CBF
                                                                                                                                        Korobov optimal coefficients for use in D01GCF or...
Korobov optimal coefficients for use in D01GCF or...
                                                                                                                                                                                                                                                                                                                    D01GZF
                                                                                                                                                                                                                                                                                                                   G08AFF
                                                                                                                                        Kruskal-Wallis one-way analysis of variance on k...
                                                                          Mean, variance, skewness, kurtosis etc, one variable, from frequency table Mean, variance, skewness, kurtosis etc, one variable, from raw data Mean, variance, skewness, kurtosis etc, two variables, from raw data
                                                                                                                                                                                                                                                                                                                    G01ADF
                                                                                                                                                                                                                                                                                                                    G01ABF
                                                                                          ODEs, IVP, Runge-Kutta method, integration over one step ODEs, IVP, Runge-Kutta method, integration over range with output ODEs, IVP, Runge-Kutta method, until function of solution is zero,...
                                                                                                                                                                                                                                                                                                                    D02PDF
                                                                                                                                                                                                                                                                                                                    D02PCF
D02BJF
                                                                                          ODEs, IVP, Runge-Kutta-Merson method, until a component attains given... ODEs, IVP, Runge-Kutta-Merson method, until function of solution is zero...
                                                                                                                                                                                                                                                                                                                    D02BGF
                                                                                                                                                                                                                                                                                                                    D02BHF
                                                                 2nd order ODEs, IVP, Runge-Kutta-Nystrom method
                                                                                                                                                                                                                                                                                                                   D02LAF
                                          Multivariate time series, sample partial lag correlation matrices, \chi^2 statistics and...
                                                                                                                                                                                                                                                                                                                    G13DNF
  ...spectrum using rectangular, Bartlett, Tukey or Parzen lag window ...spectrum using rectangular, Bartlett, Tukey or Parzen lag window
                                                                                                                                                                                                                                                                                                                    G13CCF
                                   All zeros of complex polynomial, modified Laguerre method All zeros of real polynomial, modified Laguerre method
                                                                                                                                                                                                                                                                                                                    C02AFF
                                                                                                                                                                                                                                                                                                                    C02AGF
       ...linear systems, preconditioned conjugate gradient or Lanczos
...sparse symmetric linear system, conjugate gradient/Lanczos method, Jacobi or SSOR preconditioner (Black...
...sparse symmetric linear system, conjugate gradient/Lanczos method, preconditioner computed by F11JAF...
                                                                                                                                                                                                                                                                                                                    F11GBF
                                                                                                                                                                                                                                                                                                                    F11JEF
F11JCF
                                                                                                                                                                                                                                                                                                                   F07/F08
                                                                                                                                      LAPACK
                                                                                                Evaluate inverse Laplace transform as computed by C06LBF Inverse Laplace transform, Crump's method Inverse Laplace transform, modified Weeks' method
                                                                                                                                                                                                                                                                                                                    C06LCF
                                                                                                                                                                                                                                                                                                                    C06LBF
                                                    Elliptic PDE, Laplace's equation, 2-D arbitrary domain

1-norm, ∞-norm, Frobenius norm, largest absolute element, complex band matrix
1-norm, ∞-norm, Frobenius norm, largest absolute element, complex general matrix
1-norm, ∞-norm, Frobenius norm, largest absolute element, complex Hermitian band matrix
1-norm, ∞-norm, Frobenius norm, largest absolute element, complex Hermitian matrix
1-norm, ∞-norm, Frobenius norm, largest absolute element, complex Hermitian matrix
1-norm, ∞-norm, Frobenius norm, largest absolute element, complex symmetric band matrix
1-norm, ∞-norm, Frobenius norm, largest absolute element, complex symmetric band matrix
1-norm, ∞-norm, Frobenius norm, largest absolute element, complex symmetric matrix,...
1-norm, ∞-norm, Frobenius norm, largest absolute element, complex symmetric matrix,...
1-norm, ∞-norm, Frobenius norm, largest absolute element, complex triangular band...
1-norm, ∞-norm, Frobenius norm, largest absolute element, real partix
1-norm, ∞-norm, Frobenius norm, largest absolute element, real spentarix
1-norm, ∞-norm, Frobenius norm, largest absolute element, real symmetric matrix
1-norm, ∞-norm, Frobenius norm, largest absolute element, real symmetric band matrix
1-norm, ∞-norm, Frobenius norm, largest absolute element, real symmetric band matrix
1-norm, ∞-norm, Frobenius norm, largest absolute element, real symmetric band matrix
1-norm, ∞-norm, Frobenius norm, largest absolute element, real symmetric matrix, packed...
1-norm, ∞-norm, Frobenius norm, largest absolute element, real triangular band matrix
1-norm, ∞-norm, Frobenius norm, largest absolute element, real triangular matrix,...
1-norm, ∞-norm, Frobenius norm, largest absolute element, real triangular matrix packed...
1-norm, ∞-norm, Frobenius norm, largest absolute element, real triangular matrix,...
1-norm, ∞-norm, Frobenius norm, largest absolute element, real triangular matrix,...
1-norm, ∞-norm, Frobenius norm, largest absolute element, real triangular matrix,...
1-norm, ∞-norm, Frobenius norm, largest absolute element
                                                                                                      Elliptic PDE, Laplace's equation, 2-D arbitrary domain
                                                                                                                                                                                                                                                                                                                   D03EAF
                                                                                                                                                                                                                                                                                                                    F06UBF
                                                                                                                                                                                                                                                                                                                    F06UAF
F06UEF
                                                                                                                                                                                                                                                                                                                    F06UCF
                                                                                                                                                                                                                                                                                                                    F06UDF
                                                                                                                                                                                                                                                                                                                   F06UDF
F06UMF
F06UHF
F06UFF
F06UGF
                                                                                                                                                                                                                                                                                                                    F06ULF
                                                                                                                                                                                                                                                                                                                    F06UKF
                                                                                                                                                                                                                                                                                                                   F06UKF
F06RBF
F06RAF
F06REF
F06RCF
F06RDF
                                                                                                                                                                                                                                                                                                                    F06RJF
                                                                                                                                                                                                                                                                                                                    F06RLF
                                                                                                                                                                                                                                                                                                                    FO6RKE
                                                                                                                                                                                                                                                                                                                    F06JMF
                                                                                                                                                                                                                                                                                                                   F06JLF
F06FLF
                                                                                                                                         Largest permissible argument for SIN and COS
                                                                                                                                                                                                                                                                                                                    X02AHF
                                                                                                                                        Largest positive model number Largest representable integer
                                                                                                                                                                                                                                                                                                                    X02ALF
                                                                                                                                                                                                                                                                                                                    X02BBF
                                                                                           Contingency table, latent variable model for binary data
                                                                                                                                                                                                                                                                                                                   G11SAF
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\boldsymbol{LDL}^T factorization of real symmetric positive-definite...
                                                                                         Constructs a stem and leaf plot
                                                                                                                                                                                                                                                                                                                                G01ARF
                                                                   Equality-constrained real linear least squares problem
                                                                                                                                                                                                                                                                                                                                F04JMF
                                                                                                                                                 Least-squares cubic spline curve fit, automatic knot...
Least-squares curve cubic spline fit (including...
Least-squares curve fit, by polynomials, arbitrary data...
                                                                                                                                                                                                                                                                                                                                E02BEF
                                                                                                                                                                                                                                                                                                                                E02ADF
       ...linear ODEs, boundary value problem, collocation and least-squares
                                                                                                                                                                                                                                                                                                                                D02TGF
    ...general Gauss-Markov linear model (including weighted least-squares)
...general Gauss-Markov linear model (including weighted least-squares)
                                                                                                                                                                                                                                                                                                                                F04KLF
                                                        Equality-constrained complex linear least-squares
                                                                                                                                                                                                                                                                                                                                F04KMF
                                                                                                                                                Least-squares (if rank = n) or minimal least-squares...
                                                                                                                                                                                                                                                                                                                                F04JGF
                                                  \text{Least-squares (if rank} = n) \text{ or minimal } \textbf{least-squares (if rank} < n) \text{ solution of } m \text{ real...} 
                                                                                                                                                                                                                                                                                                                                F04JGF
                                                                                                                                                 Least-squares polynomial fit, special data points... Least-squares polynomial fit, values and derivatives...
                       Convex QP problem or linearly-constrained linear least-squares problem
                                                                  Covariance matrix for nonlinear least-squares problem

Sparse linear least-squares problem, m real equations in n...

Covariance matrix for linear least-squares problems, m real equations in n...
                                                                                                                                                                                                                                                                                                                                F04YAF
                           ODEs, boundary value problem, collocation and {f least-squares}, single n{f th} order linear equation
                                                                                                                                                                                                                                                                                                                                D02JAF
                                                                                                                           Minimal least-squares solution of m real equations in n... Minimal least-squares solution of m real equations in n...
                                                                                                                                                                                                                                                                                                                                F04JDF
F04JAF
                                                                                                                                                 Least-squares solution of m real equations in n...
                                                                                                                                                                                                                                                                                                                                F04AMF
                                                                                                                                                 Least-squares surface fit, bicubic splines
Least-squares surface fit by bicubic splines with...
Least-squares surface fit by bicubic splines with...
Least-squares surface fit by polynomials, data on lines
                                                                                                                                                                                                                                                                                                                                 E02DAF
                                                                                                                                                                                                                                                                                                                                E02DCF
                                                                                                                                                                                                                                                                                                                                E02DDE
                                                                                                                                                                                                                                                                                                                                E02CAF
                           ODEs,\ boundary\ value\ problem,\ collocation\ and\ \textbf{least-squares},\ system\ of\ 1st\ order\ linear\ equations
                                                                                                                                                                                                                                                                                                                                D02JBF
                                             ...matrices, \chi^2 statistics and significance levels
                                                                                                                                                                                                                                                                                                                                G13DNF
                                                                                    Computes maximum likelihood estimates for parameters of the Normal...
Computes maximum likelihood estimates for parameters of the Weibull...
Computes the maximum likelihood estimates of the parameters of a factor...
                                                                                                                                                                                                                                                                                                                                G07BBF
                                                                                                                                                                                                                                                                                                                                 G03CAF
                                                             Computes Kaplan–Meier (product-limit) estimates of survival probabilities
                                                                                                                                                                                                                                                                                                                                G12AAF
    ODEs, IVP, sparse Jacobian, linear algebra diagnostics, for use with D02M-N...
ODEs, IVP, for use with D02M-N routines, full Jacobian, linear algebra set-up
...IVP, for use with D02M-N routines, banded Jacobian, linear algebra set-up
...IVP, for use with D02M-N routines, sparse Jacobian, linear algebra set-up
                                                                                                                                                                                                                                                                                                                                 D02NXF
                                                                                                                                                                                                                                                                                                                                 D02NSF
                                                                                                                                                                                                                                                                                                                                D02NTF
                                                                                                                                                                                                                                                                                                                                D02NUF
Computes lower tail probability for a linear combination of (central) \chi^2 variables

Computes probability for a positive linear combination of \chi^2 variables

...collocation and least-squares, single nth order linear equation

Solution of real tridiagonal simultaneous linear equations (coefficient matrix already factorized...

Solution of real tridiagonal simultaneous linear equations (coefficient matrix already factorized...

...positive-definite simultaneous linear equations (coefficient matrix already factorized...

Solution of real simultaneous linear equations (coefficient matrix already factorized...

Solution of real simultaneous linear equations (coefficient matrix already factorized...

Solution of real simultaneous linear equations (coefficient matrix already factorized...

Solution of real sparse simultaneous linear equations (coefficient matrix already factorized...

Solution of solution system of linear equations (coefficient matrix already factorized...

...collocational with error bounds of complex system of linear equations, multiple right-hand sides...

...error bounds of complex Hermitian indefinite system of linear equations, multiple right-hand sides...

...of complex Hermitian positive-definite system of linear equations, multiple right-hand sides...

...with error bounds of complex symmetric system of linear equations, multiple right-hand sides...

...with error bounds of complex symmetric system of linear equations, multiple right-hand sides...

...bounds for solution of complex triangular system of linear equations, multiple right-hand sides...

...bounds for solution of complex triangular system of linear equations, multiple right-hand sides...

Solution of complex triangular system of linear equations, multiple right-hand sides...

Solution of complex triangular system of linear equations, multiple right-hand sides...

Solution of complex band system of linear equations, multiple right-hand sides, matrix...

Solution of real symmetric positive-definite system of linear equations, mu
                                                                                                                                  Basic Linear Algebra Subprograms
                                                                                                                                                                                                                                                                                                                                F06
                                                     Computes lower tail probability for a linear combination of (central) \chi^2 variables
                                                                                                                                                                                                                                                                                                                                G01JDF
                                                                                                                                                                                                                                                                                                                                G01JCF
D02JAF
F04LEF
                                                                                                                                                                                                                                                                                                                                F04LHF
                                                                                                                                                                                                                                                                                                                                F04MCF
                                                                                                                                                                                                                                                                                                                                F04AGF
F04AJF
F04AXF
D02JBF
                                                                                                                                                                                                                                                                                                                                F07BVF
                                                                                                                                                                                                                                                                                                                                F07AVF
                                                                                                                                                                                                                                                                                                                                F07MVF
                                                                                                                                                                                                                                                                                                                                 F07HVF
                                                                                                                                                                                                                                                                                                                                F07HVF
F07FVF
F07NVF
F07VVF
F07VSF
F07TVF
F07TSF
F07ASF
                                                                                                                                                                                                                                                                                                                                F07ASF
F07BSF
F07BSF
F07FEF
                                                                                                                                                                                                                                                                                                                                F07FSF
F07GEF
                                                                                                                                                                                                                                                                                                                                F07GSF
                                                                                                                                                                                                                                                                                                                                F07HEF
F07HSF
                                                                                                                                                                                                                                                                                                                                F07MSF
F07MSF
F07NSF
F07PEF
                                                                                                                                                                                                                                                                                                                                F07PSF
                                                                                                                                                                                                                                                                                                                                F07QSF
F07PVF
                                                                                                                                                                                                                                                                                                                                F07GVF
F07QVF
F07UVF
F07USF
                                                                                                                                                                                                                                                                                                                                F07GHF
                                                                                                                                                                                                                                                                                                                                F07PHF
                                                                                                                                                                                                                                                                                                                                F07UHF
                                                                                                                                                                                                                                                                                                                                FO7UEF
                                                                                                                                                                                                                                                                                                                                F07BHF
F07AHF
F07HHF
                                                                                                                                                                                                                                                                                                                                 F07FHF
                                                                                                                                                                                                                                                                                                                                F07MHF
F07VHF
F07VEF
                                                                                                                                                                                                                                                                                                                                F07VEF
F07THF
F07TEF
F04ARF
F04EAF
                                                                                                                                                                                                                                                                                                                                 F04FAF
                                                                                                                                                                                                                                                                                                                                 F04ASF
                                                                                                                                                                                                                                                                                                                                F04ATF
```

KWIC.22 [NP3086/18/pdf]

```
...of real symmetric positive-definite simultaneous linear equations using iterative refinement...

Solution of real simultaneous linear equations using iterative refinement...

Solution of real simultaneous linear equations with multiple right-hand sides (Black...

Solution of complex simultaneous linear equations with multiple right-hand sides (Black...

Solution of complex simultaneous linear equations with multiple right-hand sides (Black...

Solution of real symmetric positive-definite simultaneous linear equations with multiple right-hand sides using...

Solution of real simultaneous linear equations with multiple right-hand sides using...

L₁-approximation by general linear function

L∞-approximation by general linear function

L₁-approximation by general linear function

L₁-approximation by general linear function

Low-approximation by general linear function

Low-approximation by general linear function

Equality-constrained real linear function subject to linear inequality...

Equality-constrained real linear least-squares problem

Equality-constrained complex linear least-squares problem

Sparse linear least-squares problem

Sparse linear least-squares problem, m real equations in n...

Computes estimable function of a generalized linear model and its standard error

...and standard errors of parameters of a general linear model (including weighted least-squares)

Complex general Gauss-Markov linear model (including weighted least-squares)

Fits a generalized linear model with poisson errors

Fits a generalized linear model with Normal errors

Fits a generalized linear model with Poisson errors
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F04AFF
F04AHF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ^{\rm F04AAF}_{\rm F04ACF}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F04ADF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F04ABF
F04AEF
E02GAF
E02GCF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   E02GBF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   E02GBF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F04JMF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F04JMF
F04KMF
E04NCF
F04QAF
F04YAF
G02GNF
G02GKF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F04JLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F04KLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    G02GBF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   G02GBF
G02GDF
G02GAF
G02GCF
                                                                                                                                                                                                           Linear non-singular Fredholm integral equation, 2nd...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   D05ABF
                                                                                                                                                                                                           Linear non-singular Fredholm integral equation, 2nd...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   D05AAF
           n th \ order \ \textbf{linear} \ ODEs, \ boundary \ value \ problem, \ collocation \ and... Estimates of linear parameters and general linear regression model... ... difference technique with deferred correction, general linear problem
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   D02TGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     G02DDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   D02GBF
                         Multiple linear regression, from correlation coefficients, with...

Multiple linear regression, from correlation-like coefficients,...

Computes estimable function of a general linear regression model and its standard error

Fits a linear regression model by forward selection

...and standard errors of parameters of a general linear regression model for given constraints

Fits a general linear regression model for new dependent variable

Estimates of linear parameters and general linear regression model for new dependent variable

Estimates of linear parameters and general linear regression model

Fits a general (multiple) linear regression model

Add/delete an observation to/from a general linear regression model

Add a new variable to a general linear regression model

Delete a variable from a general linear regression, re-order elements of vectors and...

Service routines for multiple linear regression, select elements from vectors and...

Simple linear regression with constant term, missing values Simple linear regression with constant term, no missing values Simple linear regression without constant term, no missing values Simple linear regression without constant term, no missing...

Computes residual sums of squares for all possible linear regression without constant term, no missing...

Computes residual sums of squares for all possible linear regression without constant term, no missing...

Solution of real sparses symmetric linear system, conjugate gradient/Lanczos method,...

Solution of real sparse unsymmetric linear system, conjugate gradient/Lanczos method,...

Solution of linear system involving incomplete LU preconditioning matrix...

Solution of linear system involving preconditioning matrix...

Real sparse unsymmetric linear system involving preconditioning matrix...

Real sparse unsymmetric linear systems, diagnostic for F11BBF

Real sparse unsymmetric linear systems, perconditioned conjugate gradient or...

Real sparse unsymmetric linear systems, perconditioned Conjugate gradient or...

Real
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   G02CGF
G02CHF
G02DNF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   G02EEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   G02DKF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   G02DGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    G02DDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   G02DDF
G02DAF
G02DCF
G02DEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   G02DFF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   G02CFF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   G02CEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    G02CCF
G02CAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   G02CAF
G02CDF
G02CBF
G02EAF
F11JEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F11JCF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F11DEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F11DEF
F11DCF
F11JBF
F11DBF
F11DDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F11BCF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F11GCF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    F11DAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    F11GBF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F11BBF
F11BAF
F11GAF
                                                                                                                         Convex QP problem or linearly-constrained linear least-squares problem
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   E04NCF
                                                                                                                                                                                                          Lineprinter histogram of one variable
Lineprinter scatterplot of one variable against Normal...
Lineprinter scatterplot of two variables
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   G01AJF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   G01AGF
            General system of parabolic PDEs, method of lines, Chebyshev C^0 collocation, one space variable ...system of parabolic PDEs, coupled DAEs, method of lines, Chebyshev C^0 collocation, one space variable
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   D03PDF
                                 Least-squares surface fit by polynomials, data on lines
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   E02CAF
General system of parabolic PDEs, coupled DAEs, method of lines, finite differences, one space variable
...system of parabolic PDEs, coupled DAEs, method of lines, finite differences, one space variable
...system of parabolic PDEs, coupled DAEs, method of lines, finite differences, remeshing, one space...

General system of 2nd order PDEs, method of lines, finite differences, remeshing, two space variables, rectangular...

General system of 2nd order PDEs, method of lines, finite differences, remeshing, two space variables, rectilinear...

General system of 1st order PDEs, method of lines, Keller box discretisation, one space variable
...system of 1st order PDEs, coupled DAEs, method of lines, Keller box discretisation, one space variable
...terms in conservative form, coupled DAEs, method of lines, upwind scheme using numerical flux function...
...PDEs with source terms in conservative form, method of lines, upwind scheme using numerical flux function...
...terms in conservative form, coupled DAEs, method of lines, upwind scheme using numerical flux function...
...terms in conservative form, coupled DAEs, method of lines, upwind scheme using numerical flux function...
...terms in conservative form, coupled DAEs, method of lines, upwind scheme using numerical flux function...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   D03PCF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    D03PHF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   D03PPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    D03RAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   D03RAF
D03RBF
D03PEF
D03PKF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   D03PRF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   D03PLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   D03PFF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   D03PSF
                                                                             Generate real elementary reflection, LINPACK style Apply real elementary reflection, LINPACK style
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F06FSF
F06FUF
                                                                                                                                              2nd order Sturm-Liouville problem, regular system, finite range,... 2nd order Sturm-Liouville problem, regular/singular system,... 2nd order Sturm-Liouville problem, regular/singular system,...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   D02KAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   D02KEF
D02KDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   G03BAF
                                                                                 Computes orthogonal rotations for loading matrix, generalized orthomax criterion
                  ...of the parameters of a factor analysis model, factor loadings, communalities and residual correlations
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   G03CAF
                                                                                                  ODEs, IVP, weighted norm of local error estimate for D02M-N routines
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   D02ZAF
                                                                               Robust estimation, M-estimates for \mathbf{location} and scale parameters, standard weight... Robust estimation, M-estimates for \mathbf{location} and scale parameters, user-defined weight...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   G07DBF
G07DCF
                                                                                                                                                                                                          Location tests
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   G08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S14ABF
                                                                                                                                                                                                          Log Gamma function
                       ...function with end-point singularities of algebraico-logarithmic type
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   D01APF
                                                                                                  Pseudo-random real numbers, logistic distribution
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   G05DCF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   G05DEF
                                                                                                  Pseudo-random real numbers, lognormal distribution
                                                                                                                               Computes upper and lower tail probabilities and probability density...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   G01EEF
```

```
Computes \mathbf{lower} tail probability for a linear combination of...
                              LP problem

Converts MPSX data file defining LP or QP problem to format required by E04NKF

LP or QP problem (sparse)

Interpret MPSX data file defining IP or LP problem, optimize and print solution

Converts MPSX data file defining IP or LP problem to format required by H02BBF or E04MFF

Prints IP or LP solutions with user specified names for rows and...
                                                                                                                                                                                                                                     E04NKF
                                                                                                                                                                                                                                     H02BFF
                                                                                                                                                                                                                                     H02BHF
                                                                                                                                                                                                                                     H02BVF
                                 Form all or part of orthogonal Q from LQ factorization determined by F08AHF (SORGLQ/DORGLQ) Form all or part of unitary Q from LQ factorization determined by F08AVF (CUNGLQ/ZUNGLQ) LQ factorization of complex general rectangular... LQ factorization of real general rectangular matrix...
                                                                                                                                                                                                                                     F08AWF
                                                                                                                                                                                                                                     F08AVF
                                                                                                                                                                                                                                    F08AHF
                                                                                                                                                                                                                                     F11DAF
         Real sparse unsymmetric linear systems, incomplete LU factorization
                                                                                                     LU factorization and determinant of real matrix LU factorization and determinant of real matrix... LU factorization of complex m by n matrix... LU factorization of complex m by n matrix... LU factorization of real almost block diagonal matrix LU factorization of real m by n band matrix... LU factorization of real m by n matrix...
                                                                                                                                                                                                                                    F03AFF
F07BRF
F07ARF
F01LHF
                                                                                                                                                                                                                                     F07BDF
                                                                                                                                                                                                                                     F07ADF
                   LU \ \text{factorization of feal my } u \ \text{matrix...} LU \ \text{factorization of feal sparse matrix} LU \ \text{factorization of real sparse matrix} LU \ \text{factorization of real sparse matrix} LU \ \text{factorization of real tridiagonal matrix} Solution of linear system involving incomplete LU preconditioning matrix generated by F11DAF
                                                                                                                                                                                                                                     F01BRF
                                                                                                                                                                                                                                     F01BSF
                                                                                                                                                                                                                                    F01LEF
F11DBF
                                                                                                     Machine Constants
                                                                                                                                                                                                                                     ^{\rm X02}_{\rm X02AJF}
                                                                                                     Machine precision
                                                                                                                                                                                                                                    G03DBF
                                                                                  Computes Mahalanobis squared distances for group or pooled...
                             Computes the exact probabilities for the {\bf Mann-Whitney}U statistic, no ties in pooled sample Computes the exact probabilities for the {\bf Mann-Whitney}U statistic, ties in pooled sample Performs the {\bf Mann-Whitney}U test on two independent samples
                                                                                                                                                                                                                                     G08AJF
                                                                                                                                                                                                                                    G08AHF
                                                                                                                                                                                                                                    G11BCF
                                                                                  Computes marginal tables for multiway table computed by G11BAF...
                                                          Real general Gauss-Markov linear model (including weighted least-squares) Complex general Gauss-Markov linear model (including weighted least-squares)
                                                                                                                                                                                                                                    F04JLF
F04KLF
                                      Performs the Wilcoxon one-sample (\mathbf{matched} pairs) signed rank test
                                                                                                                                                                                                                                     G08AGF
                       Friedman two-way analysis of variance on k matched samples
                                                                                                                                                                                                                                     G08AEF
                    ODEs, boundary value problem, shooting and matching, boundary values to be determined ODEs, boundary value problem, shooting and matching, general parameters to be determined
                                                                                                                                                                                                                                     D02HAF
       ...shooting and matching technique, allowing interior matching point, general parameters to be determined ODEs, boundary value problem, shooting and matching technique, allowing interior matching point,... ODEs, boundary value problem, shooting and matching technique, subject to extra algebraic...
                                                                                                                                                                                                                                    D02AGF
                                                                                                                                                                                                                                    D02AGF
D02SAF
                                                                                                     Mathematical Constants
                                                                                                                                                                                                                                    X01
                                                                                                                                                                                                                                    E04/H02
                                                                                                     Maximization
                                                                            Computes maximum likelihood estimates for parameters of the...
Computes maximum likelihood estimates for parameters of the...
Computes the maximum likelihood estimates of the parameters of a...
                                                                                                                                                                                                                                     G07BBF
                                                                                                                                                                                                                                     G03CAF
                                                                                                     Maximum number of decimal digits that can be...
                                                                                                                                                                                                                                    X02BEF
                                  Computes a trimmed and winsorized mean of a single sample with estimates of their... Computes quantities needed for range-mean or standard deviation-mean plot
                                                                                                                                                                                                                                     G07DDF
...quantities needed for range-mean or standard deviation-mean plot
                                                                                                                                                                                                                                    G13AUF
                                                                                                     Mean, variance, skewness, kurtosis etc, one variable,...
Mean, variance, skewness, kurtosis etc, one variable,...
Mean, variance, skewness, kurtosis etc, two variables,...
                                                                                                                                                                                                                                    G01ADF
                                                                                                                                                                                                                                     G01ABF
 ...of variance, general row and column design, treatment means and standard errors
...block or completely randomized design, treatment means and standard errors
...of variance, complete factorial design, treatment means and standard errors
Computes t-test statistic for a difference in means between two Normal populations, confidence...

