## Keywords in Context for the NAG Parallel Library

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... processor when the matrix is distributed in the cyclic 2-d block fashion (NUMROC)
                                                                                                                                       Z01CAFP
         Real matrix generation and distribution in cyclic 2-d block fashion, used for F07 and F08 ScaLAPACK ...
                                                                                                                                       F01ZQFP
    Complex matrix generation and distribution in cyclic 2-d block fashion, used for F07 and F08 ScaLAPACK ...
                                                                                                                                       F01ZVFP
                                                                                                                                       D01AXFP
                                               1-d quadrature, adaptive, finite interval, weight functions \cos(\omega x) or ...
                                                                                                                                       D01ATFP
                                              1-d quadrature, adaptive, finite interval, allowing for badly behaved ...
                                              1-d quadrature, adaptive, finite interval, suitable for oscillating functions
                                                                                                                                       D01AUFP
                          Returns or sets a unit number for advisory messages
                                                                                                                                       X04ABF
                                                                 All or selected eigenvalues of a real symmetric ...
                                                                                                                                       F08JJFP
                            Safe range of real floating-point arithmetic
                                                                                                                                       X02AMF
                       Safe range of complex floating-point arithmetic
                                                                                                                                       X02ANF
                                 Parameter of floating-point \mathbf{arithmetic} model, b
                                                                                                                                       X02BHF
                                 Parameter of floating-point arithmetic model, e_{\text{max}}
                                                                                                                                       X02BLF
                                 Parameter of floating-point arithmetic model, e_{\min}
                                                                                                                                       X02BKF
                                 Parameter of floating-point arithmetic model, p
                                                                                                                                       X02BJF
                                 Parameter of floating-point arithmetic model, ROUNDS
                                                                                                                                       X02DJF
                                                                                                                                       F08JJFP
F04EBFP
... eigenvalues of a real symmetric tridiagonal matrix by bisection (PDSTEBZ)
       ... linear equations with multiple right-hand sides (Black Box)
       ... linear equations with multiple right-hand sides (Black Box)
                                                                                                                                       F04ECFP
       ... linear equations with multiple right-hand sides (Black Box
                                                                                                                                       F04FBFP
       ... linear equations with multiple right-hand sides (Black Box)
                                                                                                                                       F04FCFP
... linear least-squares problem multiple right-hand sides (Black Box)
                                                                                                                                       F04GBFP
... distribution in cyclic 2-d block fashion, used for F04 (Black Box) routines ... distribution in cyclic 2-d block fashion, used for F04 (Black Box) routines ... on a 2-d logical processor grid, used for the F04 (Black Box) routines
                                                                                                                                       F01ZSFP
F01ZXFP
                                                                                                                                       X04BVFP
       ... on a 2-d logical processor grid, used for the F04 (Black Box) routines
                                                                                                                                       X04BGFP
    logical processor grid (Library Grid) and returns the BLACS context
                                                                                                                                       Z01AAFP
 Undefines the logical processor grid and invalidates the BLACS context initialised by Z01AAFP
                                                                                                                                       Z01ABFP
                                     Topology to be used by BLACS for broadcasting and global operations
                                                                                                                                       Z01BEFP
    ... non-distributed form) into an array in a cyclic 2-d block distribution on 2-d logical processor grid, used ... ... non-distributed form) into an array in a cyclic 2-d block distribution on a 2-d logical processor grid, used ... ... when the matrix is distributed in the cyclic 2-d block fashion (NUMROC)
                                                                                                                                       X04BCFP
                                                                                                                                       X04BVFP
                                                                                                                                       Z01CAFP
                                                                                                                                       F01ZRFP
                Real matrix generation and distribution in block column fashion, used for F02 routines
           Complex matrix generation and distribution in block column fashion, used for F02 routines
                                                                                                                                       F01ZWFP
                                               Gathering of a block distributed real vector used for F07 and
                                                                                                                                       F01ZPFP
    ... non-distributed form) into an array in a cyclic 2-d block distribution on 2-d logical processor grid, used ...
                                                                                                                                       X04BRFP
 Outputs a complex general matrix stored in a cyclic 2-d block distribution on a 2-d logical processor grid to an ...
                                                                                                                                       X04BSFP
      Outputs a real general matrix stored in a cyclic 2-d block distribution on a 2-d logical processor grid to an ...
                                                                                                                                       X04BDFP
     ... non-distributed form) into an array in a cyclic 2-d block distribution on a 2-d logical processor grid, used ...
