

LIST OF PUBLICATIONS (1997 – PRESENT)

Prof. Svilen Bobev - University of Delaware

University of Delaware

(the names of the contributing undergraduate researchers are underlined)

106. "Long-range Vacancy Order in LaGe_{2-x} "
Tobash, P. H.; **Bobev, S.**; Pyrz, W.; Buttrey, D. J. in preparation
105. "Synthesis, Crystal and Electronic Structures of the New Zintl Phases $\text{Na}_2\text{ACdSb}_2$ and K_2ACdSb_2 ($A = \text{Ca}, \text{Sr}, \text{Ba}, \text{Eu}, \text{Yb}$). Structural Relationship to the Mixed-cation Compounds $\text{Ca}_{2-x}\text{A}_x\text{CdSb}_2$ and $\text{Yb}_{2-x}\text{A}_x\text{CdSb}_2$ ($0.5 < x < 1$)"
Saparov, B.; Saito, M., **Bobev, S.** in preparation
104. "Synthesis, Structural Disorder, and Physical Properties of $\text{Ba}_2\text{Ga}_5\text{Pn}_5$ ($\text{Pn} = \text{P}, \text{As}$)"
He, H.; Stearrett, R.; Nowak, E. R.; **Bobev, S.** in preparation
103. "cis-trans Germanium Chains in the Intermetallic Compounds $\text{ALi}_{1-x}\text{In}_x\text{Ge}_2$ and $\text{A}_2(\text{Li}_{1-x}\text{In}_x)_2\text{Ge}_3$ ($A = \text{Sr}, \text{Ba}, \text{Eu}$)—Experimental and Theoretical Studies"
You, T.-S.; **Bobev, S. J.** *Solid State Chem.* **2010**, - submitted 07/19/2010
102. "Synthesis, Crystal and Electronic Structures of the New Quaternary Phases $\text{A}_5\text{Cd}_2\text{Sb}_5\text{F}$ ($A = \text{Sr}, \text{Ba}, \text{Eu}$), and $\text{Ba}_5\text{Cd}_2\text{Sb}_5\text{O}_x$ ($0.5 < x < 0.7$)"
Saparov, B.; **Bobev, S.** *Dalton Trans.* **2010**, submitted 05/24/2010; accepted 08/27/2010.
COVER PAGE FOR: Dalton Transactions 2010, vol. 39, issue No. XX
101. " $\text{Yb}_2\text{LiIn}_2\text{Ge}_2$ "
You, T.-S.; **Bobev, S.** *Acta Cryst.* **2010**, E66, i43 - available on-line 04/27/2010.
100. " BaGa_2Pn_2 ($\text{Pn} = \text{P}, \text{As}$)—New Semiconducting Phosphides and Arsenides with Layered Structures"
He, H.; Stearrett, R.; Nowak, E. R.; **Bobev, S. J.** *Inorg. Chem.* **2010**, 49, 5173 - available on-line 08/11/2010.
99. "Synthesis and Structural Characterization of $\text{A}_3\text{In}_2\text{Ge}_4$ and $\text{A}_5\text{In}_3\text{Ge}_6$ ($A = \text{Ca}, \text{Sr}, \text{Eu}, \text{Yb}$)—New Intermetallic Compounds with Complex Structures, Exhibiting Ge–Ge and In–In Bonding"
You, T.-S.; **Bobev, S. J.** *Solid State Chem.* **2010**, 183, 1258 - available on-line 04/02/2010.
COVER PAGE FOR: Journal of Solid State Chemistry 2010, vol. 183, issue No. 6
98. "Isolated $[\text{ZnPn}_2]^{4-}$ Chains in the Zintl Phases Ba_2ZnPn_2 ($\text{Pn} = \text{As}, \text{Sb}, \text{Bi}$) — Synthesis, Structure and Bonding"
Saparov, B.; **Bobev, S.** *Inorg. Chem.* **2010**, 49, 5173 - available on-line 04/27/2010.