K-means cluster analysis
                                                                                                                                                                                                                                     G04BCF
                                                                                                                                                                                                                                     G04BBF
                                                                                                                                                                                                                                     G04CAF
G07CAF
                                                                                                                                                                                                                                     G03EFF
     K-means cluster analysis

Computes confidence intervals for differences between means computed by G04BBF or G04BCF

Computes sum of squares for contrast between means
                                                                                                                                                                                                                                     G04DAF
                                                                                   Combined measurement and time update, one iteration of Kalman... Combined measurement and time update, one iteration of Kalman...
                                                                                                                                                                                                                                     G13EBF
                                                                                                                                                                                                                                    G13EAF
                                                                                                                                                                                                                                    G07DAF
                                                    Robust estimation, median, median absolute deviation, robust standard deviation
                                          Computes a five-point summary (median, hinges and extremes)
                                                                                                                                                                                                                                    G01ALF
                                                                  Robust estimation, median, median absolute deviation, robust standard...
                Compute smoothed data sequence using running \mathbf{median} smoothers
                                                                                                                                                                                                                                    G10CAF
                                                                                                    Median test on two samples of unequal size
                                                                                                                                                                                                                                     G08ACF
                                                                    Computes Kaplan-Meier (product-limit) estimates of survival...
                                                                                                                                                                                                                                     G12AAF
                                                      ODEs, IVP, Runge-Kutta-Merson method, until a component attains given value... ODEs, IVP, Runge-Kutta-Merson method, until function of solution is zero...
                                                                                                                                                                                                                                     D02BGF
                                                                                                                                                                                                                                     D02BHF
                            Evaluation of a fitted bicubic spline at a mesh of points
                                                                                                                                                                                                                                    E02DFF
                                                                             Performs non-metric (ordinal) multidimensional scaling
                                                                                                                                                                                                                                     G03FCF
                Performs principal coordinate analysis, classical metric scaling
                                                                                                                                                                                                                                     G03FAF
       \dots integration of function defined by data values, Gill–Miller method
                                                                                                                                                                                                                                    D01GAF
                                                           Computes reciprocal of Mills' Ratio
                                                                                                                                                                                                                                    G01MBF
                                               Least-squares (if rank = n) or minimal least-squares (if rank < n) solution of m...
                                                                                                     Minimal least-squares solution of m real equations in...
Minimal least-squares solution of m real equations in...
                                                                                                     Minimax curve fit by polynomials
                                                                                                                                                                                                                                    E02ACF
                                                                                                     Minimization
                                                                                                                                                                                                                                    E04/H02
                                                                                                     Minimum, function of one variable, using 1st derivative Minimum, function of one variable using function values...
Minimum, function of several variables, modified Newton...
Minimum, function of several variables, quasi-Newton...
                                                                                                                                                                                                                                     E04BBF
                                                                                                                                                                                                                                     E04ABF
E04AYF
E04KZF
                                                                                                                                                                                                                                     E04LBF
                                                                                                                                                                                                                                     E04KDF
                                                                                                                                                                                                                                     E04KYE
```

KWIC.24 [NP3086/18/pdf]

```
Minimum, function of several variables, quasi-Newton...
Minimum, function of several variables, sequential QP...
Minimum, function of several variables, sequential QP...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         E04UFF
                                                                                                                                                                                                                                    Unconstrained minimum of a sum of squares, combined Gauss-Newton and...
Unconstrained minimum of a sum of squares, combined Gauss-Newton and...
Unconstrained minimum of a sum of squares, combined Gauss-Newton and...
Unconstrained minimum of a sum of squares, combined Gauss-Newton and...
Unconstrained minimum of a sum of squares, combined Gauss-Newton and...
Unconstrained minimum of a sum of squares, combined Gauss-Newton and...
Unconstrained minimum of a sum of squares, combined Gauss-Newton and...
Unconstrained minimum of a sum of squares, combined Gauss-Newton and...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        E04GDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         E04GZF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         E04HEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         E04HYF
E04FCF
E04FYF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         E04GYF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         E04UNE
                                                                                                                                                                                                                                                                                                              Minimum of a sum of squares, nonlinear constraints,...
                                                                                                                                                                                                                                     Unconstrained minimum, preconditioned conjugate gradient algorithm,... Unconstrained minimum, simplex algorithm, function of several...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         E04DGE
                                          Computes \ probability \ for \ Von \ Mises \ distribution \\ Generates \ vector \ of \ pseudo-random \ variates \ from \ Von \ Mises \ distribution 
                                            ...correlation coefficients, all variables, no missing values
...coefficients, all variables, casewise treatment of missing values
...coefficients (about zero), all variables, no missing values
...coefficients (about zero), all variables, no missing values
...(about zero), all variables, casewise treatment of missing values
...(about zero), all variables, pairwise treatment of missing values
...coefficients, subset of variables, no missing values
...coefficients, subset of variables, no missing values
....subset of variables, casewise treatment of missing values
...subset of variables, pairwise treatment of missing values
...zero), subset of variables, casewise treatment of missing values
...zero), subset of variables, casewise treatment of missing values
...zero), subset of variables, pairwise treatment of missing values
...mank correlation coefficients, pairwise treatment of missing values
Simple linear regression with constant term, no missing values
Simple linear regression with constant term, missing values
Simple linear regression with constant term, missing values
...non-parametric rank correlation coefficients, no missing values, overwriting input data
...rank correlation coefficients, casewise treatment of missing values, preserving input data
...rank correlation coefficients, casewise treatment of missing values, preserving input data
...rank correlation coefficients, casewise treatment of missing values, preserving input data
...rank correlation coefficients, casewise treatment of missing values, preserving input data
...rank correlation coefficients, casewise treatment of missing values, preserving input data
                                                                                                          ..correlation coefficients, all variables, no missing values
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         G02BAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          G02BBF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         G02BCF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          G02BDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         G02BDF
G02BEF
G02BFF
G02BGF
G02BHF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          G02BJF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          G02BKF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          G02BLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          G02BEF
G02BMF
G02BSF
G02CAF
G02CBF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         G02CCF
G02CDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         G02BNF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          G02BPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          G02BOF
                                                  ...estimable function of a general linear regression model and its standard error Computes estimable function of a generalized linear model and its standard error Fits a linear regression model by forward selection Univariate time series, estimation, seasonal ARIMA model (comprehensive) Univariate time series, estimation, seasonal ARIMA model (easy-to-use)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         G02DNF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        G02GNF
G02EEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          G13AEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         G13AFF
                                                            Parameter of floating-point arithmetic model, e_{max}
Parameter of floating-point arithmetic model, e_{min}
...estimates of the parameters of a factor analysis model, factor loadings, communalities and residual...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         X02BLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        X02BKF
G03CAF
                     Contingency table, latent variable model for binary data

...errors of parameters of a general linear regression model for given constraints

...and standard errors of parameters of a general linear model for given constraints

...and standard errors of parameters of a general linear model for given constraints

Fits a general linear regression model for new dependent variable

...of linear parameters and general linear regression model from updated model

Fits a general (multiple) linear regression model from updated model

...an observation to/from a general linear regression model

...and general linear regression model

...and general linear regression model

Add a new variable to a general linear regression model

Delete a variable from a general linear regression model

Set up reference vector for univariate ARMA time series model

...realisation of a multivariate time series from a VARMA model

...realisation of a multivariate time series from a VARMA model

...time series, preliminary estimation, seasonal ARIMA model

...time series, filtering (pre-whitening) by an ARIMA model

...time series, filtering by a transfer function model

Multivariate time series, estimation of multi-input model

...update state set for forecasting from multi-input model

...time series, forecasting from state set of multi-input model

Multivariate time series, estimation of VARMA model

Real general Gauss-Markov linear model (including weighted least-squares)

Complex general Gauss-Markov linear model (including weighted least-squares)

Smallest positive model number

Parameter of floating-point arithmetic model, p
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         G02DKF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         G02GKF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         G02DGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         G02DDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        G02DDF
G02DAF
G02DCF
G02DEF
G02DFF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          G05EGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          G05EWF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          G05HDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         G12BAF
G13ADF
G13AJF
G13BAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         G13BBF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         G13BDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          G13BEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        G13BEF
G13BGF
G13BHF
G13BJF
G13DCF
F04JLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          F04KLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          X02AKF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         X02ALF
                                                                                                                   Parameter of floating-point arithmetic \mathbf{model},\ p Parameter of floating-point arithmetic \mathbf{model},\ \mathrm{ROUNDS}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         X02BJF
                                                                                                                                                                                      Fits a generalized linear model with binomial errors
Fits a generalized linear model with gamma errors
Fits a generalized linear model with Normal errors
Fits a generalized linear model with Poisson errors
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          G02GDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        G02GCF
                                                                                                                                                                                                                                                                                                              Modified Bessel function e^{-|x|}I_0(x)
                                                                                                                                                                                                                                                                                                            \begin{array}{ll} \text{Modified Bessel function } e^{-\left|x\right|} I_{O}(x) \\ \text{Modified Bessel function } e^{-\left|x\right|} I_{1}(x) \\ \text{Modified Bessel function } e^{x} K_{0}(x) \\ \text{Modified Bessel function } e^{x} K_{1}(x) \\ \text{Modified Bessel function } I_{0}(x) \\ \text{Modified Bessel function } I_{1}(x) \\ \text{Modified Bessel function } K_{0}(x) \\ \text{Modified Bessel function } K_{1}(x) \\ \text{Modified Bessel function } I_{\nu+a}(z), \, \text{real } a \geq \dots \\ \text{Modified Bessel functions } K_{\nu+a}(z), \, \text{real } a \geq \dots \\ \text{Modified Bessel functions } K_{\nu+a}(z), \, \text{real } a \geq \dots \\ \end{array}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S18CEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S18CFF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S18CCF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S18CCF
S18CDF
S18AEF
S18AFF
S18ACF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S18DEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S18DCF
All zeros of complex polynomial, modified Laguerre method
All zeros of real polynomial, modified Laguerre method
Minimum, function of several variables, modified Newton algorithm, simple bounds, using 1st and...
Minimum, function of several variables, modified Newton algorithm, simple bounds, using 1st and...
Minimum, function of several variables, modified Newton algorithm, simple bounds, using 1st...
Minimum, function of several variables, modified Newton algorithm, simple bounds, using 1st...
minimum of a sum of squares, combined Gauss-Newton and modified Newton algorithm using 1st derivatives...
minimum of a sum of squares, combined Gauss-Newton and modified Newton algorithm using 2nd derivatives...
minimum of a sum of squares, combined Gauss-Newton and modified Newton algorithm, using 2nd derivatives...
minimum of a sum of squares, combined Gauss-Newton and modified Newton algorithm using 2nd derivatives...
minimum of a sum of squares, combined Gauss-Newton and modified Newton algorithm using function values only...
Interpolating functions, modified Shepard's method, two variables
Inverse Laplace transform, modified Weeks' method
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C02AFF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C02AGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         E04LBF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         E04LYF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        E04KDF
E04KZF
E04GDF
E04GZF
E04HEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         E04HYF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         E04FCF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         E04FYF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         E01SGE
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Modulus of a complex number
                                                                                                                                                                                                                                                                                                                                                                                            A02ABF
              ...of finite difference equations by SIP, five-point 2-D molecule, iterate to convergence ...finite difference equations by SIP, seven-point 3-D molecule, iterate to convergence ...of finite difference equations by SIP, five-point 2-D molecule, one iteration ...of finite difference equations by SIP, seven-point 3-D molecule, one iteration
                                                                                                                                                                                                                                                                                                                                                                                            D03ECF
                                                                                                                                                                                                                                                                                                                                                                                            D03UAF
                                                                                                                                                                                                                                                                                                                                                                                            D03UBF
                                                                                                                           Pearson product-moment correlation coefficients, all variables,...
Pearson product-moment correlation coefficients, all variables, no...
Pearson product-moment correlation coefficients, all variables,...
Pearson product-moment correlation coefficients, subset of variables,...
Pearson product-moment correlation coefficients, subset of variables,...
Pearson product-moment correlation coefficients, subset of variables,...
                                                                                                                                                                                                                                                                                                                                                                                            G02BBF
                                                                                                                                                                                                                                                                                                                                                                                            G02BAF
G02BCF
G02BHF
                                                                                                                                                                                                                                                                                                                                                                                            G02BGF
                                                                                                                                                                                                                                                                                                                                                                                            G02BJF
                                                                                                                               Cumulants and moments of quadratic forms in Normal variables
                                                                                                                                                                                                                                                                                                                                                                                           G01NAF
                                                                                                                                                                           \mathbf{Moments} \ \mathrm{of} \ \mathrm{ratios} \ \mathrm{of} \ \mathrm{quadratic} \ \mathrm{forms} \ \mathrm{in} \ \mathrm{Normal...}
                                                                                                                                                                                                                                                                                                                                                                                            G01NBF
                                                                                                                                                                                                                                                                                                                                                                                            E01BEF
                                                                                                       Interpolating functions, monotonicity-preserving, piecewise cubic Hermite, one...
                        Multi-dimensional quadrature over hyper-rectangle, Monte Carlo method
                                                                                                                                                                                                                                                                                                                                                                                            D01GBF
                                                                                                                                                                           Mood's and David's tests on two samples of unequal size
                                                                                                                                                                                                                                                                                                                                                                                           G13DXF
                             Calculates the zeros of a vector autoregressive (or moving average) operator
                                                                                                                                                Interpret MPSX data file defining IP or LP problem, optimize and... Converts MPSX data file defining IP or LP problem to format... Converts MPSX data file defining LP or QP problem to format...
                                                                                                                                                                                                                                                                                                                                                                                            H02BFF
                                                                                                                                                                                                                                                                                                                                                                                            E04MZF
                                                                                                                                                                            Multi-dimensional adaptive quadrature over...
Multi-dimensional adaptive quadrature over...
Multi-dimensional complex discrete Fourier transform of...
                                                                                                                                                                                                                                                                                                                                                                                            D01FCF
                                                                                                                                                                                                                                                                                                                                                                                            D01EAF
C06FJF
                                                   1-D complex discrete Fourier transform of multi-dimensional data
                                                                                                                                                                                                                                                                                                                                                                                            C06FFF
          Multi-dimensional complex discrete Fourier transform of multi-dimensional data
                                                                                                                                                                                                                                                                                                                                                                                            C06FJF
                                                                                                                                                                           Multi-dimensional Gaussian quadrature over...
Multi-dimensional quadrature, general product region,...
Multi-dimensional quadrature, general product region,...
Multi-dimensional quadrature over an n-simplex
Multi-dimensional quadrature over nn n-sphere,...
Multi-dimensional quadrature over hyper-rectangle,...
Multi-dimensional quadrature, Sag-Szekeres method,...
                                                                                                                                                                                                                                                                                                                                                                                            D01FBF
                                                                                                                                                                                                                                                                                                                                                                                            D01GDF
D01GDF
D01PAF
D01JAF
                                                                                                                                                                                                                                                                                                                                                                                           D01FDF
                            ...PDE, solution of finite difference equations by a multigrid technique
                                                                                                                                                                                                                                                                                                                                                                                           D03EDF
                   Multivariate time series, estimation of multi-input model ...time series, update state set for forecasting from multi-input model Multivariate time series, forecasting from state set of multi-input model ...series, state set and forecasts from fully specified multi-input model
                                                                                                                                                                                                                                                                                                                                                                                            G13BEF
                                                                                                                                                                                                                                                                                                                                                                                             G13BGF
                                                                                                                                                                                                                                                                                                                                                                                           G13BHF
G13BJF
                                                                                                                                                                             Multiple 1-D complex discrete Fourier transforms
                                                                                                                                                                                                                                                                                                                                                                                            C06FRF
                                                                                                                                                                             {\bf Multiple~1\text{-}D~Hermitian~discrete~Fourier~transforms} \\ {\bf Multiple~1\text{-}D~real~discrete~Fourier~transforms}
                                                                                                                                                                                                                                                                                                                                                                                            C06FPF
                                              Complex\ conjugate\ of\ \textbf{multiple}\ Hermitian\ sequences\\ ... adaptive\ quadrature\ over\ hyper-rectangle,\ \textbf{multiple}\ integrands
                                                                                                                                                                                                                                                                                                                                                                                            C06GOF
                                                                                                                                                                                                                                                                                                                                                                                            D01EAF
                                                                                                                                                                            Multiple linear regression, from correlation...
Multiple linear regression, from correlation-like...
Service routines for multiple linear regression, from correlation-like...

Service routines for multiple linear regression model

Service routines for multiple linear regression, re-order elements of...

Service routines for multiple linear regression, re-order elements of...

Service routines for multiple linear regression, select elements from...

Solution of real simultaneous linear equations with multiple right-hand sides (Black Box)

...bounds of complex syntem of linear equations, multiple right-hand sides (Black Box)

...bounds of complex system of linear equations, multiple right-hand sides (CGRFS/ZGERFS)

...Hermitian indefinite system of linear equations, multiple right-hand sides (CGRFS/ZGERFS)

...Hermitian positive-definite band system of linear equations, multiple right-hand sides (CGRFS/ZGERFS)

...bounds of complex syntem of linear equations, multiple right-hand sides (CGRFS/ZFS/RFS)

...bounds of complex band triangular system of linear equations, multiple right-hand sides (CGRFS/ZFS/RFS)

...of complex band triangular system of linear equations, multiple right-hand sides (CGRFS/ZFS/TFS)

...of complex band triangular system of linear equations, multiple right-hand sides (CGTRFS/ZTBFS)

...of complex triangular system of linear equations, multiple right-hand sides (CGTRFS/ZTBFS)

...of complex triangular system of linear equations, multiple right-hand sides (CGTRFS/ZTBFS)

...of complex triangular system of linear equations, multiple right-hand sides (CGTRFS/ZTBFS)

...of complex band system of linear equations, multiple right-hand sides, (CGTRFS/ZTBFS)

...of complex band system of linear equations, multiple right-hand sides, matrix already factorized by...

Solution of complex system of linear equations, multiple right-hand sides, matrix already factorized by...

...symmetric positive-definite system of linear equations, multiple right-hand sides, matrix already factorized by...

...positive-definite band system of linear equations, multiple right-hand sides, matrix already factorized by...

                                                                                                                                 Fits a general (multiple) linear regression model
                                                                                                                                                                                                                                                                                                                                                                                            G02DAF
                                                                                                                                                                                                                                                                                                                                                                                            G02CFF
                                                                                                                                                                                                                                                                                                                                                                                            G02CEF
                                                                                                                                                                                                                                                                                                                                                                                            F04AAF
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F04ACF
F04ADF
F07BVF
F07AVF
                                                                                                                                                                                                                                                                                                                                                                                            F06ZJF
                                                                                                                                                                                                                                                                                                                                                                                            F07HVF
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F07FVF
F07NVF
F07VSF
F07TVF
F07TSF
F07AEF
                                                                                                                                                                                                                                                                                                                                                                                           F07AEF
F07ASF
F07BEF
F07BSF
F07FEF
F07FSF
F07GEF
                                                                                                                                                                                                                                                                                                                                                                                            F07GSF
                                                                                                                                                                                                                                                                                                                                                                                            F07HEF
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F07MSF
F07NSF
F07PEF
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                                                                                                                                                                                                                                                                                                                                                                                            F07OSF
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F07QVF
F07UVF
F07USF
F07GHF
F07PHF
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                                                                                                                                                                                                                                                                                                                                                                                            F07UEF
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                                                                                                                                                                                                                                                                                                                                                                                            F07BHF
F07AHF
F07HHF
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                                                                                                                                                                                                                                                                                                                                                                                            F07MHF
F07VHF
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                                                                                                                                                                                                                                                                                                                                                                                            F07THF
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KWIC.26 [NP3086/18/pdf]

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Solution of real simultaneous linear equations with multiple right-hand sides using iterative refinement... Multivariate time series, multiple squared partial autocorrelations
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F04AEF
G13DBF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F01CKF
                                                                                                                                                                                                      Matrix multiplication
                                                                                                                                                                                                                                Multiply complex vector by complex diagonal matrix Multiply complex vector by complex scalar (CSCAL/ZSCAL) Multiply complex vector by complex scalar, preserving... Multiply complex vector by real diagonal matrix Multiply complex vector by real scalar (CSSCAL/ZDSCAL) Multiply complex vector by real scalar, preserving...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F06HCF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     F06GDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  F06GDF
F06HDF
F06KCF
F06JDF
F06KDF
                                                                                    Real sparse unsymmetric matrix vector multiply
Real sparse symmetric matrix vector multiply
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  F11XEF
                                                                                                                                                                                                                                  Multiply real vector by diagonal matrix
Multiply real vector by scalar, preserving input vector
Multiply real vector by scalar (SSCAL/DSCAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F06FCF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    F06EDF
                                                                                                                  Computes probabilities for the multivariate Normal distribution
Set up reference vector for multivariate Normal distribution
Pseudo-random multivariate Normal vector from reference vector
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   G01HBF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  G05EAF
G05EZF
                                                                                                                                                                                                                                Multivariate time series, cross amplitude spectrum,...
Multivariate time series, cross-correlations
Multivariate time series, diagnostic checking of...
Multivariate time series, differences and/or transforms...
Multivariate time series, estimation of multi-input...
Multivariate time series, estimation of VARMA model
Multivariate time series, filtering by a transfer...
Multivariate time series, filtering (pre-whitening) by...
Multivariate time series, forecasting from state set of...
Multivariate time series, forecasts and their standard...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   G13CEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    G13BCF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  G13BCF
G13DSF
G13DLF
G13BEF
G13DCF
G13BBF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   G13BAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    G13BHF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  G13DJF
                                                                                                                              Generates a realisation of a multivariate time series from a VARMA model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  G05HDF
                                                                                                                                                                                                                               Multivariate time series, gain, phase, bounds,...
Multivariate time series, multiple squared partial...
Multivariate time series, noise spectrum, bounds,...
Multivariate time series, partial autoregression...
Multivariate time series, preliminary estimation of...
Multivariate time series, sample cross-correlation or...
Multivariate time series, sample partial lag...
Multivariate time series, smoothed sample cross...
Multivariate time series, smoothed sample cross...
Multivariate time series, state set and forecasts from...
Multivariate time series, update state set for...
Multivariate time series, update state set and their...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   G13CFF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  G13DBF
G13CGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   G13DPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   G13BDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   G13DMF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  G13DMF
G13DNF
G13CCF
G13CDF
G13BJF
G13BGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  G13DKF
                                                       ODEs, IVP, interpolation for D02M-N routines, natural interpolant ODEs, IVP, interpolation for D02M-N routines, natural interpolant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   D02MZF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   D02XJF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FOSHGE
                    ...reference vector for generating pseudo-random integers, negative binomial distribution
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   G05EEF
                                                    Pseudo-random\ real\ numbers,\ (\textbf{negative})\ exponential\ distribution\\ Generates\ a\ vector\ of\ random\ numbers\ from\ an\ (\textbf{negative})\ exponential\ distribution
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  G05DBF
G05FBF
                                                                                                                                                                                              Last non-negligible element of real vector
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F06KLF
Last non-negligible element of real vector

Minimum, function of several variables, modified Newton algorithm, simple bounds, using 1st and 2nd...

Minimum, function of several variables, modified Newton algorithm, simple bounds, using 1st and 2nd...

Minimum, function of several variables, modified Newton algorithm, simple bounds, using 1st derivatives...

Minimum, function of several variables, quasi-Newton algorithm, simple bounds, using 1st derivatives...

Minimum, function of several variables, quasi-Newton algorithm, simple bounds, using 1st derivatives...

Minimum, function of several variables, quasi-Newton algorithm, simple bounds, using 1st derivatives...

Minimum, function of several variables, quasi-Newton algorithm, simple bounds, using function values...

of a sum of squares, combined Gauss-Newton and quasi-Newton algorithm using 1st derivatives (comprehensive)

of a sum of squares, combined Gauss-Newton and quasi-Newton algorithm, using 1st derivatives (comprehensive)

of a sum of squares, combined Gauss-Newton and modified Newton algorithm, using 2nd derivatives (easy-to-use)

of a sum of squares, combined Gauss-Newton and modified Newton algorithm, using 2nd derivatives (comprehensive)

of a sum of squares, combined Gauss-Newton and modified Newton algorithm, using 2nd derivatives (easy-to-use)

of a sum of squares, combined Gauss-Newton and modified Newton algorithm using function values only...

of a sum of squares, combined Gauss-Newton and modified Newton algorithm using 1st...

Unconstrained minimum of a sum of squares, combined Gauss-Newton and modified Newton algorithm using 1st...

Unconstrained minimum of a sum of squares, combined Gauss-Newton and modified Newton algorithm using 1st...

Unconstrained minimum of a sum of squares, combined Gauss-Newton and modified Newton algorithm using 1st...

Unconstrained minimum of a sum of squares, combined Gauss-Newton and modified Newton algorithm using 1st derivatives...

Unconstrained minimum of a sum of squares, combined Gauss-Newton and modi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   E04LBF
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E04HEF
E04HYF
E04FCF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   E04HYF
E04FCF
E04FYF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   E04GYF
                                                                                                                                        Multivariate time series, noise spectrum, bounds, impulse response function and...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  G13CGF
                                                                                                                                                                      1-D quadrature, {f non-adaptive}, finite interval 1-D quadrature, {f non-adaptive}, finite interval with provision for...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   D01BDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   D01ARF
                                                                                                                  Computes probabilities for the non-central beta distribution Computes probabilities for the non-central F-distribution Computes probabilities for the non-central Student's t-distribution Computes probabilities for the non-central \chi^2 distribution
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   G01GEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   G01GDF
G01GBF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   G01GCF
                              ODEs, general nonlinear boundary value problem, collocation technique
ODEs, general nonlinear boundary value problem, continuation facility...
ODEs, general nonlinear boundary value problem, diagnostics for...
ODEs, general nonlinear boundary value problem, finite difference..
ODEs, general nonlinear boundary value problem, interpolation for...
ODEs, general nonlinear boundary value problem, set-up for D02TKF
Minimum of a sum of squares, nonlinear constraints, sequential QP method, using...
...function of several variables, sequential QP method, nonlinear constraints, using function values and...
...function of several variables, sequential QP method, nonlinear constraints, using function values and...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    D02TKF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   D02TXF

D02TZF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   D02RAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   D02TYF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    D02TVF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    E04UNF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  D05BEF
D05BDF
                                                                                                                                                                                                                                Nonlinear convolution Volterra-Abel equation, 1st kind,...
Nonlinear convolution Volterra-Abel equation, 2nd kind,...
                                                                                                                                                Solution of system of nonlinear equations using 1st derivatives...
Solution of systems of nonlinear equations using 1st derivatives (easy-to-use)
Solution of systems of nonlinear equations using 1st derivatives (reverse...
Solution of system of nonlinear equations using function values only...
Solution of system of nonlinear equations using function values only...
Solution of systems of nonlinear equations using function values only (reverse...
Covariance matrix for nonlinear least-squares problem
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C05PCF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    C05PBF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C05PBF
C05PDF
C05NCF
C05NBF
C05NDF
E04YCF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   E04
                                                                                                                                                                                                                                Nonlinear optimization
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...difference technique with deferred correction, simple nonlinear problem
                                                                                                                                              {\bf Nonlinear} \ {\bf regression} \\ {\bf Nonlinear} \ {\bf Volterra} \ {\bf convolution} \ {\bf equation}, \ {\bf 2nd} \ {\bf kind}
                                                                                                                                                                                                                                                                                                                                        E04
D05BAF
                                                                                                                                                                                                                                                                                                                                        G03FCF
                                                                                                                    Performs non-metric (ordinal) multidimensional scaling
                                                                                                                                Last non-negligible element of real vector
                                                                                                                                                                                                                                                                                                                                        F06KLF
                                                                                            Kendall/Spearman non-parametric rank correlation coefficients, casewise...
Kendall/Spearman non-parametric rank correlation coefficients, casewise...
Kendall/Spearman non-parametric rank correlation coefficients, no...
                                                                                                                                                                                                                                                                                                                                        G02BPF
                                                                                                                                                                                                                                                                                                                                         G02BRF
G02BNF
                                                                                            Kendall/Spearman non-parametric rank correlation coefficients, no...
                                                                                            Kendall/Spearman non-parametric rank correlation coefficients, pairwise...
                                                                                                                                                                                                                                                                                                                                        G02BSF
                                                                                                                                             Non-parametric tests
                                                                                                                                                                                                                                                                                                                                        G08
    Initialise random number generating routines to give {\bf non-repeatable} sequence
                                                                                                                                                                                                                                                                                                                                        G05CCF
                                               Univariate time series, seasonal and non-seasonal differencing
                                                                                                                                                                                                                                                                                                                                        G13AAF
                                                                                                                           Linear non-singular Fredholm integral equation, 2nd kind,...
Linear non-singular Fredholm integral equation, 2nd kind,...
                                                                                                                                              Norm estimation (for use in condition estimation),...
                                                                                                                                              Norm estimation (for use in condition estimation), real...
                                                                                                              Norm estimation (for use in condition estimation), real...

1-norm, ∞-norm, Frobenius norm, largest absolute element, complex...

1-norm, ∞-norm, Frobenius norm, largest absolute element, real...