                                                                                                                                       X04BGFP
    Real matrix generation and distribution in cyclic 2-d block fashion, used for F07 and F08 ScaLAPACK routines
                                                                                                                                       F01ZQFP
Complex matrix generation and distribution in cyclic 2-d block fashion, used for F07 and F08 ScaLAPACK routines
                                                                                                                                       F01ZVFP
     ... of real system of linear equations, involving a real block diagonal sparse matrix, represented in .
                                                                                                                                       F11DBFP
                                                                Cholesky factorization of a complex Hermitian ...
Cholesky factorization of a real symmetric ...
                                                                                                                                       F07FRFP
                                                                                                                                       F07FDFP
         Real matrix generation and distribution in block column fashion, used for F02 routines
                                                                                                                                       F01ZRFP
    Complex matrix generation and distribution in block column fashion, used for F02 routines
                                                                                                                                       F01ZWFP
                                                                                                                                       Z01BAFP
                                                      Row and {\bf column} indices of the root processor within the logical grid
                                           Number of rows or columns of a matrix held locally on a given processor
                                                                                                                                       Z01CAFP
                                                 Estimate the condition number of a real triangular matrix (PDTRCON)
                                                                                                                                       F07TGFP
  ... symmetric system of simultaneous linear equations, Conjugate Gradient method or a Lanczos method ... symmetric system of simultaneous linear equations, Conjugate Gradient method or a Lanczos method ...
                                                                                                                                       F11GAFP
                                                                                                                                       F11GBFP
   ... symmetric system of simultaneous linear equations, Conjugate Gradient method or a Lanczos method ...
                                                                                                                                       F11GCFP
                              Identifies logical processors in context in the 2-d grid declared by Z01AAFP
                                                                                                                                       Z01BBFP
 ... distribution routine for real sparse matrices stored in coordinate storage format
                                                                                                                                       F01YAFP
... diagonal blocks of a real sparse matrix, represented in coordinate storage format, distributed on a logical ...
                                                                                                                                       F11DAFP
                                                                                                                                       F11DBFP
    ... a real block diagonal sparse matrix, represented in coordinate storage format, distributed on a logical ...
                                                                                                                                       F11XAFP
                     ... a real sparse matrix, represented in coordinate storage format, distributed on a logical ...
                     ... a real sparse matrix, represented in coordinate storage format, distributed on a logical ...
                                                                                                                                       F11XBFP
... set-up routine for real sparse matrices, represented in coordinate storage format, distributed on a logical ...
                                                                                                                                       F11ZAFP
                  Largest permissible argument for sin and cos
                                                                                                                                       X02AHF
1-d quadrature, adaptive, finite interval, weight functions \cos(\omega x) or \sin(\omega x)
Outputs a real general matrix stored in a cyclic 2-d block distribution on a 2-d logical processor ... ... its natural, non-distributed form) into an array in a cyclic 2-d block distribution on 2-d logical processor ...
                                                                                                                                       D01AXFF
                                                                                                                                       X04BDFP
                                                                                                                                       X04BCFP
  ... its natural, non-distributed form) into an array in a cyclic 2-d block distribution on a 2-d logical processor ...
                                                                                                                                       X04BVFP
 ... given processor when the matrix is distributed in the cyclic 2-d block fashion (NUMROC)
                                                                                                                                       Z01CAFP
... in its natural, non-distributed form) into an array in a cyclic 2-d block distribution on 2-d logical processor ...
                                                                                                                                       X04BRFP
  Outputs a complex general matrix stored in a cyclic 2-d block distribution on a 2-d logical processor ... its natural, non-distributed form) into an array in a cyclic 2-d block distribution on a 2-d logical processor ...
                                                                                                                                       X04BSFP
                                                                                                                                       X04BGFP
                Real matrix generation and distribution in cyclic 2-d block fashion, used for F07 and F08 ...
                                                                                                                                       F01ZQFP
           Complex matrix generation and distribution in cyclic 2-d block fashion, used for F07 and F08 ...
                                                                                                                                       F01ZVFP
                                                       Enables debugging (PVM-based version only)
                                                                                                                                       Z01BFFP
                                               Singular Value Decomposition (SVD) of a complex matrix, one-sided ...
                                                                                                                                       F02WRFP
                                               Singular Value Decomposition (SVD) of a real matrix, one-sided .
                                                                                                                                       F02WQFP
                      Solution of a real symmetric positive-definite system of linear equations, multiple right-hand \dots
                                                                                                                                       F07FEFP
                  Solution of a complex Hermitian positive-definite system of linear equations, multiple right-hand ...