97. "Magnetic Order and Heavy Fermion Behavior in $CePd_{1+x}Al_{6-x}$ ($x \approx 0.5$): Synthesis, Structure, and Physical Properties"
- Tobash, P. H.; Ronning, F.; Thompson, J. D.; **Bobev, S.**; Bauer, E. D. *J. Solid State Chem.* **2010**, 183, 707 - available on-line 01/04/2010.
96. " $Eu_{11}Zn_6As_{12}$ – the First Arsenide with the $Sr_{11}Cd_6Sb_{12}$ Structure Type"
- Saparov, B.; **Bobev, S.** *Acta Cryst.* **2010**, E66, i24 - available on-line 03/01/2010.
95. "Mixed Cations and Structural Complexity in $(Eu_{1-x}Ca_x)_4In_3Ge_4$ and $(Eu_{1-x}Ca_x)_3In_2Ge_3$ —the First Two Members of the Homologous Series $A_{2[n+m]}In_{2n+m}Ge_{2[n+m]}$ ($n, m = 1, 2, \dots, \infty$; $A = Ca, Sr, Ba, Eu$, or Yb)"
- You, T.-S.; Tobash, P. H.; **Bobev, S.** *Inorg. Chem.* **2010**, 49, 1773 - available on-line 01/24/2010.
94. "Novel Ternary Alkaline-earth and Rare-earth Metal Antimonides from Gallium or Indium Flux. Synthesis, Structural Characterization and ^{121}Sb and ^{151}Eu Mössbauer Spectroscopy of the Series $A_7Ga_8Sb_8$ ($A = Sr, Ba, Eu$) and $Ba_7In_8Sb_8$ "
- Bobev, S.**; Hullmann, J.; Harmening, T.; Pöttgen, R. *Dalton Trans.* **2010**, 39, 6049 (themed issue *New Synthesis, New Materials; Frontiers of Synthetic Solid State Chemistry*) - available on-line 01/14/2010
- COVER PAGE FOR: Dalton Transactions 2010**, vol. 39, issue No. 26
93. "Synthesis, Crystallographic and Theoretical Studies of the New Zintl Phases $Ba_2Cd_2Pn_3$ ($Pn = As, Sb$), and the Solid Solutions $(Ba_{1-x}Sr_x)_2Cd_2Sb_3$ and $Ba_2Cd_2(Sb_{1-x}As_x)_3$ "
- Saparov, B.; He, H.; Zhang, H.; Greene, R.; **Bobev, S.** *Dalton Trans.* **2010**, 39, 1063 (special issue *Thermoelectric Materials*) - available on-line 12/01/2009.
92. "New Manganese-bearing Antimonides and Bismuthides with Complex Structures. Synthesis, Structural Characterization and Electronic Properties of $Yb_9Mn_{4+x}Pn_9$ ($Pn = Sb$ or Bi)"
- Xia, S.-Q.; **Bobev, S.** *Chem. Mater.* **2010**, 22, 840 (special issue *Materials Chemistry of Energy Conversion*) - available on-line 07/26/2009.
91. "New Quaternary Zintl Phases - Synthesis, Crystal and Electronic Structures of $KA_2Cd_2Sb_3$ ($A = Ca, Sr, Ba, Eu, Yb$)"
- Saparov, B.; Broda, M.; Ramanujachary, K. V.; **Bobev, S.** *Polyhedron* **2010**, 29, 456 (special issue *Polyhedron – The Next Generation*) - available on-line 06/23/2009.
90. "Magnesium Substitutions in Rare-Earth Metal Germanides with the Gd_5Si_4 Type. Synthesis, Crystal Chemistry and Magnetic Properties of $RE_{5-x}Mg_xGe_4$ ($RE = Tb, Dy, Ho, Y$)"
- Tobash, P. H.; **Bobev, S.**; Thompson, J. D.; Sarrao, J. L. *Inorg. Chem.* **2009**, 48, 6641 - available on-line 05/06/2009.
89. "Nickel Deficiency in $RENi_{2-x}P_2$ ($RE = La, Ce, Pr$). Combined Crystallographic and Physical Property Studies"
- Bobev, S.**; Xia, S.-Q.; Bauer, E. D.; Ronning, F.; Thompson, J. D.; Sarrao, J. L. *J. Solid State Chem.* **2009**, 182, 1473 - available on-line 04/05/2009.