1-norm, ∞-norm, Frobenius norm, largest absolute element, real...
                                                                                                                                                                                                                                                                                                                                        F06UBF
                                                                                                                                                                                                                                                                                                                                        F06UBF
F06UAF
F06UEF
F06UCF
F06UMF
F06UHF
F06UFF
                                                                                                                                                                                                                                                                                                                                        F06UGF
                                                                                                                                                                                                                                                                                                                                        F06UGF
F06UJF
F06ULF
F06RBF
F06RAF
F06RMF
                                                                                                                                                                                                                                                                                                                                        F06REF
                                                                                                                                                                                                                                                                                                                                        F06BCF
                                                                                                                                                                                                                                                                                                                                        F06RDF
F06RJF
F06RLF
F06RKF
                                                                  F06BMF
                                                                                         Compute Euclidean norm from scaled form
                                                                                                                                                                                                                                                                                                                                        F06UBF
                                                                                                                                                                                                                                                                                                                                         F06UAF
                                                                                                                                                                                                                                                                                                                                         F06UEF
                                                                                                                                                                                                                                                                                                                                        F06UEF
F06UDF
F06UMF
F06UHF
                                                                                                                                                                                                                                                                                                                                        F06UFF
                                                                                                                                                                                                                                                                                                                                        F06UGF
                                                                                                                                                                                                                                                                                                                                        F06UJF
                                                                                                                                                                                                                                                                                                                                        F06ULF
                                                                                                                                                                                                                                                                                                                                        F06UKF
F06RBF
F06RAF
F06RMF
                                                                                                                                                                                                                                                                                                                                        F06REF
                                                                                                                                                                                                                                                                                                                                        F06RCF
                                                                                                                                                                                                                                                                                                                                        F06RDF
                                                                                                                                                                                                                                                                                                                                        F06RJF
F06RLF
F06RKF
F06UBF
                                                                                                                                                                                                                                                                                                                                        F06UAF
                                                                                                                                                                                                                                                                                                                                        F06UEF
                                                                                                                                                                                                                                                                                                                                        F06UCF
                                                                                                                                                                                                                                                                                                                                        F06UDE
                                                                                                                                                                                                                                                                                                                                        F06UDF
F06UMF
F06UHF
F06UFF
F06UGF
                                                                                                                                                                                                                                                                                                                                        F06ULF
                                                                                                                                                                                                                                                                                                                                        F06UKF
                                                                                                                                                                                                                                                                                                                                        F06UKF
F06RBF
F06RAF
F06RMF
F06REF
F06RCF
                                                                                                                                                                                                                                                                                                                                        F06RDF
                                                                                                                                                                                                                                                                                                                                        F06BJF
                                                                                                                                                                                                                                                                                                                                        F06RLF
F06RKF
                                                                Update Euclidean norm of complex vector in scaled form
Compute Euclidean norm of complex vector (SCNRM2/DZNRM2)
ODEs, IVP, weighted norm of local error estimate for D02M-N routines
Compute weighted Euclidean norm of real vector
Update Euclidean norm of real vector in scaled form
Compute Euclidean norm of real vector (SNRM2/DNRM2)
                                                                                                                                                                                                                                                                                                                                        F06KJF
                                                                                                                                                                                                                                                                                                                                         F06FKF
                                                                                                                                                                                                                                                                                                                                         F06FJF
                                                                                                                                                                                                                                                                                                                                        F06EJF
 ...maximum likelihood estimates for parameters of the Normal distribution from grouped and/or censored data
                                                                                                                                                                                                                                                                                                                                        G07BBF
                                                                       Cumulative normal distribution function P(x)
Complement of cumulative normal distribution function Q(x)
              Computes probabilities for the standard Normal distribution
Computes deviates for the standard Normal distribution
Computes probability for the bivariate Normal distribution
Computes probabilities for the multivariate Normal distribution
Pseudo-random real numbers, Normal distribution
Set up reference vector for multivariate Normal distribution
Generates a vector of random numbers from a Normal distribution
Fits a generalized linear model with Normal errors
...statistic for a difference in means between two Normal populations, confidence interval
Normal scores, accurate values
                                                                                                                                                                                                                                                                                                                                        G01HAF
                                                                                                                                                                                                                                                                                                                                        G01HBF
                                                                                                                                                                                                                                                                                                                                        G05DDF
                                                                                                                                                                                                                                                                                                                                         GOSEAE
                                                                                                                                                                                                                                                                                                                                        G05EAF
G05FDF
G02GAF
G07CAF
G01DAF
                                                                                                                         Normal scores, accurate values
Ranks, Normal scores, approximate Normal scores or exponential...
                                                                                                                                                                                                                                                                                                                                        G01DHF
```

KWIC.28 [NP3086/18/pdf]

```
Normal scores, approximate values
Normal scores, approximate variance-covariance matrix
Lineprinter scatterplot of one variable against Normal scores
Ranks, Normal scores, approximate Normal scores or exponential (Savage) scores
Moments of ratios of quadratic forms in Normal variables, and related statistics
Cumulants and moments of quadratic forms in Normal variables
Pseudo-random multivariate Normal vector from reference vector
                                                                                                                                                                                                                                                                                                                                                                                      G01AHF
                                                                                                                                                                                                                                                                                                                                                                                      G01DHF
                                                                                                                                                                                                                                                                                                                                                                                      G01NBF
                                                                                                                                                                                                                                                                                                                                                                                      G01NAF
                                                                                Shapiro and Wilk's W test for Normality
                                                                                                                                                                                                                                                                                                                                                                                      G01DDF
                                                                                                                                                                       Numerical differentiation, derivatives up to order 14,\dots
                                                                                                                                                                                                                                                                                                                                                                                     D04AAF
Estimate (using numerical differentiation) gradient and/or Hessian of a...
...coupled DAEs, method of lines, upwind scheme using numerical flux function based on Riemann solver, one...
...conservative form, method of lines, upwind scheme using numerical flux function based on Riemann solver, one...
...coupled DAEs, method of lines, upwind scheme using numerical flux function based on Riemann solver,...
                                                                                                                                                                                                                                                                                                                                                                                      E04XAF
                                                                                                                                                                                                                                                                                                                                                                                      D03PLF
                                                                                                                                                                                                                                                                                                                                                                                      D03PFF
                                                                                                                                                                                                                                                                                                                                                                                     D03PSF
                                                                                                                                                                       Numerical integration
                                                                                                                                                                                                                                                                                                                                                                                     D01
                                                               2nd order ODEs, IVP, Runge-Kutta-Nystrom method
                                                                                                                                                                                                                                                                                                                                                                                     D02LAF
                \label{lem:poly} \begin{tabular}{ll} Up date a weighted sum of squares matrix with a new {\bf observation} \\ Add/delete an {\bf observation} \ to/from a general linear regression model \\ \end{tabular} 
                                                                                                                                                                                                                                                                                                                                                                                     G02BTF
G02DCF
                                                                                                              give ordered distinct observations
Allocates observations to groups according to selected rules (for...

nth order linear ODEs, boundary value problem, collocation and...

ODEs, boundary value problem, collocation and...

ODEs, boundary value problem, finite difference...

ODEs, boundary value problem, finite difference...

ODEs, boundary value problem, shooting and matching,...

ODEs, boundary value problem, shooting and matching...

ODEs, boundary value problem, shooting and matching...

ODEs, boundary value problem, shooting and matching...

ODEs, general nonlinear boundary value problem,...

ODEs, general nonlinear boundary value problem, set-up...

ODEs, general nonlinear boundary value problem,...

ODEs, IVP, Adams method until function of solution is...

ODEs, IVP, Adams method with root-finding (forward...

ODEs, IVP, BDF method, set-up for D02M-N routines

ODEs, IVP, BDF method, set-up for D02M-N routines

ODEs, IVP, BDF method, set-up for D02M-N routines

ODEs, IVP, DASSL method, set-up for D02M-N routines

ODEs, IVP, diagnostics for D02QGF

ODEs, IVP, diagnostics for D02QFF and D02QGF

ODEs, IVP, for use with D02M-N routines, full Jacobian,...

ODEs, IVP, for use with D02M-N routines, full Jacobian,...

ODEs, IVP, for use with D02M-N routines, sparse...

ODEs, IVP, integration diagnostics for D02PCF and...

ODEs, IVP, integration diagnostics for D02PCF and...

ODEs, IVP, integration for D02M-N routines, sparse...

ODEs, IVP, interpolation for D02M-N routines, sparse...

ODEs, IVP, interpolation for D02M-N routines, natural...

ODEs, IVP, interpolation for D02M-N routines, natural...

ODEs, IVP, interpolation for D02M-N routines, natural...

ODEs, IVP, we will not be a substance of D02PCF and D0
                                                            Reorder data to give ordered distinct observations
                                                                                                                                                                                                                                                                                                                                                                                      G10ZAF
                                                                                                                                           Allocates observations to groups according to selected rules (for...
                                                                                                                                                                                                                                                                                                                                                                                      D02TGF
                                                                                                                                                                                                                                                                                                                                                                                      D02JAF
D02JBF
D02GBF
                                                                                                                                                                                                                                                                                                                                                                                      D02GAF
                                                                                                                                                                                                                                                                                                                                                                                      D02HAF
                                                                                                                                                                                                                                                                                                                                                                                      D02HBF
                                                                                                                                                                                                                                                                                                                                                                                     D02HBF
D02AGF
D02SAF
D02TKF
D02TXF
                                                                                                                                                                                                                                                                                                                                                                                      \begin{array}{c} {\rm D02RAF} \\ {\rm D02TYF} \end{array}
                                                                                                                                                                                                                                                                                                                                                                                     D02TYF
D02TVF
D02CJF
D02QFF
D02QGF
D02NVF
D02NWF
                                                                                                                                                                                                                                                                                                                                                                                      D02MVF
                                                                                                                                                                                                                                                                                                                                                                                      D02LYF
                                                                                                                                                                                                                                                                                                                                                                                     D02LYF
D02QXF
D02PZF
D02NTF
D02NSF
D02NRF
                                                                                                                                                                                                                                                                                                                                                                                      D02NUF
                                                                                                                                                                                                                                                                                                                                                                                      D02PYF
                                                                                                                                                                                                                                                                                                                                                                                     D02NYF
                                                                                                                                                                                                                                                                                                                                                                                      DO2LZE
                                                                                                                                                                                                                                                                                                                                                                                     D02LZF
D02XKF
D02MZF
D02XJF
D02PXF
D02QZF
                                                                                                                                                                                                                                                                                                                                                                                      D02PWF
                                                                                                                                                                                                                                                                                                                                                                                      D02QYF
                                                                                                                                                                                                                                                                                                                                                                                      D02PDF
                                                                                                                                                                                                                                                                                                                                                                                      D02FDF
D02PCF
D02BJF
D02BGF
D02BHF
                                                                                                                                                                                                                                                                                                                                                                                      D02LAF
                                                                                                                                                                                                                                                                                                                                                                                      D02NZF
                                                                                                                                                                                                                                                                                                                                                                                     D02NZF
D02LXF
D02PVF
D02QWF
D02NXF
D02ZAF
D02NCF
D02NHF
                                                                                                                                                                                                                                                                                                                                                                                      D02EJF
                                                                                                                                                                                                                                                                                                                                                                                      D02NBF
                                                                                                                                                                                                                                                                                                                                                                                      D02NGF
                                                                                                                                                                                                                                                                                                                                                                                     D02NGF
D02NMF
D02NNF
D02NDF
D02NJF
                                                                               Computes probabilities for the one-sample Kolmogorov-Smirnov distribution
Performs the one-sample Kolmogorov-Smirnov test for a user-supplied...
Performs the one-sample Kolmogorov-Smirnov test for standard...
Performs the Wilcoxon one-sample (matched pairs) signed rank test
                                                                                                                                                                                                                                                                                                                                                                                      G01EYF
                                                                                                                                                                                                                                                                                                                                                                                      G08CBF
                                                                                                                            Kruskal-Wallis one-way analysis of variance on k samples of unequal...
                                                                                                                                                                                                                                                                                                                                                                                      G08AFF
                                                                                                                                                                         Operations Research
                                                                                                                                                                       Operations with orthogonal matrices, form rows of Q,...
Operations with unitary matrices, form rows of Q,...
                                                                                                                                                                                                                                                                                                                                                                                      F01QKF
                                                                                                                                                                                                                                                                                                                                                                                     F01RKF
             ...zeros of a vector autoregressive (or moving average) operator
                                                                                                                                                                                                                                                                                                                                                                                     G13DXF
                                                                                                                                             Korobov optimal coefficients for use in D01GCF or D01GDF, when...
Korobov optimal coefficients for use in D01GCF or D01GDF, when...
                                                                                                                                                                                                                                                                                                                                                                                      D01GYF
                                                                                                                                                                                                                                                                                                                                                                                      D01GZF
                                                                                                                                                                                                                                                                                                                                                                                      E04
                                                                                                                                          Nonlinear optimization
                                                                                                            Reorder data to give ordered distinct observations
                                                                                                                                                                                                                                                                                                                                                                                      G10ZAF
                                                                                                          Performs non-metric (ordinal) multidimensional scaling
                                                                                                                                                                                                                                                                                                                                                                                     G03FCF
                                                                                                                          Operations with orthogonal matrices, form rows of Q, after RQ...
                                                                                                                                                                                                                                                                                                                                                                                      F01QKF
                                                                                                                 Computes random orthogonal matrix Computes random orthogonal matrix Computes orthogonal polynomials or dummy variables for... Form all or part of orthogonal Q from LQ factorization determined by... Form all or part of orthogonal Q from QR factorization determined by...
                                                                                                                                                                                                                                                                                                                                                                                     G05GAF
G04EAF
F08AJF
F08AFF
```

```
Orthogonal reduction of real general matrix to upper.
                                                                                                                                                                                            Orthogonal reduction of real general rectangular matrix...
Orthogonal reduction of real symmetric band matrix to...
Orthogonal reduction of real symmetric matrix to...
Orthogonal reduction of real symmetric matrix to...
                                                                                                                                                                                                                                                                                                                                                                                                                           F08HEF
                                                                                                                                                                                                                                                                                                                                                                                                                           F08GEF
                                                                                                                                                                                                                                                                                                                                                                                                                          F08FEF
                                                                                                                                                            Computes \ \mathbf{orthogonal} \ \operatorname{rotations} \ \operatorname{for} \ \operatorname{loading} \ \operatorname{matrix}, \ \operatorname{generalized} \ldots
                                                                                                                                                                                                                                                                                                                                                                                                                         G03BAF
                                                                                                                                                                                            Orthogonal similarity transformation of a real...
                                                                                                                                                                                                                                                                                                                                                                                                                          F06QMF
                                        Reorder\ Schur\ factorization\ of\ real\ matrix\ using\ \textbf{orthogonal}\ similarity\ transformation\ (STREXC/DTREXC)
                                                                                                                                                                                                                                                                                                                                                                                                                           F08QFF
                                                                                                                                                             trix using orthogonal similarity transformation (STREXC/DTREXC)
Apply orthogonal transformation determined by F08AEF or...
Apply orthogonal transformation determined by F08AHF...
Apply orthogonal transformation determined by F08FEF...
Apply orthogonal transformation determined by F08GEF...
Generate orthogonal transformation matrics from reduction to...
Apply orthogonal transformation matrix from reduction to...
Apply orthogonal transformation matrix from reduction to...
Generate orthogonal transformation matrix from reduction to...
Apply orthogonal transformation matrix from reduction to...
Apply orthogonal transformation form reduction to...
Apply orthogonal transformation form reduction to bidiagonal...
                                                                                                                                                                                                                                                                                                                                                                                                                          F08AGF
F08AKF
                                                                                                                                                                                                                                                                                                                                                                                                                          F08FGF
                                                                                                                                                                                                                                                                                                                                                                                                                          F08GGF
                                                                                                                                                                                                                                                                                                                                                                                                                          FOSKEF
                                                                                                                                                                                                                                                                                                                                                                                                                         F08NFF
F08NGF
F08FFF
                                                                                                                                                                                                                                                                                                                                                                                                                         F08KGF
                                                                                                                                            Gram-Schmidt orthogonalisation of n vectors of order m
                                                                                                                                                                                                                                                                                                                                                                                                                         F05AAF
                      ...orthogonal rotations for loading matrix, generalized orthomax criterion
                                                                                                                                                                                                                                                                                                                                                                                                                          G03BAF
                                                   adaptive, finite interval, method suitable for oscillating functions
                                                                                                                                                                                                                                                                                                                                                                                                                          D01AKF
                                                                                                                                                                                            Osher's approximate Riemann solver for Euler equations...
                                                                                                                                                                                                                                                                                                                                                                                                                          D03PVF
                                         Compute quotient of two real scalars, with overflow flag Compute quotient of two complex scalars, with overflow flag
Cumulative normal distribution function P(x)

Cumulative normal distribution function P(x)

Convert complex matrix between packed banded and rectangular storage schemes Convert complex matrix between packed banded and rectangular storage schemes Print a complex packed banded matrix (comprehensive)

Matrix-wector product, complex triangular packed matrix (CIFBY/ZIPMY)

Matrix-vector product, complex triangular packed matrix (CIFBY/ZIPMY)

System of equations, complex triangular packed matrix (CIFBY/ZIPMY)

Matrix-vector product, complex triangular packed matrix (CIFBY/ZIPMY)

System of equations, complex triangular packed matrix (CIFBY/ZIPMY)

Matrix-vector product, complex triangular packed matrix (CIFBY/ZIPMY)

Matrix-vector product, real triangular packed matrix (CIFBY/ZIPMY)

System of equations, real triangular packed matrix (CIFBY/ZIPMY)

Matrix-vector product, real triangular packed matrix (CIFBY/ZIPMY)

System of equations, real triangular packed matrix (CIFBY/ZIPMY)

Matrix-vector product, real triangular packed matrix (CIFBY/ZIPMY)

Matrix-vector product, real triangular packed matrix (CIFBY/ZIPMY)

System of equations, real triangular packed matrix (CIFBY/ZIPMY)

Matrix-vector product, real triangular packed matrix (CIFBY/ZIPMY)

System of equations, matrix triangular matrix, matrix already factorized by FOTGEP, packed storage (CIPPTRS/ZIPFTRD)

Matrix-vector product, real triangular matrix, packed storage (CIPPTRS/ZIPFTRD)

Matrix-vector product, real triangular matrix, packed storage (CIPPTRS/ZIPFTRD)

Matrix-vector product, real triangular matrix, packed storage (CIPPTRS/ZIPTRD)

Matrix-vector product, real triangular matrix, packed storage (CIPPTRS/ZIPTRD)

Matrix-vector product, real triangular matrix, packed storage (CIPPTRS/ZIPTRD)