                                                                                                                                       F07FSFP
       Cholesky factorization of a real symmetric positive-definite matrix (PDPOTRF)
                                                                                                                                       F07FDFP
  Cholesky factorization of a complex Hermitian positive-definite matrix (PZPOTRF)
                                                                                                                                       F07FRFP
                         Solution of real symmetric positive-definite simultaneous linear equations with multiple ...
                                                                                                                                       F04FBFP
                                                                                                                                       F04FCFP
F01YEFP
                    Solution\ of\ complex\ Hermitian\ positive \textbf{-definite}\ simultaneous\ linear\ equations\ with\ multiple\ .
Distribution routine for real dense vectors distributed conformally to sparse matrices ... matrix from an external file (stored in its natural, non-distributed form) into an array in a cyclic 2-d block ... ... matrix from an external file (stored in its natural, non-distributed form) into an array in a cyclic 2-d block ...
                                                                                                                                       X04BCFF
                                                                                                                                       X04BRFP
                                         Gathering of a block distributed real vector used for F07 and F08 ..
                                                                                                                                       F01ZPFP
                                 Real matrix generation and distribution in cyclic 2-d block fashion, used for F07 ...
                                                                                                                                       F01ZQFP
                            Complex matrix generation and {f distribution} in cyclic 2-d block fashion, used for F07 ...
                                                                                                                                       F01ZVFP
 \dots a complex general matrix stored in a cyclic 2-d block distribution on a 2-d logical processor grid to an \dots
                                                                                                                                       X04BSFP
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\dots a real general matrix stored in a cyclic 2-d block distribution on a 2-d logical processor grid to an \dots
                                                                                                                                  X04BDFP
                                                              Eigenvalues and eigenvectors of a complex Hermitian ...
                                                                                                                                  F02FRFP
                                                              {\bf Eigenvalues} and eigenvectors of a real symmetric ...
                                                                                                                                  F02FQFP
                                                                                                                                  F08JJFP
                                              All or selected eigenvalues of a real symmetric tridiagonal matrix ...
                                            Eigenvalues and eigenvectors of a complex Hermitian matrix, ...
                                                                                                                                  F02FRFP
                                            Eigenvalues and eigenvectors of a real symmetric matrix, ...
                                                                                                                                  F02FQFP
                         Returns or sets a unit number for {\bf error} message
                                                                                                                                  X04AAF
                                                              Estimate the condition number of a real triangular ...
                                                                                                                                  F07TGFP
                                                              Euler's constant, \gamma
                                                                                                                                  X01ABF
            Form all or part of an orthogonal Q from QR factorization determined by F08AEFP (PDGEQRF)
                                                                                                                                  F08AFFP
                 Form all or part of a unitary Q from QR factorization determined by F08ASFP (PZGEQRF)
                                                                                                                                  F08ATFP
                                                          LU factorization of a complex general matrix (PZGETRF)
                                                                                                                                  F07ARFP
                                                          QR factorization of a complex general rectangular matrix ...
                                                                                                                                  F08ASFP
                                                    Cholesky factorization of a complex Hermitian positive-definite ...
                                                                                                                                  F07FRFP
                                                                                                                                  F07ADFP
F08AEFP
                                                          LU factorization of a real general matrix (PDGETRF) \,
                                                          QR factorization of a real general rectangular .
                                             Cholesky factorization of a real symmetric \dots
Incomplete LU factorization of the local diagonal blocks of a real \dots
                                                                                                                                  F07FDFP
                                                                                                                                  F11DAFP
  ... equations, multiple right-hand sides, matrix already factorized by F07FDFP (PDPOTRF) ... equations, multiple right-hand sides, matrix already factorized by F07FRFP (PZPOTRF)
                                                                                                                                  F07FEFP
                                                                                                                                  F07FSFP
                                  1-d quadrature, adaptive, finite interval, weight functions \cos(\omega x) or \sin(\omega x)
                                                                                                                                  D01AXFP
                                                                                                                                  D01ATFP
D01AUFP
                                  1-d quadrature, adaptive, finite interval, allowing for badly behaved integrands
                                  1-d quadrature, adaptive, finite interval, suitable for oscillating functions
                                                                                                                                  D01DAFP
                                             2-d quadrature, finite region
                                           Safe range of real floating-point arithmetic
                                                                                                                                  X02AMF
                                                                                                                                  X02ANF
                                      Safe range of complex floating-point arithmetic
                                               Parameter of floating-point arithmetic model, b
                                                                                                                                  X02BHF
                                               Parameter of floating-point arithmetic model, e_{\text{max}}
                                                                                                                                  X02BLF
                                               Parameter of floating-point arithmetic model, e_{\min} Parameter of floating-point arithmetic model, p
                                                                                                                                  X02BKF
                                                                                                                                  X02BJF
                                               Parameter of floating-point arithmetic model, ROUNDS
                                                                                                                                  X02DJF
                                                                                                                                  X01ABF
                                           Euler's constant, \gamma
                                                              \textbf{Gathering} \ \text{of a block distributed real vector used for } \dots
                                                                                                                                  F01ZPFP
    Unconstrained minimum of a sum of squares, Gauss–Newton algorithm using function values ... of a general nonlinear function with unconstrained, Gauss–Newton algorithm using function values ...