Matrix-vector product, real triangular matrix, pac
                                                                                                Incomplete gamma functions P(a, x) and Q(a, x)
                                                                                                                                                                                                                                                                                                                                                                                                                         S14BAF
                                                             Cumulative normal distribution function P(x)
                                                                                                                                                                                                                                                                                                                                                                                                                         S15ABF
                                                                                                                                                                                                                                                                                                                                                                                                                          F01ZCF
                                                                                                                                                                                                                                                                                                                                                                                                                          F01ZCF
F01ZDF
X04CFF
X04DFF
X04CEF
                                                                                                                                                                                                                                                                                                                                                                                                                          X04DEF
                                                                                                                                                                                                                                                                                                                                                                                                                          F06SEF
                                                                                                                                                                                                                                                                                                                                                                                                                          F06SSF
                                                                                                                                                                                                                                                                                                                                                                                                                         F06SSF
F06SQF
F06SHF
F06SLF
F06PEF
F06PSF
                                                                                                                                                                                                                                                                                                                                                                                                                          F06PQF
                                                                                                                                                                                                                                                                                                                                                                                                                          F06PHF
                                                                                                                                                                                                                                                                                                                                                                                                                           F06PLF
                                                                                                                                                                                                                                                                                                                                                                                                                         F06PLF
F08TEF
F08TSF
F07PUF
F07PVF
F08GSF
                                                                                                                                                                                                                                                                                                                                                                                                                          F07PRF
                                                                                                                                                                                                                                                                                                                                                                                                                          F07PWF
                                                                                                                                                                                                                                                                                                                                                                                                                         F07PWF
F07PSF
F07GUF
F07GVF
F07GRF
F07GWF
                                                                                                                                                                                                                                                                                                                                                                                                                           F07GSF
                                                                                                                                                                                                                                                                                                                                                                                                                          F07QUF
                                                                                                                                                                                                                                                                                                                                                                                                                         F07QUF
F07QVF
F07QRF
F07QWF
F07QSF
F07UUF
                                                                                                                                                                                                                                                                                                                                                                                                                          F07UVF
                                                                                                                                                                                                                                                                                                                                                                                                                           F07UWF
F07USF
                                                                                                                                                                                                                                                                                                                                                                                                                          F06RDF
                                                                                                                                                                                                                                                                                                                                                                                                                         F06RDF
F06RKF
F06UDF
F06UGF
F06UKF
F07GGF
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                                                                                                                                                                                                                                                                                                                                                                                                                           FO7GJE
                                                                                                                                                                                                                                                                                                                                                                                                                          F07GEF
F07PGF
F07PHF
                                                                                                                                                                                                                                                                                                                                                                                                                           F08GEF
                                                                                                                                                                                                                                                                                                                                                                                                                          F07PDF
                                                                                                                                                                                                                                                                                                                                                                                                                          F07PJF
                                                                                                                                                                                                                                                                                                                                                                                                                           F07PEF
                                                                                                                                                                                                                                                                                                                                                                                                                         F07PEF
F07UGF
F07UHF
F07UJF
F07UEF
F01ZAF
                                                                                                                                                                                                                                                                                                                                                                                                                          F01ZBF
                                                                                                                                                                                                                                                                                                                                                                                                                           X04CDF
                                                                                                                                                                                                                                                                                                                                                                                                                           X04DDF
                                                                                                                                        Sign test on two paired samples
                                                                                                                                                                                                                                                                                                                                                                                                                          G08EBF
                                                                                                                                                  Performs the pairs (serial) test for randomness
                                                                                                                                                                                                                                                                                                                                                                                                                          G08AGF
                                                  Performs the Wilcoxon one-sample (matched pairs) signed rank test
                ...product-moment correlation coefficients, all variables, pairwise treatment of missing values
...coefficients (about zero), all variables, pairwise treatment of missing values
...correlation coefficients, subset of variables, pairwise treatment of missing values
...coefficients (about zero), subset of variables, pairwise treatment of missing values
...non-parametric rank correlation coefficients, pairwise treatment of missing values
                                                                                                                                                                                                                                                                                                                                                                                                                          G02BCF
                                                                                                                                                                                                                                                                                                                                                                                                                           G02BFF
                                                                                                                                                                                                                                                                                                                                                                                                                          G02BJF
G02BJF
G02BMF
G02BSF
                                                                                                                                   General system of parabolic PDEs, coupled DAEs, method of lines,...
General system of parabolic PDEs, coupled DAEs, method of lines, finite...
General system of parabolic PDEs, coupled DAEs, method of lines, finite...
                                                                                                                                                                                                                                                                                                                                                                                                                           D03PJF
                                                                                                                                                                                                                                                                                                                                                                                                                          D03PPF
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KWIC.30 [NP3086/18/pdf]

```
General system of parabolic PDEs, method of lines, Chebyshev C^0\ldots General system of parabolic PDEs, method of lines, finite differences,...
                                                                                                    Kendall/Spearman non-parametric rank correlation coefficients, casewise...
                                                                                                                                                                                                                                                                                                                                                                                                G02BPF
                                                                                                    Kendall/Spearman non-parametric rank correlation coefficients, casewise...
Kendall/Spearman non-parametric rank correlation coefficients, casewise...
Kendall/Spearman non-parametric rank correlation coefficients, no missing...
Kendall/Spearman non-parametric rank correlation coefficients, no missing...
Kendall/Spearman non-parametric rank correlation coefficients, pairwise...
Non-parametric tests
                                                                                                                                                                                                                                                                                                                                                                                                 G02BRF
                                                                                                                                                                                                                                                                                                                                                                                                 G02BNF
                                                                                                                                                                                                                                                                                                                                                                                                 G02BOF
                                                                                                                                                                                                                                                                                                                                                                                                 G02BSF
G08
                                                                                                Univariate time series, partial autocorrelations from autocorrelations
e series, multiple squared partial autocorrelations
Multivariate time series, partial autoregression matrices
Computes partial correlation/variance-covariance matrix from...
                                            Multivariate time
                                                                                                                                                                                                                                                                                                                                                                                                 G13DBF
                                                                                                                                                                                                                                                                                                                                                                                                 G13DPF
                                                                                                                                                                                                                                                                                                                                                                                                G02BYF
                                                                         Multivariate time series, sample partial lag correlation matrices, \chi^2...
                                                                                                                                                                                                                                                                                                                                                                                                G13DNF
  ...sample spectrum using rectangular, Bartlett, Tukey or Parzen lag window ...cross spectrum using rectangular, Bartlett, Tukey or Parzen lag window
                                                                                                                                                                                                                                                                                                                                                                                                G13CAF
                                                                                                                                                                                                                                                                                                                                                                                                G13CCF
        ...quadrature, adaptive, finite interval, strategy due to Patterson, suitable for well-behaved integrands
                                                                                                                                                                                                                                                                                                                                                                                                D01AHE
                                                                                                                                                   Elliptic PDE, Helmholtz equation, 3-D Cartesian co-ordinates Elliptic PDE, Laplace's equation, 2-D arbitrary domain
                                                                                                                                                                                                                                                                                                                                                                                                 DOSEA E
                                                                                Discretize a 2nd order elliptic \mathbf{PDE} on a rectangle
                                                                                                                                                                                                                                                                                                                                                                                                D03EEF
                                                                                                                                                   Elliptic PDE, solution of finite difference equations by a... Elliptic PDE, solution of finite difference equations by SIP,... Elliptic PDE, solution of finite difference equations by SIP,... Elliptic PDE, solution of finite difference equations by SIP for... Elliptic PDE, solution of finite difference equations by SIP,...
                                                                                                                                                                                                                                                                                                                                                                                                 D03EDF
                                                                                                                                                                                                                                                                                                                                                                                                 D03EBF
                                                                                                                                                                                                                                                                                                                                                                                                 D03UAF
                                                                                                                                                                                                                                                                                                                                                                                                 D03ECF
                                                                                                                                                                                                                                                                                                                                                                                                D03UBF
                                                                                    General system of parabolic PDEs, coupled DAEs, method of lines, Chebyshev C^0...

General system of parabolic PDEs, coupled DAEs, method of lines, finite...

General system of parabolic PDEs, coupled DAEs, method of lines, finite...

General system of lst order PDEs, coupled DAEs, method of lines, Keller box...

General system of lst order PDEs, coupled DAEs, method of lines, Keller box...

General system of parabolic PDEs, method of lines, Chebyshev C^0 collocation, one...

General system of parabolic PDEs, method of lines, finite differences, one space...

General system of 2nd order PDEs, method of lines, finite differences, remeshing, two space...

General system of 2nd order PDEs, method of lines, finite differences, remeshing, two space...

General system of 2nd order PDEs, method of lines, Keller box discretisation, one...

PDEs, spatial interpolation with D03PCF, D03PEF,...

PDEs, spatial interpolation with D03PDF or D03PJF
                                                                                                                                                                                                                                                                                                                                                                                                D03PJF
                                                                                                                                                                                                                                                                                                                                                                                                 D03PHF
D03PPF
                                                                                                                                                                                                                                                                                                                                                                                                D03PKF
D03PRF
                                                                                                                                                                                                                                                                                                                                                                                                 D03PDF
                                                                                                                                                                                                                                                                                                                                                                                                D03PDF
D03PCF
D03RAF
D03RBF
                                                                                                                                                                                                                                                                                                                                                                                                 D03PZF
                                                                                                                                                                                                                                                                                                                                                                                                D03PYF
                                                       General system of convection-diffusion PDEs with source terms in conservative form, coupled... General system of convection-diffusion PDEs with source terms in conservative form, coupled... General system of convection-diffusion PDEs with source terms in conservative form, method of...
                                                                                                                                                                                                                                                                                                                                                                                                D03PLF
                                                                                                                                                                           Pearson product-moment correlation coefficients, all...
                                                                                                                                                                                                                                                                                                                                                                                                G02BBF
                                                                                                                                                                          Pearson product-moment correlation coefficients, all...
Pearson product-moment correlation coefficients, all...
Pearson product-moment correlation coefficients, subset...
Pearson product-moment correlation coefficients, subset...
                                                                                                                                                                                                                                                                                                                                                                                                 G02BAF
G02BCF
                                                                                                                                                                                                                                                                                                                                                                                                 G02BHF
                                                                                                                                                                                                                                                                                                                                                                                                 G02BGF
                                                                                                                                                                           Pearson product-moment correlation coefficients, subset...
                                                                                                                                                                                                                                                                                                                                                                                                G02BJF
                                                                                                                                                                                                                                                                                                                                                                                                G11BBF
                ...table from set of classification factors using given percentile/quantile
                                                                                                               Decompose a permutation into cycles
Invert a permutation
Check validity of a permutation
Pseudo-random permutation of an integer vector
                                                                                                                                                                                                                                                                                                                                                                                                M01ZCF
M01ZAF
                                                                                                                                                                                                                                                                                                                                                                                                 G05EHF
      Permute rows or columns, real rectangular matrix, permutations represented by a real array Permute rows or columns, complex rectangular matrix, permutations represented by a real array Permute rows or columns, real rectangular matrix, permutations represented by an integer array Permute rows or columns, complex rectangular matrix, permutations represented by an integer array
                                                                                                                                                                                                                                                                                                                                                                                                 F06OKF
                                                                                                                                                                                                                                                                                                                                                                                                 F06VKF
F06QJF
                                                                                                                                                                                                                                                                                                                                                                                                F06VJF
                                                                                                                                                                           Permute rows or columns, complex rectangular matrix,...
                                                                                                                                                                                                                                                                                                                                                                                                 F06VKF
                                                                                                                                                                          Permute rows or columns, complex rectangular matrix,...
Permute rows or columns, real rectangular matrix,...
Permute rows or columns, real rectangular matrix,...
                                                                                                                                                                                                                                                                                                                                                                                                F06QJF
                                                                               {\it Multivariate \ time \ series, \ gain, \ {\bf phase}, \ bounds, \ univariate \ and \ bivariate \ (cross) \ spectra}
                                                                                                                                                                                                                                                                                                                                                                                                G13CFF
                                                                                                                                                                                                                                                                                                                                                                                                X01AAF
                       Interpolating functions, monotonicity-preserving, piecewise cubic Hermite, one variable
                                                                                                                                                                                                                                                                                                                                                                                                E01BEF
       ... {\tt quadrature,\ adaptive,\ finite\ interval,\ strategy\ due\ to\ \bf Piessens\ and\ de\ Doncker,\ allowing\ for\ badly-behaved}...
                                                                                QR factorization with column {\bf pivoting} of complex general rectangular matrix... QR factorization with column {\bf pivoting} of real general rectangular matrix...
QR factorization with column pivoting of complex general rectangular matrix...

Triangulation of a plane region
Generate real Jacobi plane rotation
Apply recal plane rotation
Apply real plane rotation (SROT/DROT)
Generate real plane rotation (SROT/DROT)
Generate complex plane rotation, storing tangent, real cosine
Generate complex plane rotation, storing tangent, real cosine
Generate complex plane rotation, storing tangent, real sine
Apply real plane rotation to two complex vectors
Apply plane rotation to two real sparse vectors (SROTI/DROTI)
Apply real symmetric plane rotation to two real sparse vectors (SROTI/DROTI)
Apply sequence of plane rotations, complex rectangular matrix, complex...
Apply sequence of plane rotations, complex rectangular matrix, real...
Apply sequence of plane rotations, complex rectangular matrix, real...
Apply sequence of plane rotations, complex upper Hessenberg matrix
QR or RQ factorization by sequence of plane rotations, complex upper spiked matrix
QR factorization by sequence of plane rotations, complex upper triangular matrix...
Compute upper Hessenberg matrix by sequence of plane rotations, complex upper triangular matrix
Compute upper spiked matrix by sequence of plane rotations, complex upper triangular matrix
Generate sequence of complex plane rotations
Generate sequence of real plane rotations
Generate sequence of plane rotations

June 10 J
                                                                                                                                                                                                                                                                                                                                                                                                D03MAF
                                                                                                                                                                                                                                                                                                                                                                                                 F06BEF
                                                                                                                                                                                                                                                                                                                                                                                                F06BEF
F06HPF
F06EPF
F06AAF
F06BAF
F06CAF
                                                                                                                                                                                                                                                                                                                                                                                                 F06KPF
                                                                                                                                                                                                                                                                                                                                                                                                F06KPF
F06EXF
F06FPF
F06TXF
F06TXF
F06VXF
                                                                                                                                                                                                                                                                                                                                                                                                 F06TSF
                                                                                                                                                                                                                                                                                                                                                                                                F06TSF
F06TQF
F06TVF
F06TWF
F06FQF
F06QMF
                                                                                                                                                                                                                                                                                                                                                                                                 F06QTF
                                                                                                                                                                                                                                                                                                                                                                                                 F06TMF
F06TTF
                                                                                                                                                                                                                                                                                                                                                                                                 FO6TPF
                                                                                                                                                                                                                                                                                                                                                                                                F06QPF
F06QXF
F06QRF
                                                                                                                                                                                                                                                                                                                                                                                                F06QQF
```

```
Compute upper Hessenberg matrix by sequence of plane rotations, real upper triangular matrix Compute upper spiked matrix by sequence of plane rotations, real upper triangular matrix
                                                                                                                                                                                                                                                                                                                                F06QVF
F06QWF
                                                                               Constructs a stem and leaf plot
                                                                                                                                                                                                                                                                                                                                G01ARF
                                                                        Constructs a box and whisker plot
                 ...needed for range-mean or standard deviation-mean plot
                                                                                                                                                                                                                                                                                                                                G13AUF
     Poisson distribution function
Pseudo-random integer, Poisson distribution
...reference vector for generating pseudo-random integers, Poisson distribution
Computes confidence interval for the parameter of a Poisson distribution
Fits a generalized linear model with Poisson errors
                                                                                                                                                                                                                                                                                                                                G01BKF
                                                                                                                                                                                                                                                                                                                                G05DRF
G05ECF
G07ABF
                                                                                                                                                                                                                                                                                                                                G02GCF
                                                                                      Least-squares polynomial fit, special data points (including...

Least-squares polynomial fit, values and derivatives may be...

Derivative of fitted polynomial in Chebyshev series form

Integral of fitted polynomial in Chebyshev series form

Evaluation of fitted polynomial in one variable, from Chebyshev series form

Evaluation of fitted polynomial in one variable from Chebyshev series form...

Evaluation of fitted polynomial in two variables

Interpolating functions, polynomial interpolant, data may include derivative...
                                                                                                                                                                                                                                                                                                                                E02AFF
                                                                                                                                                                                                                                                                                                                                E02AGF
                                                                                                                                                                                                                                                                                                                                E02AHE
                                                                                                                                                                                                                                                                                                                                E02AJF
E02AKF
E02AEF
                                                                                                                                                                                                                                                                                                                                E01AEF
                                                                                               All zeros of complex polynomial, modified Laguerre method All zeros of real polynomial, modified Laguerre method
                                                                                                                                                                                                                                                                                                                                C02AFF
                                                                              Least-squares curve fit, by {f polynomials}, arbitrary data points Least-squares surface fit by {f polynomials}, data on lines
                                                                                                                                                                                                                                                                                                                                E02ADE
                                                                                            Minimax curve fit by polynomials
Computes orthogonal polynomials or dummy variables for...
                                                                                                                                                                                                                                                                                                                                E02ACF
G04EAF
             ...for the Mann–Whitney U statistic, no ties in pooled sample ...for the Mann–Whitney U statistic, ties in pooled sample Computes Mahalanobis squared distances for group or pooled variance-covariance matrices (for use after...
                                                                                                                                                                                                                                                                                                                                G08AJF
                                                                                                                                                                                                                                                                                                                                 G08AKF
                                                                                                                                                                                                                                                                                                                                G03DBF
        \dotsstatistic for a difference in means between two Normal populations, confidence interval
                                                                                                                                                                                                                                                                                                                                G07CAF
          Machine precision ...inner product added to initial value, basic/additional precision ...inner product added to initial value, basic/additional precision
                                                                                                                                                                                                                                                                                                                                X02AJE
                                                                                                                                                                                                                                                                                                                                X03AAF
X03ABF
                                                                                                                                                                                                                                                                                                                                D01BBF
                                                                                                                                               Pre-computed weights and abscissae for Gaussian...
                                                                                  Unconstrained minimum, preconditioned conjugate gradient algorithm, function...
                                                                                                                                                                                                                                                                                                                                E04DGF
 ...RGMRES, CGS, or Bi-CGSTAB method, Jacobi or SSOR preconditioner (Black Box) ...linear system, RGMRES, CGS or Bi-CGSTAB method, preconditioner computed by F11DAF (Black Box)
                                                                                                                                                                                                                                                                                                                                F11DEF
        Solution of linear system involving preconditioning matrix generated by applying SSOR to... Solution of linear system involving preconditioning matrix generated by applying SSOR to... Solution of linear system involving incomplete LU preconditioning matrix generated by F11DAF Solution of linear system involving incomplete Cholseky preconditioning matrix generated by F11JAF
                                                                                                                                                                                                                                                                                                                                F11DDF
                                                                                                                                                                                                                                                                                                                                F11JBF
                                                                                     Multivariate time series, preliminary estimation of transfer function model Univariate time series, preliminary estimation, seasonal ARIMA model
                                                                                                                                                                                                                                                                                                                                G13BDF
                                                                                                                                                                                                                                                                                                                                G13ADF
                                                     Interpolating \ functions, \ monotonicity \textbf{-} \textbf{preserving}, \ piecewise \ cubic \ Hermite, \ one \ variable
                                                                                                                                                                                                                                                                                                                                E01BEF
                                                              Multivariate time series, filtering (pre-whitening) by an ARIMA model
                                                                                                                                                                                                                                                                                                                                G13BAF
...for use in D01GCF or D01GDF, when number of points is prime
                                                                                                                                                                                                                                                                                                                                D01GYF
          ...or D01GDF, when number of points is product of two primes
                                                                                                                          Performs principal component analysis
                                                                                                                                                                                                                                                                                                                                G03AAF
                    ...finite interval, weight function 1/(x-c), Cauchy principal value (Hilbert transform)
                                                                                                                                                                                                                                                                                                                                D01AQF
                                                                                                                                                Print a complex general matrix (comprehensive)
Print a complex general matrix (easy-to-use)
Print a complex packed banded matrix (comprehensive)
Print a complex packed banded matrix (casy-to-use)
Print a complex packed triangular matrix...
Print a complex packed triangular matrix...
Print a real general matrix (comprehensive)
Print a real general matrix (easy-to-use)
Print a real packed banded matrix (comprehensive)
Print a real packed banded matrix (comprehensive)
Print a real packed triangular matrix (comprehensive)
Print a real packed triangular matrix (comprehensive)
Print a real packed triangular matrix (easy-to-use)
Print a riteger matrix (comprehensive)
                                                                                                                                                                                                                                                                                                                                X04DBF
                                                                                                                                                                                                                                                                                                                                X04DAF
X04DFF
X04DEF
X04DDF
                                                                                                                                                                                                                                                                                                                                X04DCF
                                                                                                                                                                                                                                                                                                                                 X04CBF
                                                                                                                                                                                                                                                                                                                                X04CBF
X04CAF
X04CFF
X04CEF
X04CDF
                                                                                                                                                 Print an integer matrix (comprehensive)
Print an integer matrix (easy-to-use)
                                                                                                                                                                                                                                                                                                                                 X04EBF
                                                                                                                                                                                                                                                                                                                                X04EAF
  ...MPSX data file defining IP or LP problem, optimize and print solution
                                                                                                                                                                                                                                                                                                                                H02BFF
                Computes upper and lower tail probabilities and probability density function for the...

Computes probabilities for F-distribution

Computes probabilities for Student's t-distribution

Computes probabilities for the gamma distribution

Computes the exact probabilities for the Mann-Whitney U statistic, no...

Computes the exact probabilities for the Mann-Whitney U statistic, ties...

Computes probabilities for the multivariate Normal distribution

Computes probabilities for the non-central beta distribution

Computes probabilities for the non-central F-distribution

Computes probabilities for the non-central Student's...

Computes probabilities for the non-central Student's...

Computes probabilities for the non-central Student's...

Computes probabilities for the one-sample Kolmogorov-Smirnov...

Computes probabilities for the standard Normal distribution

Computes probabilities for the two-sample Kolmogorov-Smirnov...

Computes probabilities for the two-sample Kolmogorov-Smirnov...
                                                                                                                                                                                                                                                                                                                                G01EEF
                                                                                                                                                                                                                                                                                                                                G01EEF
G01EDF
G01EFF
G08AJF
G08AKF
                                                                                                                                                                                                                                                                                                                                 G01HBF
                                                                                                                                                                                                                                                                                                                                G01GEF
                                                                                                                                                                                                                                                                                                                                 G01GDF
                                                                                                                                                                                                                                                                                                                                 G01GBF
                                                                                                                                                                                                                                                                                                                                G01GCF
                                                                                                                                                                                                                                                                                                                                 G01EYE
                                                                                                                                                                                                                                                                                                                                G01EAF
G01EZF
                                                                                                                                                                                                                                                                                                                                G01ECF
                                                                                                                                                                                                                                                                                                                                G12AAF
                   Computes upper and lower tail probabilities and probability density function for the beta distribution ...from supplied cumulative distribution function or probability distribution function

Computes lower tail probability for a linear combination of (central)...

Computes probability for a positive linear combination of...

Computes probability for the bivariate Normal distribution

Computes probability for the videntized range statistic

Computes probability for Von Mises distribution
                                                                                                                                                                                                                                                                                                                                G01EEF
G05EXF
G01JDF
                                                                                                                                                                                                                                                                                                                                G01HAF
                                                                                                                                                                                                                                                                                                                                 G01EME
                                                                                                                                                                                                                                                                                                                                G01ERF
                                                                                                                                                                                                                                                                                                                                G03BCF
                                                                                                                        Computes Procrustes rotations
                                                                                                             Real inner product added to initial value, basic/additional... Complex inner product added to initial value, basic/additional...
                                                                                                                                                                                                                                                                                                                                X03ABF
                                                                                                              \label{eq:matrix-vector} \begin{array}{l} \text{Matrix-vector } \mathbf{product}, \ \text{complex Hermitian band matrix } (\text{CHBMV/ZHBMV}) \\ \text{Matrix-vector } \mathbf{product}, \ \text{complex Hermitian matrix } (\text{CHEMV/ZHEMV}) \end{array}
                                                                                                                                                                                                                                                                                                                                 F06SDF
```

KWIC.32 [NP3086/18/pdf]

```
Matrix-vector product, complex Hermitian packed matrix (CHPMV/ZHPMV) Matrix-vector product, complex rectangular band matrix (CGBMV/ZGBMV) Matrix-vector product, complex rectangular matrix (CGEMV/ZGEMV) Matrix-vector product, complex triangular band matrix (CTBMV/ZTBMV) Matrix-vector product, complex triangular matrix (CTRMV/ZTRMV) Matrix-vector product, complex triangular packed matrix (CTPMV/ZTPMV)
                                                                                                                                                                                                                                                                                                                                                                  F06SAF
                                                                                                                                                                                                                                                                                                                                                                 F06SGF
                                                                                                                                                                                                                                                                                                                                                                  F06SFF
                                                                                                                                                                                                                                                                                                                                                                 F06SHF
Dot product of two complex sparse vector, conjugated...
Dot product of two complex sparse vector, unconjugated...
Dot product of two complex vectors, conjugated...
Dot product of two complex vectors, conjugated...
Dot product of two complex vectors, unconjugated...
...for use in D01GCF or D01GDF, when number of points is product of two primes
Dot product of two real sparse vectors (SDOTI/DDOTI)
Dot product of two real vectors (SDOT/DDOT)
                                                                                                                                                                                                                                                                                                                                                                 F06GSF
                                                                                                                                                                                                                                                                                                                                                                F06GRF
F06GBF
F06GAF
D01GZF
                                                                                                                                                                                                                                                                                                                                                                  F06ERF
                                                                                                                                                                                                                                                                                                                                                                 F06EAF
                                                                                                                        Matrix-matrix product, one complex Hermitian matrix, one complex...
Matrix-matrix product, one complex symmetric matrix, one complex...
Matrix-matrix product, one complex triangular matrix, one complex...
Matrix-matrix product, one real symmetric matrix, one real...
Matrix-matrix product, one real symmetric matrix, one real...
Matrix-vector product, real rectangular band matrix (SGBMV/DGBMV)
Matrix-vector product, real symmetric band matrix (SGBMV/DSBMV)
Matrix-vector product, real symmetric band matrix (SSPMV/DSPMV)
Matrix-vector product, real symmetric matrix (SSYMV/DSPMV)
Matrix-vector product, real symmetric packed matrix (STBMV/DTBMV)
Matrix-vector product, real triangular band matrix (STBMV/DTBMV)
Matrix-vector product, real triangular matrix (STRMV/DTRMV)
Matrix-vector product, real triangular matrix (STRMV/DTPMV)
                                                                                                                                                                                                                                                                                                                                                                 F06ZCF
                                                                                                                                                                                                                                                                                                                                                                 F06ZCF
F06ZTF
F06ZFF
F06YCF
                                                                                                                                                                                                                                                                                                                                                                 F06YFF
                                                                                                                                                                                                                                                                                                                                                                 F06PBF
                                                                                                                                                                                                                                                                                                                                                                F06PBF
F06PAF
F06PDF
F06PCF
F06PEF
F06PFF
                                                                                                                                                                                                                                                                                                                                                                F06PHF
                                           Multi-dimensional quadrature, general product region, number-theoretic method Multi-dimensional quadrature, general product region, number-theoretic method, variant of... ...quadrature, Sag-Szekeres method, general product region or n-sphere
                                                                                                                                                                                                                                                                                                                                                                 D01GCF
                                                                                                                                                                                                                                                                                                                                                                  D01GDF
                                                                                                                                                                                                                                                                                                                                                                 D01FDF
                                                                                                                         Matrix-matrix product, two complex rectangular matrices (CGEMM/ZGEMM) Matrix-matrix product, two real rectangular matrices (SGEMM/DGEMM)
                                                                                                                                                                                                                                                                                                                                                                 G12AAF
                                                                                           Computes Kaplan-Meier (product-limit) estimates of survival probabilities
                                                                                                                                                                                                                                                                                                                                                                 G02BBF
                                                                                                                                          Pearson product-moment correlation coefficients, all variables,...
                                                                                                                                         Pearson product-moment correlation coefficients, all variables,...
Pearson product-moment correlation coefficients, all variables,...
Pearson product-moment correlation coefficients, all variables,...
Pearson product-moment correlation coefficients, subset of...
Pearson product-moment correlation coefficients, subset of...
                                                                                                                                                                                                                                                                                                                                                                  G02BAF
                                                                                                                                                                                                                                                                                                                                                                 G02BCF
                                                                                                                                                                                                                                                                                                                                                                G02BGF
G02BGF
G02BJF
                                                                                                                                            Integer programming problem, branch and bound method
                                                                                                                                                                                                                                                                                                                                                                 H02BBF
                                                                                                                                            Integer Programming See IP
                                                                                                                                    Linear Programming See LP
Quadratic Programming See QP
                                                                                                                                            Integer {\bf programming} solution, supplies further information on...
                                                                                                                                                                                                                                                                                                                                                                H02BZF
                                                                                                                                   Fits Cox's \mathbf{proportional} hazard model
                                                                                                                                                                                                                                                                                                                                                                 G12BAF
                                                                                                                                                                 Pseudo-inverse and rank of a real m by n matrix (m...
                                                                                                                                                                                                                                                                                                                                                                 F01BLF
                                                                                                                                                                     eseudo-random integer from reference
                                                                                                                                                               Pseudo-random integer from uniform distribution
Pseudo-random integer, Poisson distribution
                                                                                                                                                                                                                                                                                                                                                                  G05DYF
                                                                                                                                                                                                                                                                                                                                                                G05DRF
                                                          Set up reference vector for generating pseudo-random integers, binomial distribution Set up reference vector for generating pseudo-random integers, hypergeometric distribution Set up reference vector for generating pseudo-random integers, negative binomial distribution Set up reference vector for generating pseudo-random integers, Poisson distribution Set up reference vector for generating pseudo-random integers, uniform distribution
                                                                                                                                                                                                                                                                                                                                                                 GOSEDE
                                                                                                                                                                                                                                                                                                                                                                G05EFF
G05EEF
G05ECF
G05EBF
                                                                                                                                                                     seudo-random logical (boolean) value
                                                                                                                                                                 Pseudo-random multivariate Normal vector from reference...
                                                                                                                                                                                                                                                                                                                                                                 G05EZF
                                                                                                       Generates a vector of pseudo-random numbers from a beta distribution
                                                                                                                                                                                                                                                                                                                                                                 G05FEF
                                                                                                       Generates a vector of pseudo-random numbers from a gamma distribution
                                                                                                                                                                                                                                                                                                                                                                 G05FFF
                                                                                                                                                               Pseudo-random permutation of an integer vector Pseudo-random real numbers, Cauchy distribution Pseudo-random real numbers, Fdistribution Pseudo-random real numbers, logistic distribution Pseudo-random real numbers, logistic distribution Pseudo-random real numbers, lognormal distribution Pseudo-random real numbers, (negative) exponential... Pseudo-random real numbers, Student's t-distribution Pseudo-random real numbers, uniform distribution over... Pseudo-random real numbers, uniform distribution over... Pseudo-random real numbers, Weibull distribution Pseudo-random real numbers, Weibull distribution Pseudo-random real numbers, Weibull distribution Pseudo-random sample from an integer vector
                                                                                                                                                                                                                                                                                                                                                                 G05EHF
                                                                                                                                                                                                                                                                                                                                                                  G05DFF
G05DKF
                                                                                                                                                                                                                                                                                                                                                                 G05DEF
                                                                                                                                                                                                                                                                                                                                                                 G05DBF
                                                                                                                                                                                                                                                                                                                                                                 G05DDF
                                                                                                                                                                                                                                                                                                                                                                G05DJF
G05CAF
G05DAF
G05DPF
                                                                                                                                                                                                                                                                                                                                                                G05DHF
G05EJF
                                                                                                           Generates vector of \mathbf{pseudo-random} variates from Von Mises distribution
                                                                                                                                                                                                                                                                                                                                                                 G05FSF
                                                                                                                                                                                                                                                                                                                                                                S14ADF
                                                                                                        Scaled derivatives of \psi(x)
                                                                                                                                                                                                                                                                                                                                                                S15ACF
           Complement of cumulative normal distribution function Q(x)
       ...reduced from complex Hermitian matrix, using implicit QL or QR (CSTEQR/ZSTEQR) ...reduced from real symmetric matrix using implicit QL or QR (SSTEQR/DSTEQR) ...real symmetric tridiagonal matrix, root-free variant of QL or QR (SSTERF/DSTERF)
                                                                                                                                                                                                                                                                                                                                                                 F08JSF
                                                                                                                                                                                                                                                                                                                                                                 F08JFF
           Minimum, function of several variables, sequential QP method, nonlinear constraints, using function values...
Minimum, function of several variables, sequential QP method, nonlinear constraints, using function values...
Of a sum of squares, nonlinear constraints, sequential QP method, using function values and optionally 1st...
QP problem

LP or QP problem (sparse)
Convex QP problem or linearly-constrained linear least-squares...
Convex QP problem to format required by E04NKF
                                                                                                                                                                                                                                                                                                                                                                 E04UCF
E04UFF
E04UNF
                                                                                                                                                                                                                                                                                                                                                                  E04NFF
                                                                                                                                                                                                                                                                                                                                                                 E04NKF
                                                                                                                                                                                                                                                                                                                                                                  E04NCE
                                                                                                                                                                                                                                                                                                                                                                 E04MZF
         ...from complex Hermitian matrix, using implicit QL or QR (CSTEQR/ZSTEQR)
QR factorization by sequence of plane rotations,...
QR factorization by sequence of plane rotations,...
QR factorization by sequence of plane rotations,...
QR factorization by sequence of plane rotations, real...
Form all or part of orthogonal Q from QR factorization determined by F08AEF or F08BEF...
QR factorization determined by F08ASF or F08BEF...
QR factorization of complex general rectangular matrix...
QR factorization of IUZ or RQ factorization of IUZ or RQ factorization of ...
QR factorization, possibly followed by SVD
                                                                                                                                                                                                                                                                                                                                                                 F08.ISF
                                                                                                                                                                                                                                                                                                                                                                  F06QPF
                                                                                                                                                                                                                                                                                                                                                                  F06QQF
                                                                                                                                                                                                                                                                                                                                                                 F08AFF
                                                                                                                                                                                                                                                                                                                                                                F08AFF
F08AFF
F08AFF
F06TTF
F06QTF
                                                                                                                                                                                                                                                                                                                                                                 F02WDF
```

```
QR \ \text{factorization with column pivoting of complex...} \\ QR \ \text{factorization with column pivoting of real general...} \\ QR \ \text{or} \ RQ \ \text{factorization by sequence of plane...} \\ QR \ \text{or} \ RQ \ \text{factorization by sequence of plane...} \\ QR \ \text{or} \ RQ \ \text{factorization by sequence of plane...} \\ QR \ \text{or} \ RQ \ \text{factorization by sequence of plane...} \\ QR \ \text{or} \ RQ \ \text{factorization by sequence of plane...} \\ \dots \text{from real symmetric matrix using implicit } QL \ \text{or} \ QR \ (\text{SSTEQR/DSTEQR}) \\ \dots \text{tridiagonal matrix, root-free variant of } QL \ \text{or} \ QR \ (\text{SSTERF/DSTERF}) \\ \end{pmatrix}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F06TRF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F06TSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F06QRF
F06QSF
F08JEF
F08JFF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             G05EXF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             G05EYE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            G05EZF
                                                                                                                                                                                                                                                                     Refined solution with error bounds of complex band...
Refined solution with error bounds of complex Hermitian...
Refined solution with error bounds of complex Symmetric...
Refined solution with error bounds of complex symmetric...
Refined solution with error bounds of complex system of...
Refined solution with error bounds of real band system...
Refined solution with error bounds of real symmetric...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            F07BVF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            F07HVF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            F07FVF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            F07GVF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           F07GVF
F07NVF
F07QVF
F07AVF
F07BHF
F07PHF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            F07MHF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            F07HHF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             F07GHF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             F07FHF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             F07AHF
          ...with multiple right-hand sides using iterative refinement (Black Box)
...with multiple right-hand sides using iterative refinement (Black Box)
...in n unknowns, rank = n, m ≥ n using iterative refinement (Black Box)
...linear equations, one right-hand side using iterative refinement (Black Box)
...linear equations, one right-hand side using iterative refinement (Black Box)
...simultaneous linear equations using iterative refinement (coefficient matrix already factorized by...
...of real simultaneous linear equations using iterative refinement (coefficient matrix already factorized by...
...real symmetric positive-definite matrix using iterative refinement
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           F04ABF
F04AEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             F04AMF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            F04ASF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            F04ATF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            F04AFF
                                                                                                                                 Generate complex elementary reflection
Apply complex elementary reflection
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           F06HRF
F06HTF
                                                                                                                                                    Generate real elementary reflection, LINPACK style
Apply real elementary reflection, LINPACK style
Generate real elementary reflection, NAG style
Apply real elementary reflection, NAG style
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            F06FSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             F06FUF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             F06FRF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            F06FTF
                                                                                                                                                                                                 Robust regression, compute regression with user-specified...
Robust regression, compute weights for use with G02HDF
Multiple linear regression, from correlation coefficients, with...
Multiple linear regression, from correlation-like coefficients, without...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            G02HDF
G02HBF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             G02CGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           G02CHF
              Computes estimable function of a general linear regression model and its standard error
Fits a linear regression model by forward selection
...and standard errors of parameters of a general linear regression model for given constraints
Fits a general linear regression model for new dependent variable
Estimates of linear parameters and general linear regression model from updated model
Fits a general (multiple) linear regression model
Add/delete an observation to/from a general linear regression model
Add a new variable to a general linear regression model
Delete a variable from a general linear regression model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            G02DNF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            G02DKF
G02DGF
G02DDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             G02DAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             G02DCF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             G02DEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             G02DFF
```

KWIC.36 [NP3086/18/pdf]

```
Service routines for multiple linear regression, re-order elements of vectors and matrices Service routines for multiple linear regression, select elements from vectors and matrices Robust regression, standard M-estimates
                                                                                                                                                                                                                                                       G02HAF
                                                                                                                  Regression using ranks, right-censored data Regression using ranks, uncensored data
                                                                                                                                                                                                                                                       G08RBF
                                                                                                                                                                                                                                                       G08RAF
                                                                                                    Robust regression, variance-covariance matrix following G02HDF
                                                                                                                                                                                                                                                       G02HFF
                                                                                         Simple linear regression with constant term, missing values
Simple linear regression with constant term, no missing values
sion, compute regression with user-specified functions
Simple linear regression without constant term, missing values
Simple linear regression without constant term, no missing values
                                                                                                                                                                                                                                                       G02CCF
                                                                                                                                                                                                                                                       G02CAF
G02HDF
                                                               Robust regression,
                                                                                                                                                                                                                                                       G02CDF
                                                                                                                                                                                                                                                       G02CBF
                          ...residual sums of squares for all possible linear regressions for a set of independent variables
                                                                                                                                                                                                                                                       G02EAF
                                                2nd\ order\ Sturm-Liouville\ problem,\ \mathbf{regular}\ system,\ finite\ range,\ eigenvalue\ only
                                                                                                                                                                                                                                                       D02KAF
                                                2nd order Sturm-Liouville problem, regular/singular system, finite/infinite range,... 2nd order Sturm-Liouville problem, regular/singular system, finite/infinite range,...
                                                                                                                                                                                                                                                       D02KEF
D02KDF
        ...using numerical flux function based on Riemann solver, remeshing
...coupled DAEs, method of lines, finite differences, remeshing, one space variable
...DAEs, method of lines, Keller box discretisation, remeshing, one space variable
...system of 2nd order PDEs, method of lines, finite differences, remeshing, two space variables, rectangular region
..system of 2nd order PDEs, method of lines, finite differences, remeshing, two space variables, rectilinear region
                                                                                                                                                                                                                                                       D03PPF
D03PRF
                                                                                                                                                                                                                                                       D03BAF
                                                                                                                                                                                                                                                       D03RBF
                                                  Interpolating functions, method of Renka and Cline, two variables
                                                                                                                                                                                                                                                       E01SAF
                                                                                                                  Reorder data to give ordered distinct observations
                                                                                                                                                                                                                                                       G10ZAF
                                                      Real sparse unsymmetric matrix reorder routine
Real sparse symmetric matrix reorder routine
                                                                                                                                                                                                                                                       F11ZBF
                                                                                                                  Reorder Schur factorization of complex matrix, form...
Reorder Schur factorization of complex matrix using...
Reorder Schur factorization of real matrix, form...
Reorder Schur factorization of real matrix using...
                                                                                                                                                                                                                                                       F08QUF
                                                                                                                                                                                                                                                        F08OTF
                                                                                                                                                                                                                                                       G05CBF
G05CCF
                 Initialise random number generating routines to give repeatable sequence ...random number generating routines to give non-repeatable sequence
                                                                                                                                                                                                                                                       G03CAF
                 ...analysis model, factor loadings, communalities and residual correlations
                                                                                               Computes residual sums of squares for all possible linear...
                                                                                                                                                                                                                                                       G02EAF
                                                 Calculates R^2 and C_p values from residual sums of squares
                                                                                                                                                                                                                                                       G02ECF
                                                                     Calculates standardized residuals and influence statistics
                                                                                                                                                                                                                                                       G02FAF
                           Univariate time series, diagnostic checking of \bf residuals, following G13AEF or G13AFF Multivariate time series, diagnostic checking of \bf residuals, following G13DCF
                                                                                                                                                                                                                                                       G13ASF
                                                                                                                                                                                                                                                       G13DSF
                             \dotstime series, noise spectrum, bounds, impulse response function and its standard error
                                                                                                                                                                                                                                                       G13CGF
           Real sparse unsymmetric linear systems, preconditioned RGMRES, CGS or Bi-CGSTAB
Solution of real sparse unsymmetric linear system, RGMRES, CGS, or Bi-CGSTAB method, Jacobi or...
Solution of real sparse unsymmetric linear system, RGMRES, CGS or Bi-CGSTAB method, preconditioner...
                                                                                                                                                                                                                                                       F11BBF
                                                                                                                                                                                                                                                       F11DEF
F11DCF
                                                                                Roe's approximate Riemann solver for Euler equations in conservative...
                                                                                                                                                                                                                                                       D03PUF
          Roe's approximate Riemann solver for Euler equations in conservative...

Osher's approximate Riemann solver for Euler equations in conservative...

Modified HLL Riemann solver for Euler equations in conservative form,...

Exact Riemann Solver for Euler equations in conservative form,...

...upwind scheme using numerical flux function based on Riemann solver, one space

...upwind scheme using numerical flux function based on Riemann solver, one space variable

...upwind scheme using numerical flux function based on Riemann solver, remeshing
                                                                                                                                                                                                                                                       D03PVF
                                                                                                                                                                                                                                                       D03PWF
                                                                                                                                                                                                                                                        D03PXF
                                                                                                                                                                                                                                                       D03PLF
D03PFF
D03PSF
          Selected right and/or left eigenvectors of complex upper...

Selected right and/or left eigenvectors of real upper Hessenberg...

Left and right eigenvectors of a complex upper triangular matrix...

Left and right eigenvectors of a real upper quasi-triangular...

...of complex matrix, form orthonormal basis of right invariant subspace for selected eigenvalues, with...

...factorization of real matrix, form orthonormal basis of right invariant subspace for selected eigenvalues, with...
                                                                                                                                                                                                                                                        F08PKF
                                                                                                                                                                                                                                                       F08QXF
                                                                                                                                                                                                                                                       F08OKF
                                                                      Regression using ranks, right-censored data
                                                                                                                  G07EBF
                                                                                                                                                                                                                                                       G07DAF
                                                                                                                                                                                                                                                       G07DBF
                                                                                                                                                                                                                                                       G07DCF
                                                                                           Calculates a robust estimation of a correlation matrix, Huber's... Calculates a robust estimation of a correlation matrix,... Calculates a robust estimation of a correlation matrix,...
                                                                                                                                                                                                                                                       G02HKF
                                                                                                                  Robust regression, compute regression with...
Robust regression, compute weights for use with G02HDF
Robust regression, standard M-estimates
Robust regression, variance-covariance matrix following...
                                                                                                                                                                                                                                                       G02HDF
                                                                                                                                                                                                                                                        G02HBF
                                                                                                                                                                                                                                                        G02HAF
                                                                                                                                                                                                                                                       G02HFF
             {\bf Robust\ estimation,\ median,\ median\ absolute\ deviation,\ {\bf robust\ standard\ deviation}}
                                                                                                                                                                                                                                                       G07DAF
                                                                                                                                                                                                                                                       D03PUF
                                                                                                                  Roe's approximate Riemann solver for Euler equations in...
             ...one iteration of Kalman filter, time-varying, square root covariance filter ...one iteration of Kalman filter, time-invariant, square root covariance filter Square root of a complex number Compute square root of (a^2+b^2), real a and b
                                                                                                                                                                                                                                                       A02AAF
                                                                                                                                                                                                                                                       F06BNF
                                                      ODEs, IVP, root-finding diagnostics for D02QFF and D02QGF ODEs, IVP, Adams method with root-finding (forward communication, comprehensive) ODEs, IVP, Adams method with root-finding (reverse communication, comprehensive)
                                                                                                                                                                                                                                                       D02QYF
                                                                                                                                                                                                                                                       D02QGF
                 All eigenvalues of real symmetric tridiagonal matrix, {f root-free} variant of QL or QR (SSTERF/DSTERF)
                                                                                                                                                                                                                                                       F08JFF
                                                                Generate real Jacobi plane rotation
Apply complex plane rotation
Apply real plane rotation (SROT/DROT)
Generate real plane rotation (SROTG/DROTG)
                                                                                                                                                                                                                                                       FO6BEE
                                                                      Generate real plane rotation, storing tangent
Generate complex plane rotation, storing tangent, real cosine
                                                                                                                                                                                                                                                       F06BAF
                                                                      Generate complex plane rotation, storing tangent, real sine
                                                                                                                                                                                                                                                       F06CBF
                                                                    Apply complex similarity rotation to 2 by 2 Hermitian matrix Apply real similarity rotation to 2 by 2 symmetric matrix
                                                                                                                                                                                                                                                       FO6CHE
```

```
Apply real plane rotation to two complex vectors
Apply plane rotation to two real sparse vectors (SROTI/DROTI)
Apply real symmetric plane rotation to two vectors
                                                                                                                                                                                                                                                                                                                                                  F06FPF
Apply sequence of plane rotations, complex rectangular matrix, complex cosine... Apply sequence of plane rotations, complex rectangular matrix, real cosine and... Apply sequence of plane rotations, complex rectangular matrix, real cosine and... QR or RQ factorization by sequence of plane rotations, complex upper Hessenberg matrix QR or RQ factorization by sequence of plane rotations, complex upper spiked matrix QR factorization by sequence of plane rotations, complex upper triangular matrix augmented by... Compute upper Hessenberg matrix by sequence of plane rotations, complex upper triangular matrix R Compute upper spiked matrix by sequence of plane rotations, complex upper triangular matrix
                                                                                                                                                                                                                                                                                                                                                  F06TYF
                                                                                                                                                                                                                                                                                                                                                   F06TXF
                                                                                                                                                                                                                                                                                                                                                  F06VXF
F06TRF
F06TSF
F06TQF
                                                                                                                                                                                                                                                                                                                                                   F06TVI
                                                                                                                                                                                                                                                                                                                                                  F06TWF
       Generate sequence of real plane rotations
Generate sequence of complex plane rotations
...of a real symmetric matrix as a sequence of plane rotations
...U real upper triangular, Z a sequence of plane rotations
...of a Hermitian matrix as a sequence of plane rotations
...U complex upper triangular, Z a sequence of plane rotations
...U complex upper triangular, Z a sequence of plane rotations
Computes orthogonal rotations for loading matrix, generalized orthomax...
Computes Procrustes rotations
                                                                                                                                                                                                                                                                                                                                                   F06FOF
                                                                                                                                                                                                                                                                                                                                                  F06FQF
F06HQF
F06QMF
F06QTF
F06TMF
                                                                                                                                                                                                                                                                                                                                                   G03BAF
                                                                                                                                                                                                                                                                                                                                                   G03BCF
QR factorization by sequence of plane rotations, rank-1 update of complex upper triangular... QR factorization by sequence of plane rotations, rank-1 update of real upper triangular... Apply sequence of plane rotations, real rectangular matrix QR or RQ factorization by sequence of plane rotations, real upper Hessenberg matrix QR or RQ factorization by sequence of plane rotations, real upper spiked matrix QR factorization by sequence of plane rotations, real upper triangular matrix augmented by a... Compute upper Hessenberg matrix by sequence of plane rotations, real upper triangular matrix QR compute upper spiked matrix by sequence of plane rotations, real upper triangular matrix
                                                                                                                                                                                                                                                                                                                                                   FO6TPF
                                                                                                                                                                                                                                                                                                                                                   F06QPF
F06QXF
F06QRF
F06QSF
                                                                                                                                                                                                                                                                                                                                                   F06QQF
F06QVF
                                                                                                                                                                                                                                                                                                                                                   F06QWF
      Allocates observations to groups according to selected {\bf rules} (for use after G03DAF)
                                                                                                                                                                                                                                                                                                                                                   G03DCF
              ...of weights and abscissae for Gaussian quadrature rules, general choice of rule ...weights and abscissae for Gaussian quadrature rules, restricted choice of rule
                                                                                                                                                                                                                                                                                                                                                   D01BCF
                                                                                                                    ODEs, IVP, Runge-Kutta method, integration over one step ODEs, IVP, Runge-Kutta method, integration over range with output ODEs, IVP, Runge-Kutta method, until function of solution is zero,...
                                                                                                                                                                                                                                                                                                                                                   D02PDF
                                                                                                                                                                                                                                                                                                                                                  D02BJF
                                                                                                                    ODEs, IVP, Runge-Kutta-Merson method, until a component attains... ODEs, IVP, Runge-Kutta-Merson method, until function of solution...
                                                                                                                                                                                                                                                                                                                                                   D02BGF
                                                                                                                                                                                                                                                                                                                                                   D02BHF
                                                                                                                                                                                                                                                                                                                                                   D02LAF
                                           Compute smoothed data sequence using running median smoothers
                                                                                                                                                                                                                                                                                                                                                  G10CAF
                                                                                   Performs the runs up or runs down test for randomness

Performs the runs up or runs down test for randomness
                                                                                                                                                                                                                                                                                                                                                   G08EAF
                                                                                                          Fresnel integral S(x)
                                                                                                                                                                                                                                                                                                                                                  S20ACF
                                                                                                                                                     {\bf Safe} \ {\bf range} \ {\bf of} \ {\bf complex} \ {\bf floating-point} \ {\bf arithmetic} \\ {\bf Safe} \ {\bf range} \ {\bf of} \ {\bf floating-point} \ {\bf arithmetic} \\
                                                                                                                                                                                                                                                                                                                                                   X02ANF
                                                                                                                                                                                                                                                                                                                                                   X02AMF
                                                                                                                                                                                                                                                                                                                                                  D01FDF
                                                                    Multi-dimensional quadrature, Sag-Szekeres method, general product region or...
    Univariate time series, sample autocorrelation function

Multivariate time series, smoothed sample cross spectrum using rectangular, Bartlett,...

Multivariate time series, smoothed sample cross spectrum using spectral smoothing by the...

Multivariate time series, sample cross-correlation or cross-covariance matrices

Pseudo-random sample from an integer vector

Robust confidence intervals, 1 sample

Robust confidence intervals, 2 sample

...for the Mann-Whitney U statistic, no ties in pooled sample

...for the Mann-Whitney U statistic, ties in pooled sample

Computes probabilities for the one-sample Kolmogorov-Smirnov distribution

Computes probabilities for the two-sample Kolmogorov-Smirnov test for a user-supplied...

Performs the one-sample Kolmogorov-Smirnov test for standard...

Performs the two-sample Kolmogorov-Smirnov test

Performs the Wilcoxon one-sample (matched pairs) signed rank test

Multivariate time series, sample partial lag correlation matrices, \chi^2...
                                                                                                                                                                                                                                                                                                                                                   G13ABF
                                                                                                                                                                                                                                                                                                                                                   G13CCF
G13CDF
                                                                                                                                                                                                                                                                                                                                                   G13DMF
                                                                                                                                                                                                                                                                                                                                                   G05EJF
                                                                                                                                                                                                                                                                                                                                                  G05EJF
G07EAF
G07EBF
G08AJF
G08AKF
G01EYF
G01EZF
                                                                                                                                                                                                                                                                                                                                                   G08CCF
                                                                                                                                                                                                                                                                                                                                                   G08CBF
                                                                                                                                                                                                                                                                                                                                                   G08CDF
                                                                                                                                                                                                                                                                                                                                                   G08AGF
       Multivariate time series, sample (matched pairs) signed rank test Multivariate time series, sample partial lag correlation matrices, \chi^2... Univariate time series, smoothed sample spectrum using rectangular, Bartlett, Tukey or... Univariate time series, smoothed sample spectrum using spectral smoothing by the... Computes a trimmed and winsorized mean of a single sample with estimates of their variance
                                                                                                                                                                                                                                                                                                                                                   G13DNF
                                                                                                                                                                                                                                                                                                                                                   G13CAF
                                                                                                                                                                                                                                                                                                                                                   G13CBF
                                                                                                                                                                                                                                                                                                                                                   G07DDF
Sign test on two paired samples
Friedman two-way analysis of variance on k matched samples
Performs the Mann-Whitney U test on two independent samples
Median test on two samples of unequal size
Kruskal-Wallis one-way analysis of variance on k samples of unequal size
Mood's and David's tests on two samples of unequal size
                                                                                                                                                                                                                                                                                                                                                   G08AAF
                                                                                                                                                                                                                                                                                                                                                   G08AEF
                                                                                                                                                                                                                                                                                                                                                   G08AHF
                                                                                                                                                                                                                                                                                                                                                   G08ACF
                                                                                                                                                                                                                                                                                                                                                   G08AFF
                                                                                                                                                                                                                                                                                                                                                   G08BAF
           ...scores, approximate Normal scores or exponential (Savage) scores
                                                                                                                                                                                                                                                                                                                                                   G01DHF
                                                    Multiply complex vector by complex scalar (CSCAL/ZSCAL)

Multiply complex vector by real scalar (CSSCAL/ZDSCAL)

Broadcast scalar into complex vector

Broadcast scalar into integer vector
                                                                                                                                                                                                                                                                                                                                                   F06GDF
                                                                                                                                                                                                                                                                                                                                                   F06JDF
F06HBF
                                                                                                                                                                                                                                                                                                                                                   F06DBF
                                                                                                                         Broadcast scalar into real vector
                                                                                                                                                                                                                                                                                                                                                   F06FBF
                                                    Multiply real vector by scalar, preserving input vector Multiply complex vector by complex scalar, preserving input vector Multiply complex vector by real scalar, preserving input vector
                                                                                                                                                                                                                                                                                                                                                   FOSFDE
                                                                                       Multiply real vector by scalar (SSCAL/DSCAL)

Add a scalar times a complex sparse vector to another complex...

Add a scalar times a real sparse vector to another real...

Add scalar times complex vector to complex vector...
                                                                                                                                                                                                                                                                                                                                                  F06EDF
F06GTF
F06ETF
                                                                                                                                        Add scalar times real vector to real vector (SAXPY/DAXPY)
                                                                                                                                                                                                                                                                                                                                                  F06ECF
                                                           Compute quotient of two real scalars, with overflow flag Compute quotient of two complex scalars, with overflow flag
                                                                                                                                                                                                                                                                                                                                                   F06BLF
                    Robust estimation, M-estimates for location and \mathbf{scale} parameters, standard weight functions Robust estimation, M-estimates for location and \mathbf{scale} parameters, user-defined weight functions
                                                                                                                                                     Scaled complex complement of error function,...
                                                                                                                                                                                                                                                                                                                                                   S15DDF
                                                                                                                                                     Scaled derivatives of \psi(x)
                                                                                                                                                                                                                                                                                                                                                   S14ADF
                             Compute Euclidean norm from scaled form
Update Euclidean norm of real vector in scaled form
Update Euclidean norm of complex vector in scaled form
                                                                                                                                                                                                                                                                                                                                                   F06BMF
                                                                                                                                                                                                                                                                                                                                                   F06KJF
           Sum or difference of two real matrices, optional scaling and transposition Sum or difference of two complex matrices, optional scaling and transposition
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KWIC.38 [NP3086/18/pdf]

```
...principal coordinate analysis, classical metric scaling
Performs non-metric (ordinal) multidimensional scaling
                                                                                                                                               {\bf Scatter} \ {\bf a} \ {\bf complex} \ {\bf sparse} \ {\bf vector} \ ({\bf CSCTR/ZSCTR})
                                                                                                                                                                                                                                                                                                                                F06GWF
                                                                                                                                               Scatter a real sparse vector (SSCTR/DSCTR)
       ...fit by bicubic splines with automatic knot placement, scattered data
                                                                                                                                                                                                                                                                                                                               E02DDF
                                                                                                                 Lineprinter \mathbf{scatterplot} of one variable against Normal scores Lineprinter \mathbf{scatterplot} of two variables
                                                                                                                                                                                                                                                                                                                                G01AHE
                                                                                                                               Gram-Schmidt orthogonalisation of n vectors of order m
                                                                                             All eigenvalues and Schur factorization of complex general matrix (Black...

Reorder Schur factorization of complex matrix, form orthonormal...

Reorder Schur factorization of complex matrix using unitary...

Eigenvalues and Schur factorization of complex upper Hessenberg matrix...

All eigenvalues and Schur factorization of real general matrix (Black Box)

Reorder Schur factorization of real matrix, form orthonormal...

Reorder Schur factorization of real matrix using orthogonal...

Eigenvalues and Schur factorization of real upper Hessenberg matrix...
                                                                                                                                                                                                                                                                                                                                F02GAF
                                                                                                                                                                                                                                                                                                                                F08QUF
                                                                                                                                                                                                                                                                                                                               F08QTF
F08PSF
F02EAF
                                                                                                     Computes factor score coefficients (for use after G03CAF)
                                                                                                                                                                                                                                                                                                                               G03CCF
                                                                                                        Normal scores, accurate values
Ranks, Normal scores, approximate Normal scores or exponential...
Normal scores, approximate values
Normal scores, approximate variance-covariance matrix
                                                                                                                                                                                                                                                                                                                               G01DAF
                                                                                                                                                                                                                                                                                                                                G01DHF
                                                                                                                                                                                                                                                                                                                                G01DBF
                                                                                                                                                                                                                                                                                                                                G01DCF
                                                               Produces standardized values (z-scores) for a data matrix
                                                                                                                                                                                                                                                                                                                                G03ZAF
          Lineprinter scatterplot of one variable against Normal \mathbf{scores}
                                                                                                                                                                                                                                                                                                                                G01AHF
             ...approximate Normal scores or exponential (Savage) scores

Ranks, Normal scores, approximate Normal scores or exponential (Savage) scores
                                                                                                                                                                                                                                                                                                                                G01DHF
...and Dekker algorithm, from given starting value, binary search for interval
Binary search for interval containing zero of continuous...
                                                                                                                                                                                                                                                                                                                                C05AGF
                                                                                                                                                                                                                                                                                                                                C05AVF
               Univariate time series, seasonal and non-seasonal differencing
Univariate time series, estimation, seasonal ARIMA model (comprehensive)
Univariate time series, estimation, seasonal ARIMA model (easy-to-use)
Univariate time series, preliminary estimation, seasonal ARIMA model
...series, state set and forecasts, from fully specified seasonal ARIMA model
Univariate time series seasonal and non seasonal ARIMA model
                                                                                                                                                                                                                                                                                                                                G13AAF
                                                                                                                                                                                                                                                                                                                               G13AEF
G13AFF
G13ADF
                                                                                                                                                                                                                                                                                                                                G13AJF
                                           Univariate time series, seasonal and non-seasonal differencing
                                                                                                                                                                                                                                                                                                                                G13AAF
                                                                                                                                               Selected eigenvalues and eigenvectors of complex...
Selected eigenvalues and eigenvectors of complex...
                                                                                                                                                                                                                                                                                                                                F02HCF
                                                                          Estimates of sensitivities of selected eigenvalues and eigenvectors of complex upper...
                                                                                                                                                                                                                                                                                                                               F08QYF
                                                                                                                                               Selected eigenvalues and eigenvectors of real...
Selected eigenvalues and eigenvectors of real symmetric...
                                                                                                                                                                                                                                                                                                                                F02FCF
                                                                          Estimates of sensitivities of selected eigenvalues and eigenvectors of real upper...
                                                                                                                                                                                                                                                                                                                               F08QLF
                                                                                                                                                \begin{array}{l} \textbf{Selected} \ \ \text{eigenvalues} \ \ \text{and} \ \ \text{eigenvectors} \ \ \text{of} \ \ \text{sparse...} \\ \textbf{Selected} \ \ \text{eigenvalues} \ \ \text{of} \ \ \text{real} \ \ \text{symmetric} \ \ \text{tridiagonal...} \end{array} 
                                                                                                                                                                                                                                                                                                                                F02FJF
                                                                                                                                                                                                                                                                                                                                F08JJF
         form orthonormal basis of right invariant subspace for selected eigenvalues, with estimates of sensitivities... form orthonormal basis of right invariant subspace for selected eigenvalues, with estimates of sensitivities...
                                                                                                                                                                                                                                                                                                                                F08OUE
                                                                                                                                               Selected eigenvectors of real symmetric tridiagonal...
Selected right and/or left eigenvectors of complex...
Selected right and/or left eigenvectors of real upper...
                                                                                                                                                                                                                                                                                                                               F08PKF
          Allocates observations to groups according to selected rules (for use after G03DAF) multiway table from set of classification factors using selected statistic
                                                                                                                                                                                                                                                                                                                               G03DCF
                                                   1-D quadrature, adaptive, infinite or semi-infinite interval 1-D quadrature, adaptive, semi-infinite interval, weight function \cos(\omega...
                                                                                                                                                                                                                                                                                                                               ^{\rm D01AMF}_{\rm D01ASF}
           ... subspace for selected eigenvalues, with estimates of {\bf sensitivities} \ ({\rm CTRSEN/ZTRSEN})
                                                                                                                                                                                                                                                                                                                                F08QUF
           Estimates of sensitivities of selected eigenvalues and eigenvectors...

Estimates of sensitivities of selected eigenvalues and eigenvectors...

...subspace for selected eigenvalues, with estimates of sensitivities (STRSEN/DTRSEN)
                                                                                                                                                                                                                                                                                                                                F08QYF
                                                                                                                                                                                                                                                                                                                                F08OLF
  Complex conjugate of Hermitian sequence
Complex conjugate of complex sequence
Complex plane rotations
Complex rectangular...
Apply sequence of plane rotations, complex rectangular...
Apply sequence of plane rotations, complex rectangular...
Apply sequence of plane rotations, complex rectangular...

QR or RQ factorization by sequence of plane rotations, complex upper Hessenberg...
QR factorization by sequence of plane rotations, complex upper Hessenberg...
Compute upper Hessenberg matrix by sequence of plane rotations, complex upper triangular...
Compute upper spiked matrix by sequence of plane rotations, complex upper triangular...
Compute upper triangular. Z a sequence of plane rotations, complex upper triangular...
...transformation of a real symmetric matrix as a sequence of plane rotations
...similarity transformation of a Hermitian matrix as a sequence of plane rotations
...similarity transformation of a Hermitian matrix as a sequence of plane rotations
...of ZU, U complex upper triangular, Z a sequence of plane rotations, rank-1 update of complex...
QR factorization by sequence of plane rotations, rank-1 update of real...
Apply sequence of plane rotations, rank-1 update of real...
Apply sequence of plane rotations, real upper Hessenberg...
QR or RQ factorization by sequence of plane rotations, real upper pspiked matrix
QR or RQ factorization by sequence of plane rotations, real upper pspiked matrix
Compute upper spiked matrix by sequence of plane rotations, real upper triangular...
Compute upper spiked matrix by sequence of plane rotations, real upper triangular...
Compute upper spiked matrix by sequence of plane rotations, real upper triangular...
Compute sequence of plane rotations, real upper triangular...
Compute sequence of plane rotations and upper triangular...
                                                                                                                                                                                                                                                                                                                               F08QGF
                                                                                                                                                                                                                                                                                                                                C06GBF
                                                                                                                                                                                                                                                                                                                               C06GBF
C06GCF
G05CBF
G05CCF
F06HQF
                                                                                                                                                                                                                                                                                                                                ^{\rm F06TYF}_{\rm F06TXF}
                                                                                                                                                                                                                                                                                                                                F06VXF
                                                                                                                                                                                                                                                                                                                               F06VXF
F06TRF
F06TSF
F06TQF
F06TVF
F06TWF
F06QMF
                                                                                                                                                                                                                                                                                                                                F06QTF
                                                                                                                                                                                                                                                                                                                                F06TMF
                                                                                                                                                                                                                                                                                                                               F06TMF
F06TTF
F06TPF
F06QPF
F06QXF
                                                                                                                                                                                                                                                                                                                                F06QSF
                                                                                                                                                                                                                                                                                                                                F06QQF
                                                                                                                                                                                                                                                                                                                               F06QVF
F06QWF
F06FQF
G10CAF
                                                                   Acceleration of convergence of sequence, Shanks' transformation and epsilon algorithm
                                                                                                                                                                                                                                                                                                                               C06BAF
                                         Complex conjugate of multiple Hermitian sequences
                                                                                                                                                                                                                                                                                                                                C06GOF
                       Convert Hermitian sequences to general complex sequences

Convert Hermitian sequences to general complex sequences
                                                                                                                                                                                                                                                                                                                                C06GSF
                                                                                                                                                                                                                                                                                                                               C06GSF
             Minimum, function of several variables, sequential QP method, nonlinear constraints, using...
Minimum, function of several variables, sequential QP method, nonlinear constraints, using...
Minimum of a sum of squares, nonlinear constraints, sequential QP method, using function values and...
                                                                                                                                                                                                                                                                                                                               E04UCF
                                                                                                                                                                                                                                                                                                                               E04UFF
E04UNF
                                                                                                                                                                                                                                                                                                                                G08EBF
                                                                                             Performs the pairs (serial) test for randomness
```

```
Summation of Series
         ...PDE, solution of finite difference equations by SIP, seven-point 3-D molecule, iterate to convergence ...PDE, solution of finite difference equations by SIP, seven-point 3-D molecule, one iteration
                                                                                                                                                                                                                                                                                                                                                            D03UBF
                                            Acceleration of convergence of sequence, Shanks' transformation and epsilon algorithm
                                                                                                                                                                                                                                                                                                                                                           C06BAF
                                                                                                                                                         Shapiro and Wilk's W test for Normality
                                                                                                                                                                                                                                                                                                                                                           G01DDF
                                                                Interpolating functions, modified Shepard's method, two variable
                                                                                                                                                                                                                                                                                                                                                            E01SGF
                                                                   ODEs, boundary value problem, shooting and matching, boundary values to be determined
                                                                 ODEs, boundary value problem, shooting and matching, general parameters to be...
ODEs, boundary value problem, shooting and matching technique, allowing interior...
ODEs, boundary value problem, shooting and matching technique, subject to extra...
                                                                                                                                                                                                                                                                                                                                                             D02HBF
                                                                                                                                                                                                                                                                                                                                                            D02AGF
                                                                                                                                                                                                                                                                                                                                                           D02SAF
                                                                                                                                                         Shortest path problem, Dijkstra's algorithm
                                                                                                                                                                                                                                                                                                                                                           H03ADF
                                                                                                                                                         Sign test on two paired samples
                                                                                                                                                                                                                                                                                                                                                           G08AAF
               Performs the Wilcoxon one-sample (matched pairs) signed rank test
                                                                                                                                                                                                                                                                                                                                                           G08AGF
                                  ...lag correlation matrices, \chi^2 statistics and significance levels Computes bounds for the significance of a Durbin–Watson statistic
                                                                                                                                                                                                                                                                                                                                                            G13DNF
       Apply complex similarity rotation to 2 by 2 Hermitian matrix
Apply real similarity rotation to 2 by 2 symmetric matrix
...Schur factorization of complex matrix using unitary similarity transformation (CTREXC/ZTREXC)
Unitary similarity transformation of a Hermitian matrix as a...
Orthogonal similarity transformation of a real symmetric matrix as...
...Schur factorization of real matrix using orthogonal similarity transformation (STREXC/DTREXC)
                                                                                                                                                                                                                                                                                                                                                            F06CHF
                                                                                                                                                                                                                                                                                                                                                            F06BHF
F08QTF
F06TMF
                                                                                                                                                                                                                                                                                                                                                             F06QMF
                                                                                                                                                                                                                                                                                                                                                           F08QFF
                                            \label{thm:constrained} \mbox{ Unconstrained minimum, $\bf simplex$ algorithm, function of several variables using...} \\ \mbox{ Multi-dimensional quadrature over an $n$-$\bf simplex$}
                                                                                                                                                                                                                                                                                                                                                            E04CCF
                                                                                                                                                                                                                                                                                                                                                            D01PAF
Solution of real tridiagonal simultaneous linear equations (coefficient matrix...