                                                                                                                                  E04FDFP
E04JBFP
   Minimum of a general nonlinear function with unconstrained, ... ... system of simultaneous linear equations, Restarted Generalised Minimal Residual method (RGMRES)
                                                                                                                                  E04JBFP
                                                                                                                                  F11BAFP
   ... system of simultaneous linear equations, Restarted Generalised Minimal Residual method (RGMRES)
                                                                                                                                  F11BBFP
   ... system of simultaneous linear equations, Restarted Generalised Minimal Residual method (RGMRES)
                                                                                                                                  F11BCFP
                                   Select a random number generator and initialise seeds to give repeatable sequence
                                                                                                                                  G05ABFP
   ... system of simultaneous linear equations, Conjugate Gradient method or a Lanczos method based on SYMMLQ ... system of simultaneous linear equations, Conjugate Gradient method or a Lanczos method based on SYMMLQ
                                                                                                                                  F11GAFP
                                                                                                                                  F11GBFP
   ... system of simultaneous linear equations, Conjugate Gradient method or a Lanczos method based on SYMMLQ
                                                                                                                                  F11GCFP
\dots column indices of the root processor within the logical \operatorname{\mathbf{grid}}
                                                                                                                                  Z01BAFP
                       Cholesky factorization of a complex Hermitian positive-definite matrix (PZPOTRF)
                                                                                                                                  F07FRFP
                Eigenvalues and eigenvectors of a complex Hermitian matrix, one-sided Jacobi method
                                                                                                                                  F02FRFP
                                      Solution of a complex \bf Hermitian positive-definite system of linear \dots
                                                                                                                                  F07FSFP
                                        Solution of complex Hermitian positive-definite simultaneous linear ... Incomplete LU factorization of the local diagonal ...
                                                                                                                                  F04FCFP
                                                                                                                                  F11DAFP
                                      Largest representable integer
                                                                                                                                  X02BBF
                      Set-up for F11GBFP and F11GCFP, iterative solution of a symmetric system of ...
                                                                                                                                  F11GAFP
                                                Main solver, iterative solution of a general (unsymmetric) system \dots
                                                                                                                                  F11BBFP
    \dots about the computations carried out by F11BBFP, iterative solution of a general (unsymmetric) system \dots
                                                                                                                                  F11BCFP
    Main solver, iterative solution of a symmetric system of ...
... about the computations carried out by F11GBFP, iterative solution of a symmetric system of ...
Set-up for F11BBFP and F11BCFP, iterative solution of real (unsymmetric) system of ...
                                                                                                                                  F11GBFP
                                                                                                                                  F11GCFF
                                                                                                                                  F11BAFP
... and eigenvectors of a real symmetric matrix, one-sided Jacobi method
                                                                                                                                  F02FQFP
... eigenvectors of a complex Hermitian matrix, one-sided Jacobi method
                                                                                                                                  F02FRFP
    \dots linear equations, Conjugate Gradient method or a {\bf Lanczos} method based on SYMMLQ
                                                                                                                                  F11GAFP
    ... linear equations, Conjugate Gradient method or a Lanczos method based on SYMMLQ
                                                                                                                                  F11GBFP
    \dots linear equations, Conjugate Gradient method or a {\bf Lanczos} method based on SYMMLQ
                                                                                                                                  F11GCFF
                                                              Largest permissible argument for sin and cos
                                                                                                                                  X02AHF
                                                              Largest positive model number
                                                                                                                                  X02ALF
                                                              Largest representable integer
                                                                                                                                  X02BBF
                                                                                                                                  F04GBFP
                                    Solution of a real linear least-squares problem multiple right-hand sides (Black Box)
                    Black-box routine for sparse system of \bf linear equations
                                                                                                                                  F11DCFF
                              Solution of real simultaneous linear equations with multiple right-hand sides (Black Box)
                                                                                                                                  F04EBFP
                         Solution of complex simultaneous linear equations with multiple right-hand sides (Black Box)
                                                                                                                                  F04ECFP
                                                                                                                                  F04FBFP
Solution of real symmetric positive-definite simultaneous linear equations with multiple right-hand sides (Black Box)
  ... of complex Hermitian positive-definite simultaneous linear equations with multiple right-hand sides (Black Box)
                                                                                                                                  F04FCFP
                                Solution of a real system of linear equations, multiple right-hand sides, matrix already
                                                                                                                                  F07AEFP
                                                                                                                                  F07ASFP
F11DBFP
                           Solution of a complex system of \mathbf{linear} equations, multiple right-hand sides, matrix already
                                  Solution of real system of linear equations, involving a real block diagonal sparse.