Solution of real almost block diagonal simultaneous linear equations (coefficient matrix...

...of real symmetric positive-definite variable-bandwidth simultaneous linear equations (coefficient matrix...

Solution of real symmetric positive-definite simultaneous linear equations (coefficient matrix...

Solution of real symultaneous linear equations (coefficient matrix...

Solution of real simultaneous linear equations (coefficient matrix...

Solution of real simultaneous linear equations, one right-hand side...

Solution of real tridiagonal simultaneous linear equations, one right-hand side...

Solution of real tridiagonal simultaneous linear equations, one right-hand side...

Solution of real symmetric positive-definite simultaneous linear equations, one right-hand side...

Solution of real symmetric positive-definite simultaneous linear equations, one right-hand side...

Solution of real symmetric positive-definite simultaneous linear equations using iterative...

Solution of real symultaneous linear equations using iterative...

Solution of real symultaneous linear equations with multiple right-hand...

Solution of real symmetric positive-definite simultaneous linear equations with multiple right-hand...

Solution of real symmetric positive-definite simultaneous linear equations with multiple right-hand...

Solution of real symmetric positive-definite simultaneous linear equations with multiple right-hand...

Solution of real symmetric positive-definite simultaneous linear equations with multiple right-hand...

Solution of real symmetric positive-definite simultaneous linear equations with multiple right-hand...

Solution of real symmetric positive-definite simultaneous linear equations with multiple right-hand...
                                                                                                                                                                                                                                                                                                                                                            F04LEF
                                                                                                                                                                                                                                                                                                                                                            F04LHF
F04MCF
F04AGF
                                                                                                                                                                                                                                                                                                                                                            F04AJF
                                                                                                                                                                                                                                                                                                                                                            F04AXF
                                                                                                                                                                                                                                                                                                                                                            F04ARF
                                                                                                                                                                                                                                                                                                                                                            F04ARF
F04EAF
F04FAF
F04ASF
F04ATF
                                                                                                                                                                                                                                                                                                                                                             F04AFF
                                                                                                                                                                                                                                                                                                                                                            F04AHF
                                                                                                                                                                                                                                                                                                                                                           F04AAF
F04ACF
F04ADF
F04ABF
F04AEF
                                                               Largest permissible argument for \mathbf{SIN} and \mathbf{COS}
                                                                                                                                                                                                                                                                                                                                                           X02AHF
 Generate complex plane rotation, storing tangent, real sine
...cosine and sine from given complex tangent, real sine
...complex rectangular matrix, real cosine and complex sine
...complex rectangular matrix, complex cosine and real sine
...rotations, complex rectangular matrix, real cosine and sine
Recover cosine and sine from given complex tangent, real cosine
Recover cosine and sine from given complex tangent, real sine
Recover cosine and sine from given real tangent
                                                                                                                                                                                                                                                                                                                                                            F06CBF
                                                                                                                                                                                                                                                                                                                                                             F06CDF
                                                                                                                                                                                                                                                                                                                                                            F06CDF
F06TXF
F06TYF
F06VXF
F06CCF
                                                                                                                                                                                                                                                                                                                                                            F06CDF
F06BCF
                                                                                                                                                         Sine integral Si(x)
                                                                                                                                                                                                                                                                                                                                                           S13ADF
                                                                                             Discrete sine transform
Discrete quarter-wave sine transform
                                                                                                                                                                                                                                                                                                                                                             C06HAF
                                                                                                                                                                                                                                                                                                                                                             C06HCF
   Generate weights for use in solving weakly singular Abel type equations
...convolution Volterra-Abel equation, 2nd kind, weakly singular
...convolution Volterra-Abel equation, 1st kind, weakly singular
Linear non-singular Fredholm integral equation, 2nd kind, smooth...
Linear non-singular Fredholm integral equation, 2nd kind, split...
2nd order Sturm-Liouville problem, regular/singular system, finite/infinite range, eigenvalue and/
2nd order Sturm-Liouville problem, regular/singular system, finite/infinite range, eigenvalue...
                                                                                                                                                                                                                                                                                                                                                            D05BYF
                                                                                                                                                                                                                                                                                                                                                            D05ABF
                                                                                                                                                                                                                                                                                                                                                            D05AAF
                                                                                                                                                                                                                                                                                                                                                            D02KEF
                                                                                                                                                                                                                                                                                                                                                           D02KDF
         1-D quadrature, adaptive, finite interval, allowing for singularities at user-specified break-points ...finite interval, weight function with end-point singularities of algebraico-logarithmic type
                                                                                                                                                        \sinh x
                                                                                                                                                                                                                                                                                                                                                           S10ABF
                     ...PDE, solution of finite difference equations by SIP, five-point 2-D molecule, iterate to convergence ...PDE, solution of finite difference equations by SIP, five-point 2-D molecule, one iteration ...PDE, solution of finite difference equations by SIP, seven-point 3-D molecule, iterate to convergence ...PDE, solution of finite difference equations by SIP, seven-point 3-D molecule, one iteration
                                                                                                                                                                                                                                                                                                                                                            D03EBF
                                                                                                                                                                                                                                                                                                                                                            D03UAF
D03ECF
                                                                                                                                                                                                                                                                                                                                                            D03UBF
                                                                                                              Mean, variance, skewness, kurtosis etc, one variable, from frequency...
Mean, variance, skewness, kurtosis etc, one variable, from raw data
Mean, variance, skewness, kurtosis etc, two variables, from raw data
                                                                                                                                                                                                                                                                                                                                                            G01ADF
                                                                                                                                                                                                                                                                                                                                                            G01AAF
G01ABF
                                             Elements of real vector with largest and smallest absolute value
                                                                                                                                                                                                                                                                                                                                                           F06FLF
                                                                                                                                                       Smallest positive model number
                                                                                                                                                                                                                                                                                                                                                           X02AKF
   Computes probabilities for the one-sample Kolmogorov-Smirnov distribution
Computes probabilities for the two-sample Kolmogorov-Smirnov distribution
Performs the one-sample Kolmogorov-Smirnov test for a user-supplied distribution
Performs the one-sample Kolmogorov-Smirnov test for standard distributions
Performs the two-sample Kolmogorov-Smirnov test
                                                                                                                                                                                                                                                                                                                                                            G01EYF
                                                                                                                                                                                                                                                                                                                                                             G01EZF
         ...non-singular Fredholm integral equation, 2nd kind, smooth kernel
                                                                                                                                                                                                                                                                                                                                                           D05ABF
                                                                                      Compute smoothed data sequence using running median smoothers Multivariate time series, smoothed sample cross spectrum using rectangular,...
Multivariate time series, smoothed sample cross spectrum using spectral smoothing...
Univariate time series, smoothed sample spectrum using rectangular, Bartlett,...
Univariate time series, smoothed sample spectrum using spectral smoothing by...
                                                                                                                                                                                                                                                                                                                                                           G10CAF
                                                                                                                                                                                                                                                                                                                                                             G13CCF
                                                                                                                                                                                                                                                                                                                                                             G13CDF
  Compute smoothed data sequence using running median smoothers
  ...time series, smoothed sample spectrum using spectral smoothing by the trapezium frequency (Daniell) window ...series, smoothed sample cross spectrum using spectral smoothing by the trapezium frequency (Daniell) window Fit cubic smoothing spline, smoothing parameter estimated
                                                                                                                                                                                                                                                                                                                                                           G13CBF
                                                                                                                                                                                                                                                                                                                                                            G13CDF
G10ACF
```

KWIC.40 [NP3086/18/pdf]

```
Fit cubic smoothing spline, smoothing parameter given
Fit cubic smoothing spline, smoothing parameter estimated
Fit cubic smoothing spline, smoothing parameter given
                                                                                                                                                                                                                                                                                                                                                                           G10ABF
                                                                                                Jacobian elliptic functions sn. cn and dn
                                                                                                                                                                                                                                                                                                                                                                           S21CAF
                                                                                                                                                                        Soft fail
                                                                                                                                                                                                                                                                                                                                                                           P01
                                                                                                                                                                        Sort 2-D data into panels for fitting bicubic splines
Sort a vector, character data
Sort a vector, integer numbers
Sort a vector, real numbers
                                                                                                                                                                                                                                                                                                                                                                           E02ZAF
                                                  Explicit ODEs, stiff IVP, sparse Jacobian (comprehensive)
Implicit/algebraic ODEs, stiff IVP, sparse Jacobian (comprehensive)
ODEs, IVP, for use with D02M-N routines, sparse Jacobian, enquiry routine
ODEs, IVP, sparse Jacobian, linear algebra diagnostics, for use...
ODEs, IVP, for use with D02M-N routines, sparse Jacobian, linear algebra set-up
                                                                                                                                                                                                                                                                                                                                                                           D02NDF
                                                                                                                                                                                                                                                                                                                                                                           D02NJF
                                                                                                                                                                                                                                                                                                                                                                           D02NRF
Sparse linear least-squares problem, m real equations...

**LU** factorization of real sparse matrix**

*LU** factorization of real sparse matrix**

*LU** factorization of real sparse matrix**

*LU** factorization of real sparse simultaneous linear equations (coefficient...)

*Selected eigenvalues and eigenvectors of sparse symmetric eigenproblem (Black Box)

*Solution of real sparse symmetric inear system, conjugate...

*Solution of real sparse symmetric linear systems, diagnostic for F11GBF

*Real sparse symmetric linear systems, preconditioned...

*Real sparse symmetric linear systems, preconditioned...

*Real sparse symmetric matrix, incomplete Cholesky...

*Real sparse symmetric matrix, reorder routine

*Real sparse symmetric linear systems, gRMRES, CGS, or Bi-CGSTAB...

*Real sparse unsymmetric linear system, RGMRES, CGS, or Bi-CGSTAB...

*Solution of real sparse unsymmetric linear systems, diagnostic for F11BBF

*Real sparse unsymmetric linear systems, greconditioned RGMRES,...

*Real sparse unsymmetric linear systems, preconditioned RGMRES,...

*Real sparse unsymmetric linear systems, preconditioned RGMRES,...

*Real sparse unsymmetric linear systems, preconditioned RGMRES,...

*Real sparse unsymmetric matrix reorder routine

*Real sparse unsymmetric matrix

*Real sparse vector to another real sparse vector (CATHZ/ACTHR)

*Gather and set to croa a complex sparse vector (CATHZ/ACTHR)

*Gather and set to zero a complex sparse vector (SGTHRZ/DGTHR)

*Gathe
                                                                                                                                                                        Sparse linear least-squares problem, m real equations...
                                                                                                                                                                                                                                                                                                                                                                           F04QAF
                                                                                                                                                                                                                                                                                                                                                                           ^{\rm F01BSF}_{\rm F04AXF}
                                                                                                                                                                                                                                                                                                                                                                           F02FJF
                                                                                                                                                                                                                                                                                                                                                                           F02FJF
F11JEF
F11JCF
F11GCF
F11GBF
F11GAF
F11JDF
                                                                                                                                                                                                                                                                                                                                                                           F11JAF
F11ZBF
                                                                                                                                                                                                                                                                                                                                                                           F11ZBF
F11XEF
F11DEF
F11DCF
F11BCF
F11DAF
                                                                                                                                                                                                                                                                                                                                                                           F11BBF
                                                                                                                                                                                                                                                                                                                                                                           F11BAF
                                                                                                                                                                                                                                                                                                                                                                           F11DDF
                                                                                                                                                                                                                                                                                                                                                                           F11DDF
F11ZAF
F11XAF
F06GTF
F06GVF
                                                                                                                                                                                                                                                                                                                                                                           F06GSF
                                                                                                                                                                                                                                                                                                                                                                           F06GWF
                                                                                                                                                                                                                                                                                                                                                                           F06ETF
F06EUF
F06EVF
F06EWF
                                                                                                                                                                                                                                                                                                                                                                            F06GTF
                                                                                                                                                                                                                                                                                                                                                                           F06ETF
                                                                                                                                                                                                                                                                                                                                                                           F06GRF
                                                                                                                                                                                                                                                                                                                                                                           FOSERF
                                                                                                                                                                                                                                                                                                                                                                           F06EXF
                                LU factorization of real sparse matrix with known sparsity pattern
                                                                                                                                                     PDEs, spatial interpolation with D03PCF, D03PEF, D03PFF,... PDEs, spatial interpolation with D03PDF or D03PJF
                                                                                                                                                Kendall/Spearman non-parametric rank correlation coefficients,...
                                                                                                                                                                                                                                                                                                                                                                           G02BPF
                                                                                                                                                                                                                                                                                                                                                                            G02BRF
                                                                                                                                                                                                                                                                                                                                                                            G02BNF
                                                                                                                                                                                                                                                                                                                                                                            G02BOF
                                                                                                                                                                                                                                                                                                                                                                           G02BSF
                                                                                       Least-squares polynomial fit, special data points (including interpolation)
Approximation of special functions
                                                                                                                                                                                                                                                                                                                                                                           E02AFF
                    ...coherency, bounds, univariate and bivariate (cross) spectra
...gain, phase, bounds, univariate and bivariate (cross) spectra
                                                                                                                                                                                                                                                                                                                                                                           G13CEF
                                                                                                                                                                                                                                                                                                                                                                           G13CFF
               Univariate time series, smoothed sample spectrum using spectral smoothing by the trapezium frequency (Daniell)... time series, smoothed sample cross spectrum using spectral smoothing by the trapezium frequency (Daniell)...
                                                                                                                                                                                                                                                                                                                                                                           G13CBF
                                                        Multivariate time series, noise spectrum, bounds, impulse response function and its... Multivariate time series, cross amplitude spectrum, squared coherency, bounds, univariate and...
                                                                                                                                                                                                                                                                                                                                                                           G13CGF
                                     Univariate time series, smoothed sample spectrum using rectangular, Bartlett, Tukey or Parzen...
Multivariate time series, smoothed sample cross spectrum using rectangular, Bartlett, Tukey or Parzen...
Univariate time series, smoothed sample spectrum using spectral smoothing by the trapezium...
Multivariate time series, smoothed sample cross spectrum using spectral smoothing by the trapezium...
                                                                                                                                                                                                                                                                                                                                                                           G13CCF
G13CBF
                                                                                                                                                                                                                                                                                                                                                                           G13CDF
                                                          Multi-dimensional quadrature over an n-sphere, allowing for badly-behaved integrands
                                                                                                                                                                                                                                                                                                                                                                           D01JAF
                           ...
Sag-Szekeres method, general product region or n\mbox{-}\mbox{\bf sphere}
                                                                                                                                                                                                                                                                                                                                                                           D01FDF
                                    Compute upper spiked matrix by sequence of plane rotations, complex...

Compute upper spiked matrix by sequence of plane rotations, real...

...by sequence of plane rotations, real upper spiked matrix

...by sequence of plane rotations, complex upper spiked matrix
                                                                                                                                                                                                                                                                                                                                                                           F06TWF
                                                                                                                                                                                                                                                                                                                                                                           F06QSF
F06TSF
                                                                                       Evaluation of a fitted bicubic spline at a mesh of points
Evaluation of a fitted bicubic spline at a vector of points
Least-squares cubic spline curve fit, automatic knot placement
                                                                                                                                                                                                                                                                                                                                                                           E02DFF
                                                                                                                                                                                                                                                                                                                                                                            E02DEF
                                                                                                                                                                                                                                                                                                                                                                           E02BEF
                                                              Interpolating functions, fitting bicubic spline, data on rectangular grid Evaluation of fitted cubic spline, definite integral
                                                                                                                                                                                                                                                                                                                                                                           E01DAF
                                                                                                 Least-squares\ curve\ cubic\ \mathbf{spline}\ fit\ (including\ interpolation)
                                                                                                                                                                                                                                                                                                                                                                           E02BAF
                                                                                                 Evaluation of fitted cubic {\bf spline}, function and derivatives Evaluation of fitted cubic {\bf spline}, function only
                                                                                                                                                                                                                                                                                                                                                                           E02BBF
                                                                                                                                                                                                                                                                                                                                                                           E01BAF
                                                                                       Interpolating functions, cubic spline interpolant, one variable
                                                                                                               Fit cubic smoothing {f spline}, smoothing parameter estimated Fit cubic smoothing {f spline}, smoothing parameter given
                                                                                                                                                                                                                                                                                                                                                                           G10ACE
                                                Least-squares surface fit, bicubic splines
Sort 2-D data into panels for fitting bicubic splines
Least-squares surface fit by bicubic splines with automatic knot placement, data on...
Least-squares surface fit by bicubic splines with automatic knot placement, scattered data
                                                                                                                                                                                                                                                                                                                                                                            E02DAF
                                                                                                                                                                                                                                                                                                                                                                           E02ZAF
                                                                                                                                                                                                                                                                                                                                                                            E02DCF
                                                                                                                                                                                                                                                                                                                                                                           E02DDF
```

```
...non-singular Fredholm integral equation, 2nd kind, \mathbf{split} kernel
                                                                                                                                                                                SPRINT package
                                                                                                                                                                                                                                                                                                                                                                            D02M-N
                                  ...update, one iteration of Kalman filter, time-varying, square root covariance filter ...one iteration of Kalman filter, time-invariant, square root covariance filter
                                                                                                                                                                                                                                                                                                                                                                            G13EAF
G13EBF
                                                                                                                                                                                Square root of a complex number
                                                                                                                                                                                                                                                                                                                                                                            A02AAF
                                                                                                                                                       Compute square root of (a^2 + b^2), real a and b
                                                                                                                                                                                                                                                                                                                                                                            F06BNF
                                Convert real matrix between packed triangular and square storage schemes
Convert complex matrix between packed triangular and square storage schemes
                                                                                                                                                                                                                                                                                                                                                                            F01ZBF
                                           Multivariate time series, cross amplitude spectrum, squared coherency, bounds, univariate and bivariate...

Computes Mahalanobis squared distances for group or pooled...

Multivariate time series, multiple squared partial autocorrelations
                                                                                                                                                                                                                                                                                                                                                                             G13CEE
                                                                                                                                                                                                                                                                                                                                                                            G03DBF
G13DBF
                                                                                 Unconstrained minimum of a sum of squares, combined Gauss-Newton and modified Newton...
Unconstrained minimum of a sum of squares, combined Gauss-Newton and modified Newton...
Unconstrained minimum of a sum of squares, combined Gauss-Newton and modified Newton...
Unconstrained minimum of a sum of squares, combined Gauss-Newton and modified Newton...
Unconstrained minimum of a sum of squares, combined Gauss-Newton and modified Newton...
Unconstrained minimum of a sum of squares, combined Gauss-Newton and modified Newton...
Unconstrained minimum of a sum of squares, combined Gauss-Newton and quasi-Newton...
Unconstrained minimum of a sum of squares, combined Gauss-Newton and quasi-Newton...
                                                                                                                                                                                                                                                                                                                                                                            E04HEF
                                                                                                                                                                                                                                                                                                                                                                            E04HYF
                                                                                                                                                                                                                                                                                                                                                                            E04FCF
                                                                                                                                                                                                                                                                                                                                                                            E04FYF
E04GBF
E04GYF
                               Least-squares cubic spline curve fit, automatic knot...
Least-squares curve cubic spline fit (including...
Least-squares curve fit, by polynomials, arbitrary data...
...ODEs, boundary value problem, collocation and least-squares
...user's routine for calculating Hessian of a sum of squares
                                                                                                                                                                                                                                                                                                                                                                            E02BEF
                                                                                                                                                                                                                                                                                                                                                                             E02BAF
                                                                                                                                                                                                                                                                                                                                                                            E02ADF
                                                                                                                                                                                                                                                                                                                                                                            D02TGF
                                                                                                                                                                                                                                                                                                                                                                            E04YBF
                                ...Gauss-Markov linear model (including weighted least-squares) ...Gauss-Markov linear model (including weighted least-squares)
                                                                                                                                                                                                                                                                                                                                                                            F04JLF
F04KLF
                                                                    Equality-constrained complex linear least-squares

Computes residual sums of squares for all possible linear regressions for a set...

Computes sum of squares for contrast between means
                                                                                                                                                                                                                                                                                                                                                                             G02EAF
                                                                                                                                                                                                                                                                                                                                                                            G04DAF
                                           Calculates R^2 and C_p values from residual sums of squares
                                                                                                                                                                                                                                                                                                                                                                            G02ECF
                                                         lates R^* and C_p values from residual sums of squares (if rank = n) or minimal least-squares (if... Least-squares (if rank = n) or minimal least-squares (if rank < n) solution of m real equations in... Computes a weighted sum of squares matrix Computes a correlation matrix from a sum of squares matrix Update a weighted sum of squares matrix with a new observation
                                                                                                                                                                                                                                                                                                                                                                            F04JGF
                                                                                                                                                                                                                                                                                                                                                                            F04JGF
                                                                                                                                                                                                                                                                                                                                                                             G02BUF
                                                                                                                                                                                                                                                                                                                                                                             G02BWF
                                                                                                                                                                                                                                                                                                                                                                            G02BTF
                                                                                                                        Minimum of a sum of squares, nonlinear constraints, sequential QP method,...
                                                                                                                                                                                                                                                                                                                                                                            E04UNF
                                Least-squares polynomial fit, special data points (including...

Least-squares polynomial fit, values and derivatives may be...

Convex QP problem or linearly-constrained linear least-squares problem
                                                                                                                                                                                                                                                                                                                                                                             E02AGF
                                                                                                                                                                                                                                                                                                                                                                            E04NCF
                                                                               Covariance matrix for nonlinear least-squares problem
Equality-constrained real linear least squares problem
Sparse linear least-squares problem, m real equations in n unknowns
Covariance matrix for linear least-squares problems, m real equations in n unknowns
                                                                                                                                                                                                                                                                                                                                                                            E04YCF
                                                                                                                                                                                                                                                                                                                                                                            F04JMF
                                     ODEs, boundary value problem, collocation and least-squares, single nth order linear equation
                                                                                                                                                                                                                                                                                                                                                                            D02JAF
                                                                                                                                           Minimal least-squares solution of m real equations in n unknowns,...

Minimal least-squares solution of m real equations in n unknowns,...

Least-squares sultion of m real equations in n unknowns,...

Least-squares surface fit, bicubic splines

Least-squares surface fit by bicubic splines with automatic...

Least-squares surface fit by polynomials, data on lines
                                                                                                                                                                                                                                                                                                                                                                            F04JDF
                                                                                                                                                                                                                                                                                                                                                                            \begin{array}{c} {\rm F04JAF} \\ {\rm F04AMF} \end{array}
                                                                                                                                                                                                                                                                                                                                                                            E02DAF
                                                                                                                                                                                                                                                                                                                                                                            E02DCE
                                     ODEs, boundary value problem, collocation and least-squares, system of 1st order linear equations
                                                                                                                                                                                                                                                                                                                                                                            D02JBF
...linear system, RGMRES, CGS, or Bi-CGSTAB method, Jacobi or SSOR preconditioner (Black Box)
...system, conjugate gradient/Lanczos method, Jacobi or SSOR preconditioner (Black Box)
...involving preconditioning matrix generated by applying SSOR to real sparse symmetric matrix
...involving preconditioning matrix generated by applying SSOR to real sparse unsymmetric matrix
                                                                                                                                                                                                                                                                                                                                                                            F11DEF
                                                                                                                                                                                                                                                                                                                                                                             F11JEF
                                                                                                                                                                                                                                                                                                                                                                            F11JDF
                         Performs the \chi^2 goodness of fit test, for standard continuous distributions

...estimation, median, median absolute deviation, robust standard deviation.

Computes quantities needed for range-mean or standard deviation-mean plot

Performs the one-sample Kolmogorov-Smirnov test for standard distributions

...function of a general linear regression model and its standard error

...function of a generalized linear model and its standard error

...spectrum, bounds, impulse response function and its standard errors

...completely randomized design, treatment means and standard errors

...completely randomized design, treatment means and standard errors

...complete factorial design, treatment means and standard errors

Multivariate time series, forecasts and their standard errors

Multivariate time series, orecasts and their standard errors

Estimates and standard errors of parameters of a general linear model...

Estimates and standard form, generalized real symmetric-definite...

Reduction to standard form of complex Hermitian-definite generalized...

Reduction to standard form of real symmetric-definite generalized...

Reduction to standard form of real symmetric-definite generalized...

Reduction to standard form of real symmetric-definite generalized...

Robust regression, standard Normal distribution

Computes probabilities for the standard Normal distribution

...M-estimates for location and scale parameters, standard weight functions

Calculates standardized residuals and influence statistics
                                                                                                                                                                                                                                                                                                                                                                            F11DDF
                                                                                                                                                                                                                                                                                                                                                                            G08CGF
                                                                                                                                                                                                                                                                                                                                                                             G07DAF
                                                                                                                                                                                                                                                                                                                                                                            G07DAF
G13AUF
G08CBF
G02DNF
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                                                                                                                                                                                                                                                                                                                                                                            G04BBF
                                                                                                                                                                                                                                                                                                                                                                            G04BCF
                                                                                                                                                                                                                                                                                                                                                                            G04BCF
G04CAF
G13DJF
G13DKF
G02GKF
G02DKF
F01BVF
                                                                                                                                                                                                                                                                                                                                                                             F08SSF
                                                                                                                                                                                                                                                                                                                                                                            F08TSF
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                                                                                                                                                                                                                                                                                                                                                                            G02HAF
G01EAF
G01FAF
G07DBF
                                                                                                                                                    Calculates standardized residuals and influence statistics
                                                                                                                                                                                                                                                                                                                                                                            G02FAF
                                                                                                                                                        Produces standardized values (z-scores) for a data matrix
                                                                                                                                                                                                                                                                                                                                                                            G03ZAF
                        Computes t-test statistic for a difference in means between two Normal...

Computes test statistic for equality of within-group covariance...

Computes probability for the Studentized range statistic

Computes bounds for the significance of a Durbin-Watson statistic

Computes deviates for the Studentized range statistic

Computes Durbin-Watson test statistic

...table from set of classification factors using selected statistic
                                                                                                                                                                                                                                                                                                                                                                            G07CAE
                                                                                                                                                                                                                                                                                                                                                                             G07CAF
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                                                                                                                                                                                                                                                                                                                                                                            G11BAF
                                             ...
the exact probabilities for the Mann–Whitney U statistic, no ties in pooled sample
...
the exact probabilities for the Mann–Whitney U statistic, ties in pooled sample
                                                                                                                                                                                                                                                                                                                                                                            G08AJF
                                                                                                                                                                                                                                                                                                                                                                             G08AKF
                                     \begin{array}{c} \text{Order statistics}\\ \text{...sample partial lag correlation matrices, $\chi^2$ statistics and significance levels}\\ \chi^2 \text{ statistics for two-way contingency table}\\ \text{...of quadratic forms in Normal variables, and related statistics} \end{array}
                                                                                                                                                                                                                                                                                                                                                                            G01D
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                                                      Calculates standardized residuals and influence statistics
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KWIC.42 [NP3086/18/pdf]

Index Keywords in Context

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Constructs a stem and leaf plot
                                                                                                                                                                                                                                                                                                                                                                                                                                    G01ARF
                                                                                            Explicit ODEs, stiff IVP, banded Jacobian (comprehensive)
Implicit/algebraic ODEs, stiff IVP, banded Jacobian (comprehensive)
ODEs, stiff IVP, BDF method, until function of solution is...
Explicit ODEs, stiff IVP, full Jacobian (comprehensive)
Implicit/algebraic ODEs, stiff IVP, full Jacobian (comprehensive)
Explicit ODEs, stiff IVP (reverse communication, comprehensive)
Implicit/algebraic ODEs, stiff IVP, sparse Jacobian (comprehensive)
Implicit/algebraic ODEs, stiff IVP, sparse Jacobian (comprehensive)
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D02NDF
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                                                                                 Computes probability for the Studentized range statistic Computes deviates for the Studentized range statistic
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                                    Computes probabilities for Student's t-distribution
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Pseudo-random real numbers, Student's t-distribution
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G05DJF
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                 \dots analysis \ of \ variance, \ hierarchical \ classification, \ \mathbf{subgroups} \ of \ unequal \ size
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Unconstrained minimum of a sum of squares, combined Gauss-Newton and modified...
Unconstrained minimum of a sum of squares, combined Gauss-Newton and modified...
Unconstrained minimum of a sum of squares, combined Gauss-Newton and modified...
Unconstrained minimum of a sum of squares, combined Gauss-Newton and modified...
Unconstrained minimum of a sum of squares, combined Gauss-Newton and modified...
Unconstrained minimum of a sum of squares, combined Gauss-Newton and quasi-Newton...
Unconstrained minimum of a sum of squares, combined Gauss-Newton and quasi-Newton...
Check user's routine for calculating Hessian of a sum of squares

Computes sum of squares

Computes a weighted sum of squares for contrast between means

Computes a correlation matrix from a sum of squares matrix

Update a weighted sum of squares matrix with a new observation

Minimum of a sum of squares, nonlinear constraints, sequential QP...
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Sum or difference of two real matrices, optional...
Sum the absolute values of complex vector elements...
Sum the absolute values of real vector elements...
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                                 Calculates \operatorname{\mathbb{R}}^2 and \operatorname{\mathbb{C}}_P values from residual \operatorname{\mathbf{sums}} of squares
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                                                                                                                                    Least-squares surface fit, bicubic splines
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Least-squares surface fit by bicubic splines with automatic knot...
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SVD of a real upper triangular matrix (Black Box)
SVD of complex matrix (Black Box)
SVD of complex upper triangular matrix (Black Box)
SVD of real bidiagonal matrix reduced from complex...
SVD of real bidiagonal matrix reduced from real general...
SVD of real matrix (Black Box)
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F08MEF
F02WEF
                                                                                                                                                                                    SVD of real matrix (Black Box)
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Swap two real vectors (SSWAP/DSWAP)
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                                                                                                                                  Solve real Sylvester matrix equation AX+XB=C, A and B... Solve complex Sylvester matrix equation AX+XB=C, A and B...
Solve real Sylvester matrix equation AX + XB = C, A and B...