 Solution of a real symmetric positive-definite system of linear equations, multiple right-hand sides, matrix .
                                                                                                                                  F07FEFP
    ... of a complex Hermitian positive-definite system of linear equations, multiple right-hand sides, matrix already ... F07FSFP
                                           Solution of a real linear least-squares problem multiple right-hand sides
                                                                                                                                  F04GBFP
                                                              LU factorization of a complex general matrix (PZGETRF) \,
                                                                                                                                  F07ARFP
                                                 LU factorization of a real general matrix (PDGETRF) Incomplete LU factorization of the local diagonal blocks of a real \dots
                                                                                                                                  F07ADFP
F11DAFP
                                                                                                                                  X02AJF
                                                              Machine precision
                                                                                                                                  F01ZQFP
                                                         Real matrix generation and distribution in cyclic 2-d block ...
                                                    Complex matrix generation and distribution in cyclic 2-d block ...
                                                                                                                                  F01ZVFP
       Set-up for F11XBFP, matrix-vector or transposed matrix-vector product involving a real sparse matrix, ...
                                                                                                                                  F11XAFP
                  Computes a matrix-vector or transposed matrix-vector product involving a real sparse matrix, ..
                                                                                                                                  F11XBFP
                                                              {f Maximum} number of decimal digits that can be represented X02BEF
 ... simultaneous linear equations, Restarted Generalised Minimal Residual method (RGMRES)
                                                                                                                                  F11BBFF
 ... simultaneous linear equations, Restarted Generalised Minimal Residual method (RGMRES)
                                                                                                                                  F11BCFP
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[NP3053/2/pdf]

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\mathbf{Minimum} of a general nonlinear function with \dots
                                                                                                                               E04JBFP
                                             Unconstrained minimum of a sum of squares, Gauss-Newton algorithm ...
                                                                                                                               E04FDFP
                                          Smallest positive model number
                                                                                                                               X02AKF
                                           Largest positive model number
                                                                                                                               X02ALF
                   Parameter of floating-point arithmetic model, b
                                                                                                                               X02BHF
                   Parameter of floating-point arithmetic model, e_{\text{max}}
                                                                                                                               X02BLF
                    Parameter of floating-point arithmetic model, e_{\min}
                                                                                                                               X02BKF
                   Parameter of floating-point arithmetic model, p
                                                                                                                               X02BJF
                   Parameter of floating-point arithmetic model, ROUNDS
                                                                                                                               X02DJF
                                                                                                                               Z01BGFP
                                        Information about MPI tasks (MPI-based version only)
                                                             Multi-dimensional quadrature, general product region, ...
Multi-dimensional quadrature, hyper-rectangle, adaptive
                                                                                                                               D01GCFP
                                                                                                                               D01FAFP
         ... outside the default library mechanism, allows multigridding, used in more advanced applications ...
                                                                                                                               Z01AEFP
          .. outside the default library mechanism, allows multigridding, used in more advanced applications ...
                                                                                                                               Z01ADFP
      Solution of real simultaneous linear equations with multiple right-hand sides (Black Box)
                                                                                                                               F04EBFP
 Solution\ of\ complex\ simultaneous\ linear\ equations\ with\ \textbf{multiple}\ right-hand\ sides\ (Black\ Box)
                                                                                                                               F04ECFP
                                                                                                                               F04FBFP
   \dots positive-definite simultaneous linear equations with multiple right-hand sides (Black Box)
  ... positive-definite simultaneous linear equations with multiple right-hand sides (Black Box)
                                                                                                                               F04FCFP
                                                                                                                               F04GBFP
            Solution of a real linear least-squares problem multiple right-hand sides (Black Box)
... symmetric positive-definite system of linear equations, multiple right-hand sides, matrix already factorized ...
                                                                                                                               F07FEFP
\dots \ \text{Hermitian positive-definite system of linear equations}, \ \textbf{multiple} \ \text{right-hand sides}, \ \text{matrix already factorized} \ \dots
                                                                                                                               F07FSFP
             Solution of a real system of linear equations, \mathbf{multiple} right-hand sides, matrix already factorized ...
                                                                                                                               F07AEFP
        Solution of a complex system of linear equations, multiple right-hand sides, matrix already factorized ...
                                                                                                                               F07ASFP
     Unconstrained minimum of a sum of squares, Gauss-Newton algorithm using function values only (easy-to-use)
                                                                                                                               E04FDFP
... general nonlinear function with unconstrained, Gauss-Newton algorithm using function values only (easy-to-use)
                                                                                                                               E04JBFP
                                                                                                                               E04JBFP
                                     Minimum of a general nonlinear function with unconstrained, Gauss-Newton ...
                                     Form all or part of an orthogonal Q from QR factorization determined by ...
                                                                                                                               F08AFFP
                                                             Orthogonal reduction of a real symmetric matrix to ...
                                                                                                                               F08FEFP
                                                 Apply the orthogonal transformation determined by .
                                                                                                                               F08AGFP
                                                             Outputs a set of complex general matrices distributed ...
                                                                                                                               X04BUFP
                                                             Outputs a set of real general matrices distributed ...
                                                                                                                               X04BFFP
                                                                                                                               X01AAF
                                                                                                                               X02AJF
                                                   Machine precision
                                                                                                                               X04BHFP
     ... in a cyclic 2-d block distribution on a 2-d logical processor grid to an external file (in its natural, ...
                                                                                                                               X04BWFP
     ... in a cyclic 2-d block distribution on a 2-d logical processor grid to an external file (in its natural, ...
                                                                                                                               X04BVFP
\dots array in a cyclic 2-d block distribution on a 2-d logical processor grid, used for the F04 (Black Box) routines
... array in a cyclic 2-d block distribution on a 2-d logical processor grid, used for the F04 (Black Box) routines
                                                                                                                               X04BGFP
... set of real general matrices distributed on a 2-d logical processor grid, used with the F02 routines
                                                                                                                               X04BFFP
... complex general matrices distributed on a 2-d logical processor grid, used with the F02 routines
                                                                                                                               X04BUFP
                   \label{eq:multi-dimensional quadrature, general } \textbf{product} \text{ region, number-theoretic method}
                                                                                                                               D01GCFP
                                                                                                                               G05AAFP
                                                             Pseudo-random real numbers, uniform distribution ...
                                        Information about PVM tasks (PVM-based version only)
                                                                                                                               Z01BDFP
                Form all or part of an orthogonal Q from QR factorization determined by F08AEFP (PDGEQRF)
                                                                                                                               F08AFFP
                     Form all or part of a unitary Q from QR factorization determined by F08ASFP (PZGEQRF)
                                                                                                                               F08ATFP
                                                             \hat{Q}R factorization of a complex general rectangular ...
                                                                                                                               F08ASFP
                                                             QR factorization of a real general rectangular ...
                                                                                                                               F08AEFP
                                                        1-d {\bf quadrature}, adaptive, finite interval, weight functions ...
                                                                                                                               D01AXFP
                                                        1-d quadrature, adaptive, finite interval, allowing for badly ... 1-d quadrature, adaptive, finite interval, suitable for ...
                                                                                                                               D01ATFP
                                                                                                                               D01AUFP
                                                        2-d quadrature, finite region
                                                                                                                               D01DAFP
                                         {\it Multi-dimensional}~{\bf quadrature},~{\it general}~{\it product}~{\it region},~{\it number-theoretic}~...
                                                                                                                               D01GCFP
                                         {\bf Multi-dimensional}~{\bf quadrature},~{\bf hyper-rectangle},~{\bf adaptive}
                                                                                                                               D01FAFP
                                                    Select a random number generator and initialise seeds to give ...
                                                                                                                               G05ABFP
G05AAFP
                                                    Pseudo-random real numbers, uniform distribution over (0,1), \dots
                                                        Safe range of complex floating-point arithmetic
                                                                                                                               X02ANF
                                                       Safe range of real floating-point arithmetic
                                                                                                                               X02AMF
                         QR factorization of a real general rectangular matrix (PDGEQRF
                                                                                                                               F08AEFP
                   QR factorization of a complex general rectangular matrix (PZGEQRF)
                                                                                                                               F08ASFP
      ... linear equations, Restarted Generalised Minimal Residual method (RGMRES)
                                                                                                                               F11BAFP
     ... linear equations, Restarted Generalised Minimal Residual method (RGMRES) ... linear equations, Restarted Generalised Minimal Residual method (RGMRES)
                                                                                                                               F11BBFP
                                                                                                                               F11BCFP
              ... system of simultaneous linear equations, Restarted Generalised Minimal Residual method ...