Solve complex Sylvester matrix equation AX + XB = C, A and B...

...Frobenius norm, largest absolute element, complex symmetric band matrix

Matrix-vector product, real symmetric band matrix

Matrix-vector product, real symmetric band matrix (SSBMV/DSBMV)

Orthogonal reduction of real symmetric band matrix (SSBMV/DSBMV)

Orthogonal reduction of real symmetric band matrix to symmetric tridiagonal form...

Selected eigenvalues and eigenvectors of sparse symmetric indefinite matrix, matrix already factorized...

Inverse of a real symmetric indefinite matrix, matrix already factorized...

Estimate condition number of real symmetric indefinite matrix, matrix already factorized...

Inverse of a real symmetric indefinite matrix, matrix already factorized...

Bunch-Kaufman factorization of real symmetric indefinite matrix, packed storage...

Bunch-Kaufman factorization of real symmetric indefinite matrix (SSYTRF/DSYTRF)

Solution of real symmetric indefinite system of linear equations,...

Solution of real symmetric indefinite system of linear equations,...

Refined solution with error bounds of real symmetric indefinite system of linear equations,...

Refined solution with error bounds of real symmetric indefinite system of linear equations,...

Solution of real sparses symmetric linear system, conjugate gradient/Lanczos...

Solution of real sparses symmetric linear system, conjugate gradient/Lanczos...

Real sparses symmetric linear systems, diagnostic for F11GBF

Real sparses symmetric linear systems, preconditioned conjugate...

Real sparses symmetric matrix (BSYR)

Real sparse symmetric matrix (BSYR/ZSYRK)

Bunch-Kaufman factorization of a real symmetric matrix (SSYR/ZSYRK)

Bunch-Kaufman factorization of complex symmetric matrix (CSYR/ZSYRK)

Apply real similarity rotation to 2 by 2 symmetric matrix (CSYR/ZSYRK)

Bunch-Kaufman factorization from complex symmetric matrix

...Frobenius norm, largest absolute element, complex symmetric matrix

                                                                                                                                                                                                                                                                                                                                                                                                                                    F08OHF
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Bunch-Kanfman factorization of complex symmetric matrix, packed storage (CSPTRF/ZSPTRF) ...Probenius norm, largest absolute element, real symmetric matrix, packed storage Real sparse symmetric matrix, packed storage Matrix-vector product, real symmetric matrix (CSSTW/DSPTR/S) Rank-2k update of a real symmetric matrix (CSSTW/DSPTR/S) Rank-2k update of a real symmetric matrix (CSSTW/DSPTR/S) Rank-2k update of a real symmetric matrix (CSSTW/DSPTR/S) Corthogonal reduction of real symmetric matrix to symmetric tridiagonal form, packed...

...of real symmetric tridiagonal matrix, reduced from real symmetric packed matrix (SSTW/DSPTR/S) Rank-2 update, real symmetric packed matrix (SSTW/DSPTR/S) Rank-2 update, real symmetric packed matrix (SSTR/DSPTR/S) Rank-1 update, real symmetric packed matrix (SSTR/DSPTR/S) Rank-1 update, real symmetric packed matrix (SSTR/DSPTR/S) Rank-1 update, real symmetric packed matrix (SSTR/DSPTR/S) Rank-2 update, real symmetric packed matrix (SSTR/DSPTR/S) Rank-2 update, real symmetric packed matrix (SSTR/DSPTR/S) Rank-1 update, real symmetric packed matrix (SSTR/DSPTR/S) Rank-2 update and symmetric packed matrix (SSTR/DSPTR/S) Rank-2 update and symmetric packed matrix (SSTR/DSPTR/S) Rank-2 update and symmetric packed and symm
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                                                                                                                                                                                              Degenerate symmetrised elliptic integral of 1st kind R_C(x, y)
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                     ...solution of real symmetric positive-definite Toeplitz system
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Solution of linear system involving incomplete LU preconditioning...
Solution of linear system involving preconditioning matrix generated by...
Solution of linear system involving preconditioning matrix generated by...
Solution of linear system involving preconditioning matrix generated by...
...boundary value problem, collocation and least-squares, system of 1st order linear equations
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General system of convection-diffusion PDEs with source terms...
General system of onvection-diffusion PDEs with source terms...
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General system of 2nd order PDEs, method of lines, finite differences,...
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System of equations, complex triangular matrix...
System of equations, complex triangular packed matrix...
System of equations, real triangular band matrix...
System of equations, real triangular matrix...
System of equations, real triangular packed matrix...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 F06SLF
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                         Solves system of equations with multiple right-hand sides,...
Solves a system of equations with multiple right-hand sides,...
General system of 1st order PDEs, coupled DAEs, method of...
General system of 1st order PDEs, coupled DAEs, method of...
General system of 1st order PDEs, method of fines, Keller box...
Refined solution with error bounds of complex band system of linear equations, multiple right-hand sides...
Refined solution with error bounds of complex system of linear equations, multiple right-hand sides...
...with error bounds of complex Hermitian indefinite system of linear equations, multiple right-hand sides...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                F06ZJF
F06YJF
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[NP3086/18/pdf]

Index Keywords in Context

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...bounds of complex Hermitian positive-definite band system of linear equations, multiple right-hand sides...
...error bounds of complex Hermitian positive-definite system of linear equations, multiple right-hand sides...

Refined solution with error bounds of complex band triangular system of linear equations, multiple right-hand sides...

Solution of complex band triangular system of linear equations, multiple right-hand sides...

Error bounds for solution of complex triangular system of linear equations, multiple right-hand sides...

Solution of real system of linear equations, multiple right-hand sides...

Solution of real system of linear equations, multiple right-hand sides...

Solution of real system of linear equations, multiple right-hand sides...

Solution of real system of linear equations, multiple right-hand sides...

Solution of real symmetric positive-definite system of linear equations, multiple right-hand sides...

Solution of real symmetric positive-definite system of linear equations, multiple right-hand sides...

Solution of real symmetric positive-definite system of linear equations, multiple right-hand sides...

Solution of real symmetric positive-definite system of linear equations, multiple right-hand sides...

Solution of real symmetric positive-definite system of linear equations, multiple right-hand sides...

Solution of real symmetric indefinite system of linear equations, multiple right-hand sides...

Solution of real symmetric indefinite system of linear equations, multiple right-hand sides...

Solution of real symmetric indefinite system of linear equations, multiple right-hand sides...

Solution of complex Hermitian indefinite system of linear equations, multiple right-hand sides...

Solution of complex Hermitian indefinite system of linear equations, multiple right-hand sides...

Solution of complex Hermitian indefinite system of linear equations, multiple right-hand sides...

Solution of complex Hermitian positive-definite system of linear equations, multiple right-hand sides.
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                                                                                                                                                                                                                                                                                                                                                                                                                                        F11DEF
                       Solution of real symmetric positive-definite Toeplitz system, one right-hand side
                                                                                                                                                                                                                                                                                                                                                                                                                                        F04FFF
                                                                                        Real sparse unsymmetric linear {f systems}, diagnostic for F11BBF Real sparse symmetric linear {f systems}, diagnostic for F11GBF Real sparse unsymmetric linear {f systems}, incomplete LU factorization
                                                                                                                                                                                                                                                                                                                                                                                                                                        F11DAF
                                                                                                                                                         Solution of systems of nonlinear equations using 1st derivatives... Solution of systems of nonlinear equations using function values...
                                                                                                                                                                                                                                                                                                                                                                                                                                        C05PDF
                                                                                                                                                                                                                                                                                                                                                                                                                                        C05NDF
                                                                                        Real sparse unsymmetric linear systems, preconditioned RGMRES, CGS or Bi-CGSTAB Real sparse symmetric linear systems, preconditioned conjugate gradient or Lanczos Real sparse unsymmetric linear systems, set-up for F11BBF Real sparse symmetric linear systems, set-up for F11GBF
                                                                                                                                                                                                                                                                                                                                                                                                                                        F11BBF
                                                                                                                                                                                                                                                                                                                                                                                                                                        F11GBF
F11BAF
F11GAF
                                                                                                                                                                                                                                                                                                                                                                                                                                        D01FDF
                                                                             Multi-dimensional quadrature, Sag-Szekeres method, general product region or n-sphere
                    Computes probabilities for Student's t-distribution
Computes deviates for Student's t-distribution
Computes probabilities for the non-central Student's t-distribution
Pseudo-random real numbers, Student's t-distribution
                                                                                                                                                                                                                                                                                                                                                                                                                                        G01EBF
                                                                                                                                                                                                                                                                                                                                                                                                                                         G01GBF
                                                                                                                                                             Computes t-test statistic for a difference in means between...
                                                                                                                                                                                                                                                                                                                                                                                                                                        G07CAF
                Two-way contingency table analysis, with \chi^2/\text{Fisher}'s exact test Computes marginal tables for multiway table computed by G11BAF or G11BBF Frequency table from raw data Computes multiway table from set of classification factors using given... Computes multiway table from set of classification factors using selected... ... skewness, kurtosis etc, one variable, from frequency table \chi^2 \text{ statistics for two-way contingency table}
                                                                                                                                                                                                                                                                                                                                                                                                                                        G01AFF
                                                                                                                                                                                                                                                                                                                                                                                                                                        G11BAF
                                                                                                                                                                                                                                                                                                                                                                                                                                        G01ADF
                                                                                                                                                                                                                                                                                                                                                                                                                                        G11AAF
                                                                                                                                                    Contingency table, latent variable model for binary data
                                                                                                      Computes upper and lower tail probabilities and probability density function for...

Computes lower tail probability for a linear combination of (central)...
                                                                                                                                                                                                                                                                                                                                                                                                                                        G01EEF
                                                                                                                                                                                                                                                                                                                                                                                                                                        G01JDF
                                                                                                                                                                                                                                                                                                                                                                                                                                        S07AAF
                                                              Generate real plane rotation, storing tangent
Recover cosine and sine from given real tangent
                                                                                                                                                                                                                                                                                                                                                                                                                                        F06BAF
                                                Generate complex plane rotation, storing tangent, real cosine
Recover cosine and sine from given complex tangent, real cosine
Generate complex plane rotation, storing tangent, real sine
Recover cosine and sine from given complex tangent, real sine
                                                                                                                                                                                                                                                                                                                                                                                                                                        F06CBF
F06CDF
                                                                                                                                                                                                                                                                                                                                                                                                                                        S10AAF
                                       Performs the one-sample Kolmogorov-Smirnov test for a user-supplied distribution Shapiro and Wilk's W test for Normality Performs the runs up or runs down test for randomness Performs the pairs (serial) test for randomness Performs the triplets test for randomness Performs the gaps test for randomness
                                                                                                                                                                                                                                                                                                                                                                                                                                        G08CCF
                                                                                                                                                                                                                                                                                                                                                                                                                                         G08CCF
G01DDF
G08EAF
G08EBF
                                                                                                                                                                                                                                                                                                                                                                                                                                         G08ECF
                                                                                                                                                                                                                                                                                                                                                                                                                                        G08EDF
                                                                                       Performs the \chi^2 goodness of fit test, for standard continuous distributions
                                                                                                                                                                                                                                                                                                                                                                                                                                        G08CGF
        Performs the one-sample Kolmogorov-Smirnov {\bf test} for standard distributions ...table analysis, with \chi^2/{\rm Fisher}'s exact {\bf test} ...the Wilcoxon one-sample (matched pairs) signed rank {\bf test} Performs the two-sample Kolmogorov-Smirnov {\bf test} Performs the Cochran Q {\bf test} on cross-classified binary data Performs the Mann-Whitney U {\bf test} on two independent samples
                                                                                                                                                                                                                                                                                                                                                                                                                                        G08CBF
                                                                                                                                                                                                                                                                                                                                                                                                                                        G01AFF
G08AGF
G08CDF
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G08AHF
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Sign test on two paired samples
                                                                                                      Gign test on two paired samples

Median test on two samples of unequal size

Computes t-test statistic for a difference in means between two...

Computes test statistic for equality of within-group covariance...

Computes Durbin-Watson test statistic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      G08ACF
G07CAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      G03DAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     G02FCF
                                                                                                                           Dispersion tests
Goodness of fit tests
Location tests
Non-parametric tests
Mood's and David's tests on two samples of unequal size
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     G08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     G08BAF
    ...probabilities for the Mann-Whitney $U$ statistic, no ties in pooled sample

Return date and time as an array of integers

Multivariate time series, cross-correlations

Multivariate time series, cross-correlations

Univariate time series, diagnostic checking of residuals,...

Multivariate time series, estimation of within model Multivariate time series, estimation of multi-input model Multivariate time series, estimation of multi-input model Multivariate time series, estimation, seasonal ARIMA model...

Univariate time series, estimation, seasonal ARIMA model. Multivariate time series, filtering (pre-whitening) by an ARIMA...

Univariate time series, forecasting from state set Multivariate time series, forecasting from state set of multi-input...

Multivariate time series, forecasting from state set of multi-input...

Multivariate time series, forecasting from state set of multi-input...

Multivariate time series, forecasting from state set of multi-input...

Multivariate time series, forecasting from state set of multi-input...

Multivariate time series, forecasting from state set of multi-input...

Multivariate time series, soft and an auditorial time series for a VARMA model

Generate next term from reference vector for ARMA time series model

Multivariate time series, sumultiple squared partial autocorrelations Multivariate time series, so supertum, bounds, impulse response...

Univariate time series, spatial autocorrelations from...

Multivariate time series, spatial autocorrelation for transfer...

Univariate time series, spatial autocorrelation function

Multivariate time series, spatial autocorrelation function

Multivariate time series, spatial autocorrelation multices,...

Univariate time series, spatial autocorrelation or transfer...

Univariate time series, spatial partival ago orrelation or transfer...

Univ
          ...probabilities for the Mann-Whitney U statistic, no ties in pooled sample
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     G08AJF
... exact probabilities for the Mann-Whitney U statistic, ties in pooled sample
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G13BCF
G13ASF
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G13AFF
G13BBF
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G13AHF
G13BHF
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G05EGF
G05EWF
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G13BDF
G13ADF
G13ABF
G13DMF
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G13CDF
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G13CBF
G13BJF
G13AJF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                     G13EBF
G13EAF
X05ACF
X05BAF
                   ...and time update, one iteration of Kalman filter, time-invariant, square root covariance filter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     G13EBF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    G13EAF
                  ...and time update, one iteration of Kalman filter, time-varying, square root covariance filter
               ...equations for a real symmetric positive-definite Toeplitz matrix
...equations for a real symmetric positive-definite Toeplitz matrix, one right-hand side
Update solution of real symmetric positive-definite Toeplitz system
Solution of real symmetric positive-definite Toeplitz system, one right-hand side
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     F04MEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      F04FEF
               Multivariate time series, filtering by a transfer function model Multivariate time series, preliminary estimation of transfer function model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     G13BDF
                                                                                            Evaluate inverse Laplace transform as computed by C06LBF
2-D complex discrete Fourier transform
3-D complex discrete Fourier transform
Discrete sine transform
Discrete cosine transform
Discrete quarter-wave sine transform
Discrete quarter-wave cosine transform
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C06LCF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      C06FXF
C06HAF
C06HBF
                                                                                                                                           Inverse Laplace transform, Crump's method
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C06LAF
       ...function 1/(x-c), Cauchy principal value (Hilbert transform)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     D01AQF
                                                                                                                                                                                                   Transform eigenvectors of complex balanced matrix to...
Transform eigenvectors of real balanced matrix to those...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FOSNWF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     F08NJF
                                                             Single 1-D real discrete Fourier transform, extra workspace for greater speed Single 1-D Hermitian discrete Fourier transform, extra workspace for greater speed Single 1-D complex discrete Fourier transform, extra workspace for greater speed Inverse Laplace transform, modified Weeks' method Single 1-D real discrete Fourier transform, no extra workspace Single 1-D Hermitian discrete Fourier transform, no extra workspace Single 1-D complex discrete Fourier transform, no extra workspace
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      C06FAF
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C06ECF
                                           1-D complex discrete Fourier transform of multi-dimensional data
Multi-dimensional complex discrete Fourier transform of multi-dimensional data
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C06FFF
C06FJF
                    Multi-dimensional complex discrete Fourier transform of multi-dimensional data

Acceleration of convergence of sequence, Shanks' transformation and epsilon algorithm
...of complex matrix using unitary similarity transformation (CTREXC/ZTREXC)

Apply orthogonal transformation determined by F08AEF or F08BEF...

Apply unitary transformation determined by F08AFF or F08BEF...

Apply unitary transformation determined by F08AFF or F08BEF...

Apply orthogonal transformation determined by F08AFF (CUNMLQ/ZUNMLQ)

Apply orthogonal transformation determined by F08FEF (SORMTR/DORMTR)

Apply orthogonal transformation determined by F08FEF (SORMTR/DORMTR)

Generate orthogonal transformation matrices from reduction to bidiagonal...

Generate unitary transformation matrix determined by F08FSF...

Apply unitary transformation matrix determined by F08GSF...

Generate orthogonal transformation matrix from reduction to Hessenberg form...

Apply orthogonal transformation matrix from reduction to Hessenberg form...

Apply unitary transformation matrix from reduction to Hessenberg form...

Apply unitary transformation matrix from reduction to tridiagonal...

Generate unitary transformation matrix from reduction to tridiagonal...

Generate orthogonal transformation matrix from reduction to tridiagonal...

Generate unitary transformation matrix from reduction to tridiagonal...

Generate unitary transformation matrix from reduction to tridiagonal...

Generate unitary transformation matrix from reduction to tridiagonal...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      C06BAF
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F08AGF
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F08GGF
F08KFF
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F08NGF
F08NTF
F08NUF
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KWIC.46 [NP3086/18/pdf]

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Unitary similarity transformation of a Hermitian matrix as a sequence of...

Orthogonal similarity transformation of a real symmetric matrix as a sequence...

...of real matrix using orthogonal similarity transformation (STREXC/DTREXC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               F08QFF
                                                                                                                                                                   Apply orthogonal transformations from reduction to bidiagonal form...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               F08KGF
                                                                                                                                                                                Apply unitary transformations from reduction to bidiagonal form...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               F08KUF
                                                                Multiple 1-D real discrete Fourier transforms
Multiple 1-D Hermitian discrete Fourier transforms
Multiple 1-D complex discrete Fourier transforms
Multivariate time series, differences and/or transforms (for use before G13DCF)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C06FPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              C06FQF
C06FRF
G13DLF
                                                                                                                                                                                                                                       Transportation problem
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              H03ABF
                       Matrix transposition ...difference of two real matrices, optional scaling and transposition ...of two complex matrices, optional scaling and transposition
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               F01CRF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               F01CWF
            ...sample spectrum using spectral smoothing by the trapezium frequency (Daniell) window ...sample cross spectrum using spectral smoothing by the trapezium frequency (Daniell) window
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                G13CBF
                                                                 Matrix copy, real rectangular or trapezoidal matrix Matrix copy, complex rectangular or trapezoidal matrix RQ factorization of real m by n upper trapezoidal matrix (m \leq n) RQ factorization of complex m by n upper trapezoidal matrix (m \leq n)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                F06TFF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               F01QGF
     ...probenius norm, largest absolute element, real trapezoidal/triangular matrix
...probenius norm, largest absolute element, complex trapezoidal/triangular matrix
Convert orapidex matrix between packed triangular and square storage schemes
Convert complex matrix between packed triangular and square storage schemes
Matrix-vector product, complex triangular band matrix (TBMV/ZTBMV)
...probenius norm, largest absolute element, real triangular band matrix
...probenius norm, largest absolute element, complex triangular band matrix
...probenius norm, largest absolute element, complex triangular band matrix
...probenius norm, largest absolute element, complex triangular band matrix
...probenius norm, largest absolute element, complex triangular band matrix
...probenius norm, largest absolute element, complex triangular band matrix
...probenius norm, largest absolute element, complex triangular band matrix
...probenius norm, largest absolute element, complex triangular matrix
...probenius norm, largest absolute element, complex triangular matrix
...probenius norm, largest absolute element, complex triangular matrix (CTRSM/ZTRSM)
...probenius norm, largest absolute element, complex triangular matrix
...probenius norm, largest absolute element, end triangular matrix (comprehensive)

Print a real packed triangular matrix (comprehensive)

Estimate condition number of complex band triangular matrix (CTRSM/ZTRSM)
...selected eigenvalues and eigenvectors of a complex upper triangular matrix (CTRSM/ZTRSM)
...selected eigenvalues and eigenvectors of acomplex probent triangular matrix (CTRSM/ZTRSM)
...selected eigenvalues and eigenvectors of complex upper triangular matrix
...probenius norm, largest absolute element, real trapezoidal/triangular matrix
...probenius norm, largest absolute element, real trapezoidal/triangular matrix
...matrix by sequence of plane rotations, complex upper triangular matrix
...matrix by sequence of plane rotations, complex upper triangular matrix
...probenius norm, largest absolute element, complex t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               F01RGF
                            ...Frobenius norm, largest absolute element, real trapezoidal/triangular matrix ...Frobenius norm, largest absolute element, complex trapezoidal/triangular matrix
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F06SGF
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F06PGF
F06PKF
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F06YJF
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F02XUF
X04CDF
X04DDF
F07VUF
F07TUF
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F07TWF
X04CCF
X04DCF
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F06TVF
F06TWF
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F06ZFF
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F06PFF
F08QLF
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F06PLF
F07VVF
F07VSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              F07TVF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              F07UVF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               F07USF
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F07UEF
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F07VEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              F07TEF
                                 ...of UZ or RQ factorization of ZU, U real upper triangular, Z a sequence of plane rotations ...UZ or RQ factorization of ZU, U complex upper triangular, Z a sequence of plane rotations
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               F06QTF
F06TTF
                                                                                                                                                                                                                                       Triangulation of a plane region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              D03MAF
...of complex Hermitian band matrix to real symmetric tridiagonal form (CHBTRD/ZHBTRD)
...reduction of complex Hermitian matrix to real symmetric tridiagonal form (CHETRD/ZHETRD)
...orthogonal transformation matrix from reduction to tridiagonal form determined by F08FEF (SORGTR/DORGTR)
...orthogonal transformation matrix from reduction to tridiagonal form determined by F08FEF (CURGTR/ZUNGTR)
...orthogonal transformation matrix from reduction to tridiagonal form determined by F08FEF (CURGTR/ZUNGTR)
...orthogonal transformation matrix from reduction to tridiagonal form determined by F08GEF (SOPGTR/DOPGTR)
...oreduction of complex Hermitian matrix to real symmetric tridiagonal form, packed storage (CHPTRD/ZHPTRD)
...reduction of real symmetric band matrix to symmetric tridiagonal form (SSETRD/DESTRD)
...reduction of real symmetric matrix to symmetric tridiagonal form (SSETRD/DESTRD)
...reduction of real symmetric matrix to symmetric tridiagonal form (SSYTRD/DSYTRD)

Selected eigenvalues of real symmetric tridiagonal matrix by bisection (SSTEBZ/DSTEBZ)

Selected eigenvectors of real symmetric tridiagonal matrix by inverse iteration, storing...

LU factorization of real tridiagonal matrix
All eigenvalues and eigenvectors of real symmetric tridiagonal matrix, reduced from complex Hermitian...
...and eigenvectors of real symmetric tridiagonal matrix, reduced from complex Hermitian...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               F08HSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               F08FFF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               F08FTF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               F08GFF
F08GTF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               F08GSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              F08GSF
F08GEF
F08HEF
F08FEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                F08JJF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               F08JXF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               F08JKF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FOILER
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All eigenvalues and eigenvectors of real symmetric tridiagonal matrix, reduced from real symmetric matrix... and eigenvectors of real symmetric positive definite tridiagonal matrix, reduced from real symmetric...

All eigenvalues of real symmetric tridiagonal matrix, root-free variant of QL or QR...

Solution of real tridiagonal simultaneous linear equations (coefficient... Solution of real tridiagonal simultaneous linear equations, one...