                                                                                                                               F11BAFP
              ... system of simultaneous linear equations, Restarted Generalised Minimal Residual method ...
                                                                                                                               F11BBFP
              \dots \ \text{system of simultaneous linear equations}, \textbf{Restarted} \ \text{Generalised Minimal Residual method} \ \dots
                                                                                                                               F11BCFP
                                                             {f Root} processor identifier
                                                                                                                               Z01ACFP
                           Row and column indices of the {f root} processor within the logical grid
                                                                                                                               Z01BAFP
                                                 Row and column indices of the root processor within ... Number of rows or columns of a matrix held locally on a given ...
                                                                                                                               Z01BAFP
                                                                                                                               Z01CAFP
                                                             Safe range of complex floating-point arithmetic
                                                                                                                               X02ANF
                                                             Safe range of real floating-point arithmetic
                                                                                                                               X02AMF
 ... a block distributed real vector used for F07 and F08 ScaLAPACK routines
                                                                                                                               F01ZPFP
     ... in cyclic 2-d block fashion, used for F07 and F08 ScaLAPACK routines ... in cyclic 2-d block fashion, used for F07 and F08 ScaLAPACK routines
                                                                                                                               \begin{array}{c} F01ZQFP \\ F01ZVFP \end{array}
... on 2-d logical processor grid, used for the F07 and F08 ScaLAPACK routines
                                                                                                                               X04BRFP
... on 2-d logical processor grid, used for the F07 and F08 ScaLAPACK routines
                                                                                                                               X04BCFP
                                                      All or {f selected} eigenvalues of a real symmetric tridiagonal ...
                                                                                                                               F08JJFP
                                            Solution of real \mathbf{simultaneous} linear equations with multiple right-hand ...
                                                                                                                               F04EBFP
                                       Solution of complex \mathbf{simultaneous} linear equations with multiple right-hand ...
                                                                                                                               F04ECFP
                                                                                                                               F04FBFP
              Solution of real symmetric positive-definite simultaneous linear equations with multiple right-hand ...
          Solution of complex Hermitian positive-definite simultaneous linear equations with multiple right-hand ...
                                                                                                                               F04FCFP
          . solution of a general (unsymmetric) system of simultaneous linear equations, Restarted Generalised ...
                                                                                                                               F11BBFP
 Main solver, iterative solution of a symmetric system of simultaneous linear equations, Conjugate Gradient ...
                                                                                                                               F11GBFP
    ... iterative solution of real (unsymmetric) system of simultaneous linear equations, Restarted Generalised ...
                                                                                                                               F11BAFP
                         Largest permissible argument for \boldsymbol{\sin} and \cos
                                                                                                                               X02AHF
                                                                                                                               D01AXFP
 ... adaptive, finite interval, weight functions \cos(\omega x) or \sin(\omega x)
                                                             Singular Value Decomposition (SVD) of a complex ...
                                                                                                                               F02WRFP
                                                             Singular Value Decomposition (SVD) of a real matrix, ...
                                                                                                                               F02WQFP
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[NP3053/2/pdf] KWIC.3

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Smallest positive model number
                                                                                                                          X02AKF
                           General set-up routine for real sparse matrices, represented in coordinate storage ...
                                                                                                                          F11ZAFP
                                                                                                                          F11XAFP
 ... or transposed matrix-vector product involving a real sparse matrix, represented in coordinate storage format, ...
                                                                                                                          F01YEFP
      ... for real dense vectors distributed conformally to sparse matrices
                                                                                                                          F01YAFP
            Cyclic row block distribution routine for real sparse matrices stored in coordinate storage format
Outputs a real dense vector, distributed conformally to a sparse matrix on a logical grid of processors, to an ..
                                                                                                                          X04YAFP
    ... of linear equations, involving a real block diagonal sparse matrix, represented in coordinate storage format, ...
                                                                                                                          F11DBFP
    or transposed matrix-vector product involving a real \mathbf{sparse} matrix, represented in coordinate storage format, ...
                                                                                                                          F11XBFP
... LU factorization of the local diagonal blocks of a real sparse matrix, represented in coordinate storage format, ...
                                                                                                                          F11DAFP
                                    Black-box routine for {\bf sparse} system of linear equations
                                                                                                                           F11DCFP
                     E04FDFP
                            Unconstrained minimum of a sum of squares, Gauss-Newton algorithm using
                                                                                                                          E04FDFP
                          Singular Value Decomposition (SVD) of a complex matrix, one-sided Jacobi method
                                                                                                                          F02WRFP
                          Singular Value Decomposition (SVD) of a real matrix, one-sided Jacobi method
                                                                                                                          F02WQFP
                          Cholesky factorization of a real symmetric positive-definite matrix (PDPOTRF)
                                                                                                                          F07FDFP
                                                                                                                          F08FEFP
                           Orthogonal reduction of a real symmetric matrix to tridiagonal form (PDSYTRD)
                   \stackrel{-}{\text{Eigenvalues and eigenvectors of a real }} \mathbf{symmetric} \text{ matrix, one-sided Jacobi method}
                                                                                                                          F02FQFP
                                                                                                                          F07FEFP
                                        Solution of a real symmetric positive-definite system of linear equations, ...
                                                                                                                          F04FBFP
                                          Solution of real symmetric positive-definite simultaneous linear .
                       Main solver, iterative solution of a symmetric system of simultaneous linear equations, ...
                                                                                                                          F11GBFP
         carried out by F11GBFP, iterative solution of a \mathbf{symmetric} system of simultaneous linear equations, ...
                                                                                                                          F11GCFP
  ... for F11GBFP and F11GCFP, iterative solution of a symmetric system of simultaneous linear equations,
                                                                                                                          F11GAFP
   All or selected eigenvalues of a real symmetric tridiagonal matrix by bisection (PDSTEBZ) ... F11BCFP, iterative solution of real (unsymmetric) system of simultaneous linear equations, Restarted ...
                                                                                                                          F08JJFP
                                                                                                                          F11BAFP
                             Black-box routine for sparse system of linear equations
                                                                                                                          F11DCFP
                                        Solution of a real system of linear equations, multiple right-hand sides, ...
                                                                                                                           F07AEFP
                                    Solution of a complex {f system} of linear equations, multiple right-hand sides, .
                                                                                                                          F07ASFP
                                          Solution of real system of linear equations, involving a real block diagonal
                                                                                                                          F11DBFP
            Solution of a real symmetric positive-definite system of linear equations, multiple right-hand sides, ...
                                                                                                                          F07FEFP
        Solution of a complex Hermitian positive-definite system of linear equations, multiple right-hand sides, ...
                                                                                                                          F07FSFP
         ... iterative solution of a general (unsymmetric) system of simultaneous linear equations, Restarted ...
                                                                                                                          F11BBFP
                                                           Topology to be used by BLACS for broadcasting .
                                                                                                                          Z01BEFP
                                    Apply the orthogonal transformation determined by F08AEFP (PDORMQR)
                                                                                                                          F08AGFP
                                       Apply the unitary transformation determined by F08ASFP (PZUNMQR)
                                                                                                                          F08AUFP
                                                                                                                          F07TGFP
                 Estimate the condition number of a real triangular matrix (PDTRCON)
                                                                                                                          F08FEFP
     Orthogonal reduction of a real symmetric matrix to tridiagonal form (PDSYTRD)
           All or selected eigenvalues of a real symmetric tridiagonal matrix by bisection (PDSTEBZ)
                                                                                                                          F08JJFP
                                                          Unconstrained minimum of a sum of squares, ...
                                                                                                                           E04FDFP
           Minimum of a general nonlinear function with unconstrained, Gauss-Newton algorithm using ...
                                                                                                                          E04JBFP
                                     Form all or part of a \mathbf{unitary}\ Q from QR factorization determined
                                                                                                                          F08ATFP
  Apply the unitary transformation determined by F08ASFP ...

... F11BBFP and F11BCFP, iterative solution of real (unsymmetric) system of simultaneous linear equations, ...

... out by F11BBFP, iterative solution of a general (unsymmetric) system of simultaneous linear equations, ...
                                                                                                                          F08AUFP
                                                                                                                          F11BAFP
                                                                                                                          F11BCFP
              Main solver, iterative solution of a general (unsymmetric) system of simultaneous linear equations, ...
                                                                                                                          F11BBFP
                     Gathering of a block distributed real vector used for F07 and F08 ScaLAPACK routines
                                                                                                                           F01ZPFP
                 1-d quadrature, adaptive, finite interval, weight functions \cos(\omega x) or \sin(\omega x)
                                                                                                                          D01AXFP
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[NP3053/2/pdf]