Solution of real symmetric positive-definite tridiagonal simultaneous linear equations, one...
                                                                                                                                                                                                                                                                                                                                                                F08JFF
                                                                                                                                                                                                                                                                                                                                                                F04LEF
                                                                                                                                                                                                                                                                                                                                                                 F04EAF
                                                                                                                                                                                                                                                                                                                                                                F04FAF
                                                                                                                           Computes a {\bf trimmed} and winsorized mean of a single sample with...
                                                                                                                                                                                                                                                                                                                                                               G07DDF
                                                                                                                        Performs the triplets test for randomness
 ...smoothed sample spectrum using rectangular, Bartlett, Tukey or Parzen lag window ...sample cross spectrum using rectangular, Bartlett, Tukey or Parzen lag window
                                                                                                                                                                                                                                                                                                                                                                G13CCF
                                                                       Computes probabilities for the {\bf two\text{-}sample} Kolmogorov–Smirnov distribution Performs the {\bf two\text{-}sample} Kolmogorov–Smirnov test
                                                                                                                                                                                                                                                                                                                                                                G01EZF
                                                                                                                                                                                                                                                                                                                                                                G08CDF
                                                                                                                                                            \mathbf{Two\text{-}way} \ \mathrm{analysis} \ \mathrm{of} \ \mathrm{variance}, \ \mathrm{hierarchical}...
                                                                                                                                                                                                                                                                                                                                                               G04AGF
                                                                                                                                 Friedman two-way analysis of variance on k matched samples
                                                                                                                                                                                                                                                                                                                                                               G08AEF
                                                                                                                                                                                                                                                                                                                                                               G01AFF
                                                                                                                                                            Two-way contingency table analysis, with...
                                                                                                               \chi^2 statistics for two-way contingency table
                                                                                                                                                                                                                                                                                                                                                                G11AAF
                                                                                           Regression using ranks, \mathbf{uncensored} data
                                                                                                                                                                                                                                                                                                                                                                G08RAF
                                   Dot product of two complex sparse vector, unconjugated (CDOTUI/ZDOTUI)

Dot product of two complex vectors, unconjugated (CDOTU/ZDOTU)

Rank-1 update, complex rectangular matrix, unconjugated vector (CGERU/ZGERU)
                                                                                                                                                                                                                                                                                                                                                                 F06GRF
                                                                                                                                                                                                                                                                                                                                                               F06GAF
F06SMF
                                                                                                                                                            Unconstrained minimum of a sum of squares, combined...
                                                                                                                                                                                                                                                                                                                                                                E04GDF
                                                                                                                                                                                                                                                                                                                                                                 E04GZF
                                                                                                                                                                                                                                                                                                                                                                 E04HEF
                                                                                                                                                                                                                                                                                                                                                                E04GYF
                                                                                                                                                            Unconstrained minimum, preconditioned conjugate...
Unconstrained minimum, simplex algorithm, function of...
                                                                                                                                                                                                                                                                                                                                                                E04DGF
                                                                                                                                                                                                                                                                                                                                                               E04CCF
                                                    Switch for taking precautions to avoid underflow
                                                                                                                                                                                                                                                                                                                                                               X02DAF
                                                Interpolated values, Aitken's technique, unequally spaced data, one variable
                                                                                                                                                                                                                                                                                                                                                                E01AAF
Pseudo-random integer from uniform distribution ...reference vector for generating pseudo-random integers, uniform distribution Generates a vector of random numbers from a uniform distribution over (0,1) Pseudo-random real numbers, uniform distribution over (a,b)
                                                                                                                                                                                                                                                                                                                                                                 G05DYF
                                                                                                                                                                                                                                                                                                                                                                 G05EBF
G05FAF
                                                                                                                                                                                                                                                                                                                                                                 G05CAF
                                                                                                                                                                                                                                                                                                                                                                G05DAF
                                                                                                        Operations with unitary matrices, form rows of Q, after RQ... Form all or part of unitary Q from LQ factorization determined by... Form all or part of unitary Q from QR factorization determined by...
                                                                                                                                                                                                                                                                                                                                                                F01RKE
                                                                                                                                                            Unitary reduction of complex general matrix to upper...
Unitary reduction of complex general rectangular matrix...
Unitary reduction of complex Hermitian band matrix to...
Unitary reduction of complex Hermitian matrix to real...
Unitary reduction of complex Hermitian matrix to real...
                                                                                                                                                                                                                                                                                                                                                                F08HSF
                                                                                                                                                                                                                                                                                                                                                                 F08FSF
                                                                                                                                                                                                                                                                                                                                                                F08GSF
              Reorder\ Schur\ factorization\ of\ complex\ matrix\ using\ \textbf{unitary}\ similarity\ transformation\ (CTREXC/ZTREXC)
                                                                                                                                                                                                                                                                                                                                                               F08QTF
                                                                                                                                                             Unitary similarity transformation of a Hermitian matrix...
                                                                                                                                 Apply unitary transformation determined by F08ASF or F08BSF...
Apply unitary transformation determined by F08AVF...
Generate unitary transformation matrices from reduction to...
Apply unitary transformation matrix determined by F08FSF...
Apply unitary transformation matrix determined by F08GSF...
Generate unitary transformation matrix from reduction to...
Apply unitary transformation matrix from reduction to...
Generate unitary transformation matrix from reduction to...
Apply unitary transformation matrix from reduction to...
Apply unitary transformations from reduction to bidiagonal...
                                                                                                                                                                                                                                                                                                                                                                F08AXF
F08KTF
                                                                                                                                                                                                                                                                                                                                                                F08FUF
                                                                                                                                                                                                                                                                                                                                                                F08GUF
                                                                                                                                                                                                                                                                                                                                                                F08NTF
                                                                                                                                                                                                                                                                                                                                                                F08NUF
F08FTF
F08GTF
                                                                                                                                                                                                                                                                                                                                                               F08KUF
    ...cross amplitude spectrum, squared coherency, bounds, univariate and bivariate (cross) spectra
Multivariate time series, gain, phase, bounds, univariate and bivariate (cross) spectra
Set up reference vector for univariate ARMA time series model
                                                                                                                                                                                                                                                                                                                                                               G13CEF
                                                                                                                                                                                                                                                                                                                                                                G05EGF
                                                                                                                                                           Univariate time series, diagnostic checking of...
Univariate time series, estimation, seasonal ARIMA...
Univariate time series, estimation, seasonal ARIMA...
Univariate time series, forecasting from state set
Univariate time series, partial autocorrelations from...
Univariate time series, preliminary estimation,...
Univariate time series, sample autocorrelation function
Univariate time series, seasonal and non-seasonal...
Univariate time series, smoothed sample spectrum using...
Univariate time series, smoothed sample spectrum using...
Univariate time series, state set and forecasts, from...
Univariate time series, update state set for...
                                                                                                                                                                                                                                                                                                                                                               G13ASF
                                                                                                                                                                                                                                                                                                                                                                G13AEF
G13AFF
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G13ACF
                                                                                                                                                                                                                                                                                                                                                                G13ADF
                                                                                                                                                                                                                                                                                                                                                               G13ABF
G13AAF
G13CAF
G13CBF
                                                                                                                                                                                                                                                                                                                                                               G13AJF
G13AGF
             Solution of real sparse unsymmetric linear system, RGMRES, CGS, or Bi-CGSTAB...
Solution of real sparse unsymmetric linear system, RGMRES, CGS or Bi-CGSTAB...
Real sparse unsymmetric linear systems, diagnostic for F11BBF
Real sparse unsymmetric linear systems, incomplete LU factorization
Real sparse unsymmetric linear systems, preconditioned RGMRES, CGS...
Real sparse unsymmetric linear systems, set-up for F11BBF
...matrix generated by applying SSOR to real sparse unsymmetric matrix
Real sparse unsymmetric matrix reorder routine
                                                                                                                                                                                                                                                                                                                                                               F11DEF
                                                                                                                                                                                                                                                                                                                                                                F11DCF
                                                                                                                                                                                                                                                                                                                                                                F11BCF
                                                                                                                                                                                                                                                                                                                                                                F11DAF
                                                                                                                                                                                                                                                                                                                                                                F11BBF
F11BAF
F11DDF
                                                                                                                            Real sparse unsymmetric matrix vector multiply
                                                                                                                                                                                                                                                                                                                                                               F11XAF
                                                                                                                                                             \mathbf{Update} \ \mathbf{a} \ \mathbf{weighted} \ \mathbf{sum} \ \mathbf{of} \ \mathbf{squares} \ \mathbf{matrix} \ \mathbf{with} \ \mathbf{a} \ \mathbf{new}...
                                                                                                                                                                                                                                                                                                                                                               G02BTF
                                                                                                                                       Rank-2 update, complex Hermitian matrix (CHER2/ZHER2)
Rank-1 update, complex Hermitian matrix (CHER/ZHER)
Rank-2 update, complex Hermitian packed matrix (CHPR2/ZHPR2)
Rank-1 update, complex Hermitian packed matrix (CHPR/ZHPR2)
Rank-1 update, complex rectangular matrix, conjugated vector...
Rank-1 update, complex rectangular matrix, unconjugated vector...
                                                                                                                                                                                                                                                                                                                                                               FO6SBF
                                                                                                                                                                                                                                                                                                                                                               F06SRF
F06SPF
F06SSF
F06SQF
                                                                                                                                                                                                                                                                                                                                                                F06SNF
                                                                                                                                                                                                                                                                                                                                                               F06SMF
                                                                                                                                                              \begin{array}{c} \textbf{Update} \ \operatorname{Euclidean} \ \operatorname{norm} \ \operatorname{of} \ \operatorname{complex} \ \operatorname{vector} \ \operatorname{in} \ \operatorname{scaled} \ \operatorname{form} \\ \textbf{Update} \ \operatorname{Euclidean} \ \operatorname{norm} \ \operatorname{of} \ \operatorname{real} \ \operatorname{vector} \ \operatorname{in} \ \operatorname{scaled} \ \operatorname{form} \\ \end{array} 
                                                                                                                                                                                                                                                                                                                                                                F06KJF
                                                                                                                                                                                                                                                                                                                                                               F06ZRF
                                                                                                                                    Rank-2k update of a complex Hermitian matrix (CHER2K/ZHER2K)
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[NP3086/18/pdf]

Index Keywords in Context

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Rank-k update of a complex Hermitian matrix (CHERK/ZHERK)
Rank-2k update of a complex symmetric matrix (CSYRK/ZHERZK)
Rank-k update of a complex symmetric matrix (CSYRK/ZSYRK)
Rank-2k update of a real symmetric matrix (SSYRZK/DSYRZK)
Rank-k update of a real symmetric matrix (SSYRZK/DSYRZK)
Rank-k update of a real symmetric matrix (SSYRK/DSYRZK)
...factorization by sequence of plane rotations, rank-1 update of complex upper triangular matrix
...factorization by sequence of plane rotations, rank-1 update of real upper triangular matrix
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ^{\rm F06ZUF}_{\rm F06YRF}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           F06YPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           F06QPF
                                                                                              Combined measurement and time update, one iteration of Kalman filter,...

Combined measurement and time update, one iteration of Kalman filter, time-varying,...

Rank-1 update, real rectangular matrix (SGER/DGER)

Rank-2 update, real symmetric matrix (SSYR2/DSYR2)

Rank-1 update, real symmetric matrix (SSYR/DSYR)

Rank-2 update, real symmetric packed matrix (SSPR2/DSPR2)

Rank-1 update, real symmetric packed matrix (SSPR/DSPR)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            G13EBF
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F06PMF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          F06PQF
                                                                                                                                                                                                                        Update solution of real symmetric positive-definite...
Update solution of the Yule-Walker equations for a real...
                                                                                                                             \label{eq:multivariate} \begin{tabular}{ll} Multivariate time series, {\bf update} \ state set for forecasting from multi-input model \\ Univariate time series, {\bf update} \ state set for forecasting \\ \end{tabular}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          G13AGF
                   ...parameters and general linear regression model from updated model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          G02DDF
       Computes upper and lower tail probabilities and probability...

Unitary reduction of complex general matrix to upper Hessenberg form (CGEHRD/ZGEHRD)
Orthogonal reduction of real general matrix to upper Hessenberg form (CGEHRD/ZGEHRD)
Selected right and/or left eigenvectors of complex upper Hessenberg matrix by inverse iteration...

Compute upper Hessenberg matrix by inverse iteration...

Compute upper Hessenberg matrix by sequence of plane rotations, real upper Hessenberg matrix by sequence of plane rotations, complex upper Hessenberg matrix by sequence of plane rotations, complex upper Hessenberg matrix by sequence of plane rotations, complex upper Hessenberg matrix by sequence of plane rotations, complex upper Hessenberg matrix by sequence of plane rotations, complex upper Hessenberg matrix reduced from complex general...

Left and right eigenvectors of a real upper Hessenberg matrix reduced from complex general...

Compute upper Hessenberg matrix reduced from complex general...

Left and right eigenvectors of real upper quasi-triangular matrix (STRSNA/DTRSNA)

...matrix equation AX + XB = C, A and B are upper spiked matrix by sequence of plane rotations, real upper spiked matrix by sequence of plane rotations, complex upper spiked matrix upper spiked matrix

RQ factorization by sequence of plane rotations, real upper rapezoidal matrix (m \le n)

RQ factorization of real mby n upper triangular matrix augmented by a full row upper spiked matrix upper triangular matrix (Black Box)

Left and right eigenvectors of a complex upper triangular matrix (Black Box)

SVD of complex upper triangular matrix (CTRSNA/ZTRSNA)

Left and right eigenvectors of a complex upper triangular matrix (CTRSNA/ZTRSNA)

Left and right eigenvectors of a complex upper triangular matrix

...spiked matrix by sequence of plane rotations, complex upper triangular matrix

...spiked matrix by sequence of plane rotations, complex upper triangular matrix

...spiked matrix by sequence of plane rotations, complex upper triangular matrix

...sp
                                                                                                                             Multivariate time series, updates forecasts and their standard errors
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          G13DKF
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F08NSF
F08NEF
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F06QVF
F06QRF
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F08QLF
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F06QSF
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F06TVF
F06TWF
F08QVF
F06QTF
F06TTF
                ...in conservative form, coupled DAEs, method of lines, upwind scheme using numerical flux function based on...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          D03PLF
                ...source terms in conservative form, method of lines, upwind scheme using numerical flux function based on... ...in conservative form, coupled DAEs, method of lines, upwind scheme using numerical flux function based on...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            D03PFF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          D03PSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          X04
                                                                                                                                                                    Input/output utilities
                                                                                                                                                                            Analysis of variance, complete factorial design, treatment means...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          G04CAF
                                     ...mean of a single sample with estimates of their variance
                                                                                                                                           Analysis of variance, general row and column design, treatment... Two-way analysis of variance, hierarchical classification, subgroups of...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          G04BCF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           G04AGF
                                                                                        Friedman two-way analysis of {\bf variance} on k matched samples Kruskal–Wallis one-way analysis of {\bf variance} on k samples of unequal size
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           G08AEF
                                                                                                                                                                            Analysis of variance, randomized block or completely randomized...

Mean, variance, skewness, kurtosis etc, one variable, from...

Mean, variance, skewness, kurtosis etc, one variable, from...

Mean, variance, skewness, kurtosis etc, two variables, from...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          G04BBF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          G01ADF
G01AAF
G01ABF
                        ...Mahalanobis squared distances for group or pooled variance-covariance matrices (for use after G03DAF)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           G03DBF
                                                                                                             ...matrix from correlation/variance-covariance matrix computed by G02BXF
Robust regression, variance-covariance matrix following G02HDF
Computes partial correlation/variance-covariance matrix from...
Normal scores, approximate variance-covariance matrix
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            G02BYF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            G02HFF
                                                                                                                                                 Performs canonical variate analysis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          G03ACF
                                                                                        Generates vector of pseudo-random \mathbf{variates} from Von Mises distribution
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           G05FSF
                                ...a realisation of a multivariate time series from a VARMA model
Multivariate time series, estimation of VARMA model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           G05HDF
Rearrange a vector according to given ranks, character data
Rearrange a vector according to given ranks, integer numbers
Rearrange a vector according to given ranks, integer numbers
Rearrange a vector according to given ranks, integer numbers
calculates the zeros of a vector according to given ranks, integer numbers
calculates the zeros of a vector according to given ranks, integer numbers
calculates the zeros of a vector according to given ranks, integer numbers
calculates the zeros of a vector according to given ranks, integer numbers
calculates the zeros of a vector according to given ranks, character data
data complex data for models for models of according to given ranks, character data
real numbers
calculates the zeros of a vector according to given ranks, character data
data for mulks, integer numbers
defined and sector according to given ranks, character data
real numbers
calculates the zero according to given ranks, character data
real numbers
defined and sector according to given ranks, integer numbers
defined and sector according to given ranks, integer numbers
defined and sector according to given ranks, integer numbers
defined and sector according to given ranks, integer numbers
defined and sector according to given ranks, integer numbers
decording to given ranks, real anumbers
decording to given ranks, real anumbers
decording to given ranks, real numbers
decording to given ranks, real numbers
decording to given ranks, real numbers
decording to giver ranks, calculantes, and numbers
decording to giver rate, and numbers
decord by complex vector by complex scalar (CSC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           G13DCF
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G13DXF
F06HCF
F06GDF
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F06KDF
F06FDF
F06EDF
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F06GFF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           F06SNF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           F06SMF
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Sort a vector, character data
Rank a vector, character data
Dot product of two complex sparse vector, conjugated (CDOTCI/ZDOTCI)
       Rank a vector, canjugated (CDOTCI/ZDOTCI)

Dot product of two complex sparse vector, conjugated (CDOTCI/ZDOTCI)

Scatter a complex sparse vector (CSCTR/ZSCTR)

Index, complex vector element with largest absolute value...

Index, real vector element with largest absolute value...

Sum the absolute values of real vector elements (SASUM/DASUM)

Sum the absolute values of complex vector elements (SCASUM/DZASUM)

Broadcast scalar into integer vector

Copy integer vector

Broadcast scalar into real vector

Multiply real vector by scalar, preserving input vector

Compute weighted Euclidean norm of real vector

Broadcast scalar into complex vector

Compute weighted Euclidean norm of real vector

Broadcast scalar into complex vector

....complex vector by complex scalar, preserving input vector

Copy real vector to complex vector

Last non-negligible element of real vector

Generate next term from reference vector for generating pseudo-random integers, binomial...

Set up reference vector for generating pseudo-random integers, negative...

Set up reference vector for generating pseudo-random integers, poisson...

Set up reference vector for generating pseudo-random integers, poisson...

Set up reference vector for generating pseudo-random integers, poisson...

Set up reference vector for multivariate Normal distribution

Set up reference vector for univariate ARMA time series model

Pseudo-random multivariate Normal vector from supplied cumulative distribution function...

Pseudo-random sample from an integer vector

Pseudo-random integer from reference vector

Pseudo-random integer vector in scaled form

Update Euclidean norm of complex vector in scaled form
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    F06GSF
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F06JLF
F06EKF
F06JKF
F06DBF
F06DFF
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F06FKF
F06HBF
F06HDF
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G05EFF
G05EEF
G05ECF
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G05EZF
G05EXF
G05EHF
G05EJF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    G05EZF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     F06FJF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    F06KJF
                                                                                                                                                                                                            Sort a vector, integer numbers
Rank a vector, integer numbers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    M01CBF
Rank a vector, integer numbers

...finite interval, variant of D01AJF efficient on vector machines
...finite interval, variant of D01AKF efficient on vector machines
...number-theoretic method, variant of D01GCF efficient on vector machines
Real sparse unsymmetric matrix vector multiply
Real sparse symmetric matrix vector multiply
Evaluation of a fitted bicubic spline at a vector of points

Generates a vector of pseudo-random numbers from a beta...

Generates a vector of pseudo-random variates from Von Mises...

Generates a vector of random numbers from a Uniform distribution
Generates a vector of random numbers from a uniform distribution
Generates a vector of random numbers from a uniform distribution
Generates a vector of random numbers from an (negative) exponential...

Matrix-vector product, complex Hermitian matrix (CHEMV/ZHEMV)
Matrix-vector product, complex Hermitian matrix (CHEMV/ZHEMV)
Matrix-vector product, complex rectangular band matrix...
Matrix-vector product, complex triangular band matrix...
Matrix-vector product, complex triangular matrix (CTRMV/ZTRMV)
Matrix-vector product, complex triangular matrix (CTRMV/ZTRMV)
Matrix-vector product, cal rectangular matrix (CTRMV/ZTRMV)
Matrix-vector product, real rectangular matrix (SCEMV/DGEMV)
Matrix-vector product, real symmetric band matrix...
Matrix-vector product, real triangular band matrix...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    D01ATF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     D01AUF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    D01GDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     F11XAF
F11XEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    E02DEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     G05FEF
G05FFF
G05FSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    G05FDF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    F06SDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F06SEF
F06SEF
F06SBF
F06SAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    F06SGF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F06PBF
F06PAF
F06PDF
F06PCF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    F06PEF
F06PGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    F06PFF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F06PHF
                                                                                                                                                                                                             Sort a vector, real numbers
Rank a vector, real numbers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    M01CAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     M01DAF
                                                                                          Add scalar times real vector to real vector (SAXPY/DAXPY)

al sparse vector to another real sparse vector (SAXPYI/DAXPYI)

Compute Euclidean norm of complex vector (SCNRM2/DZNRM2)

Copy real vector (SCOPY/DCOPY)

Gather a real sparse vector (SGTHR/DGTHR)

Gather and set to zero a real sparse vector (SGTHRZ/DGTHRZ)

Compute Euclidean norm of real vector (SRTM2/DRM2)

Scatter a real sparse vector (SSCTR/DSCTR)

Add a scalar times a complex sparse vector to another complex sparse vector (CAXPYI/ZAXPYI)

Add a scalar times a real sparse vector to another complex sparse vector (SAXPYI/DAXPYI)

Add scalar times complex vector to complex vector (CAXPYI/ZAXPYI)

Copy real vector to complex vector (CAXPY/ZAXPY)

Add scalar times real vector to real vector (SAXPY/DAXPY)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    F06ECF
                                          ...times a real
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     F06ETF
F06JJF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     F06EFF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     F06EUF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F06EUF
F06EVF
F06EJF
F06EWF
F06GTF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     F06GCF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     F06KFF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    F06ECF
                                                                                                   Dot product of two complex sparse \mathbf{vector}, unconjugated (CDOTUI/ZDOTUI)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F06GRF
                                                                                                                                                                          Elements of real vector with largest and smallest absolute value
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    F06FLF
                               ...for multiple linear regression, select elements from vectors and matrices ...for multiple linear regression, re-order elements of vectors and matrices
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     G02CEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    G02CFF
                                                                                                                             Dot product of two complex vectors, conjugated (CDOTC/ZDOTC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F06GBF
                                                                                                                                                                  Swap two complex vectors (CSWAP/ZSWAP)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F06GGF
                                                         Circular convolution or correlation of two real vectors, extra workspace for greater speed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C06FKF
                                                                   Compute cosine of angle between two real vectors
Apply real symmetric plane rotation to two vectors
Apply real plane rotation to two complex vectors
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FO6FAF
                                                         Circular convolution or correlation of two real vectors, no extra workspace
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C06EKF
                                                                                   \begin{array}{c} {\rm Gram\hbox{--}Schmidt\ orthogonalisation\ of\ }n\ \ {\bf vectors\ }\ {\rm f\ order\ }m \\ {\rm Dot\ product\ of\ two\ real\ } {\bf vectors\ }\ ({\rm SDOT/DDOT}) \\ {\rm Dot\ product\ of\ two\ real\ } {\bf sparse\ } {\bf vectors\ }\ ({\rm SDOTI/DROTI}) \\ {\rm Apply\ plane\ rotation\ to\ two\ real\ } {\bf sparse\ } {\bf vectors\ }\ ({\rm SROTI/DROTI}) \\ {\rm Swap\ two\ real\ } {\bf vectors\ }\ ({\rm SSWAP/DSWAP}) \\ \end{array} 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F05AAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     F06EAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    F06ERF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FO6EXE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    F06EGF
                                                                                                                             Dot product of two complex \mathbf{vectors}, unconjugated (CDOTU/ZDOTU)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F06GAF
                                                                                                  Nonlinear \ {\bf Volterra} \ convolution \ equation, \ 2nd \ kind \\ Generate \ weights \ for \ use \ in \ solving \ {\bf Volterra} \ equations
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     D05BAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    D05BWF
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[NP3086/18/pdf]

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Nonlinear convolution Volterra—Abel equation, 1st kind, weakly singular Nonlinear convolution Volterra—Abel equation, 2nd kind, weakly singular
                                                                                                                                                                                                                                                               D05BEF
D05BDF
                                                                      Computes probability for Von Mises distribution udo-random variates from Von Mises distribution
                                                                                                                                                                                                                                                                G01ERF
                         Generates vector of pseudo-random
                                                                                 Shapiro and Wilk's W test for Normality
                                                                                                                                                                                                                                                               G01DDF
                                                                Update solution of the Yule-Walker equations for a real symmetric positive-definite... Solution of the Yule-Walker equations for a real symmetric positive-definite...
                                                                                                                                                                                                                                                                F04MEF
                                                                                                      Kruskal–Wallis one-way analysis of variance on k samples of...
                       Computes bounds for the significance of a Durbin–Watson statistic Computes Durbin–Watson test statistic
                                                                                                                                                                                                                                                                G01EPF
                                                                                                                                                                                                                                                                G02FCF
           Generate weights for use in solving weakly singular Abel type equations Nonlinear convolution Volterra–Abel equation, 2nd kind, weakly singular Nonlinear convolution Volterra–Abel equation, 1st kind, weakly singular
                                                                                                                                                                                                                                                                D05BYF
                                                                                                                                                                                                                                                                D05BDF
                                                                                                                                                                                                                                                               D05BEF
                                                  Inverse Laplace transform, modified Weeks' method
               Pseudo-random real numbers, Weibull distribution ...maximum likelihood estimates for parameters of the Weibull distribution
                                                                                                                                                                                                                                                                G07BEF
                      1-D quadrature, adaptive, finite interval, weight function 1/(x-c), Cauchy principal value... 1-D quadrature, adaptive, finite interval, weight function \cos(\omega x) or \sin(\omega x) 1-D quadrature, adaptive, semi-infinite interval, weight function \cos(\omega x) or \sin(\omega x) a robust estimation of a correlation matrix, Huber's weight function ...estimation of a correlation matrix, user-supplied weight function function matrix, user-supplied weight function plus derivatives 1-D quadrature, adaptive, finite interval, weight function with end-point singularities of... ...for location and scale parameters, standard weight functions with runctions ...for location and scale parameters, user-defined weight functions
                                                                                                                                                                                                                                                                D01AQF
D01ANF
                                                                                                                                                                                                                                                                D01ASF
                                                                                                                                                                                                                                                                G02HKF
                                                                                                                                                                                                                                                                G02HKF
G02HMF
G02HLF
D01APF
                                                                                                                                                                                                                                                                G07DCF
                                                                            Computes (optionally weighted) correlation and covariance matrices
                                                                                                                                                                                                                                                               G02BXF
            Compute weighted Euclidean norm of real vector
Real general Gauss-Markov linear model (including weighted least-squares)
Complex general Gauss-Markov linear model (including weighted least-squares)
ODEs, IVP, weighted norm of local error estimate for D02M-N...
Computes a weighted sum of squares matrix
Update a weighted sum of squares matrix with a new observation
                                                                                                                                                                                                                                                                FO6FKF
                                                                                                                                                                                                                                                                F04JLF
F04KLF
D02ZAF
                                                                                                                                                                                                                                                               G02BTF
                                                                 Calculation of weights and abscissae for Gaussian quadrature rules,...

Pre-computed weights and abscissae for Gaussian quadrature rules,...

Generate weights for use in solving Volterra equations

Generate weights for use in solving weakly singular Abel type...

Robust regression, compute weights for use with G02HDF
                                                                                                                                                                                                                                                               D01BCF
                                                                                                                                                                                                                                                                D01BBF
                                                                                                                                                                                                                                                               D05BWF
D05BYF
G02HBF
                                                                             Constructs a box and whisker plot
                                                                                                                                                                                                                                                               G01ASF
                                              Multivariate time series, filtering (pre-whitening) by an ARIMA model
                                                                                                                                                                                                                                                               G13BAF
                             Computes the exact probabilities for the Mann–Whitney U statistic, no ties in pooled sample Computes the exact probabilities for the Mann–Whitney U statistic, ties in pooled sample Performs the Mann–Whitney U test on two independent samples
                                                                                                                                                                                                                                                                G08AJF
                                                                                                                                                                                                                                                                G08AKF
                                                                                                                                                                                                                                                               G08AHF
                                                                                                                                                                                                                                                               G08AGF
                                                                                            Performs the Wilcoxon one-sample (matched pairs) signed rank test
                                                                                              Shapiro and Wilk's W test for Normality
                                                                                                                                                                                                                                                                G01DDF
       ...using rectangular, Bartlett, Tukey or Parzen lag window
...spectral smoothing by the trapezium frequency (Daniell) window
...using rectangular, Bartlett, Tukey or Parzen lag window
...spectral smoothing by the trapezium frequency (Daniell) window
                                                                                                                                                                                                                                                                G13CBF
                                                                                                                                                                                                                                                                G13CCF
                                                                                                                                                                                                                                                               G13CDF
                                                                     Computes a trimmed and winsorized mean of a single sample with estimates of...
                                                                                                                                                                                                                                                               G07DDF
                                                                                                                      Write formatted record to external file
                                                                                                                                                                                                                                                                X04BAF
               G01ECF
                                                                                                                                                                                                                                                                G01FCF
                                                                                                                                                                                                                                                                G01GCF
                                                                                                                                                                                                                                                                G05DHF
                                                                                                                                                                                                                                                                G08CGF
                                                                                                                                                                                                                                                                G13DNF
                                                                                                                                                                                                                                                                G11AAF
                                                                                                                                                                                                                                                               G01JCF
                                                                                                                                                                                                                                                                G01JDF
                                       Two-way contingency table analysis, with \chi^2/\text{Fisher's} exact test
                                                                                                                                                                                                                                                                G01AFF
                                                                           Update solution of the Yule–Walker equations for a real symmetric... Solution of the Yule–Walker equations for a real symmetric...
                                                                                                                                                                                                                                                               F04MEF
F04FEF
                                                                                    Gather and set to {\bf zero} a complex sparse vector (CGTHRZ/ZGTHRZ) Gather and set to {\bf zero} a real sparse vector (SGTHRZ/DGTHRZ)
                                                                                                                                                                                                                                                               F06GVF
F06EVF
                                                    Correlation-like coefficients (about zero), all variables, casewise treatment of missing... Correlation-like coefficients (about zero), all variables, no missing values Correlation-like coefficients (about zero), all variables, pairwise treatment of missing...
                                                                                                                                                                                                                                                               G02BEF
                                                                                                                                                                                                                                                                G02BFF
                                                                                                                                                                                                                                                                C05AZF
                                                                                                                      Zero in given interval of continuous function by Bus...
ODEs, IVP, Adams method, until function of solution is zero, intermediate output (simple driver)
ODEs, IVP, Runge-Kutta method, until function of solution is zero, integration over range with intermediate output (simple driver)
...stiff IVP, BDF method, until function of solution is zero, intermediate output (simple driver)
                                                                                                                                                                                                                                                                D02CJF
                                                                                                                                                                                                                                                               D02BJF
D02EJF
                                                                                                                       Zero of continuous function, Bus and Dekker algorithm,...
                                                                                                                                                                                                                                                               C05AGF
                                                                                                                      Zero of continuous function by continuation method,...
Zero of continuous function, continuation method, from...
Zero of continuous function in given interval, Bus and...
                                                                                                                                                                                                                                                                C05AXF
C05AJF
                                                                                                                                                                                                                                                               C05ADF
                                             Binary search for interval containing {\bf zero} of continuous function (reverse communication) ...method, until function of solution is {\bf zero} (simple driver)
                                                    Correlation-like coefficients (about zero), subset of variables, casewise treatment of... Correlation-like coefficients (about zero), subset of variables, no missing values Correlation-like coefficients (about zero), subset of variables, pairwise treatment of...
                                                                                                                                                                                                                                                                G02BKF
                                                                                                                                                                                                                                                               G02BMF
                                                                                          Calculates the zeros of a vector autoregressive (or moving average)...
All zeros of complex polynomial, modified Laguerre method
All zeros of real polynomial, modified Laguerre method
                                                                                                                                                                                                                                                               G13DXF
```

[NP3086/18/pdf] KWIC.51 (last)

All **zeros** of real quadratic C02AJF

 $KWIC.52 \; (last)$ [NP3086/18/pdf]