88. "Short and Long Range Magnetic Order in CaMn_2Sb_2 Studied via Powder Neutron Diffraction" Bridges, C. A.; Krishnamurthy, V. V.; Poulton, S.; Paranthaman, M. P.; Sales, B. C.; Myers, C.; **Bobev, S. J.** *Magn. Magn. Mater.* **2009**, 321, 3653 - available on-line 07/11/2009.
87. "Structural Chemistry and Magnetic Properties of $\text{RE}_2[\text{Sn}_x\text{Ge}_{1-x}]_5$ ($\text{RE} = \text{Nd}, \text{Sm}$) and $\text{RE}[\text{Sn}_x\text{Ge}_{1-x}]_2$ ($\text{RE} = \text{Gd}, \text{Tb}$): Four New Rare-Earth Metal Intermetallic Compounds with Germanium Zig-Zag Chains and Tin Square-Nets" Tobash, P. H.; **Bobev, S.**; Ronning, F.; Thompson, J. D.; Sarrao, J. L. *J. Alloys Compds.* **2009**, 488, 511 - available on-line 12/02/2008.
86. "Polymorphism in Binary Rare-Earth Metal Germanides. Synthesis, Structure and Properties of the New Hexagonal Forms of Tb_3Ge_5 and Dy_3Ge_5 " Tobash, P. H.; **Bobev, S.**; Ronning, F.; Thompson, J. D.; Sarrao, J. L. *J. Alloys Compds.* **2009**, 488, 533 - available on-line 12/02/2008.
85. "Synthesis, Structure and Bonding of the Zintl Phase $\text{Ba}_3\text{Cd}_2\text{Sb}_4$ " Saparov, B.; Xia, S.-Q.; **Bobev, S.** *Inorg. Chem.* **2008**, 47, 11237 - available on-line 10/30/2008.
84. "Combined Experimental and Density Functional Theory Studies on the Crystal Structures and Magnetic Properties of $\text{Mg}(\text{Mg}_{1-x}\text{Mn}_x)_2\text{Sb}_2$ ($x \leq 0.25$) and BaMn_2Sb_2 " Xia, S.-Q.; Myers, C.; **Bobev, S.** *Eur. J. Inorg. Chem.* **2008**, 4262 - available on-line 08/18/2008.
83. "Simplifying Strong Electronic Correlations in Uranium: Localized Uranium Heavy-fermion $\text{UM}_2\text{Zn}_{20}$ ($M = \text{Co}, \text{Rh}$) Compounds" Bauer, E. D.; Wang, C.; Fanelli, V. R.; Lawrence, J. M.; Goremychkin, E. A.; de Souza, N. R.; Ronning, F.; Thompson, J. D.; Silhanek, A. V.; Vildosola, V.; Lobos, A. M.; Aligia, A. A.; **Bobev, S.**; Sarrao, J. L. *Phys. Rev. B* **2008**, 78, 115120.
82. "Synthesis, Structure and Physical Properties of the New Zintl Phases $\text{Eu}_{11}\text{Zn}_6\text{Sb}_{12}$ and $\text{Eu}_{11}\text{Cd}_6\text{Sb}_{12}$ " Saparov, B.; **Bobev, S.**; Ozbay, A.; Nowak, E. R. *J. Solid State Chem.* **2008**, 181, 2690 - available on-line 07/01/2008.
81. "Gallium Substitutions as a Means to Stabilize Alkaline-earth and Rare-earth Metal Pnictides with the Cubic Th_3P_4 type. Synthesis and Structure of $\text{A}_7\text{Ga}_2\text{Sb}_6$ ($\text{A} = \text{Sr}, \text{Ba}, \text{Eu}$)" Xia, S.-Q.; Hullmann, J.; **Bobev, S. J.** *J. Solid State Chem.* **2008**, 180, 1909 - available on-line 04/16/2008.
80. "Are $\text{Ba}_{11}\text{Cd}_6\text{Sb}_{12}$ and $\text{Sr}_{11}\text{Cd}_6\text{Sb}_{12}$ Zintl Phases or Not? A Density-Functional Theory Study" Xia, S.-Q.; **Bobev, S. J.** *Comp. Chem.* **2008**, 29, 2125 - available on-line 04/23/2008 (special issue on Computational Solid State Chemistry).
79. "Zintl Phase Variations Through Cation Selection. Synthesis and Structure of $\text{A}_2\text{Cd}_4\text{Pn}_{18}$ ($\text{A} = \text{Eu}, \text{Sr}, \text{Ba}$; $\text{Pn} = \text{Sb}, \text{Bi}$)" Xia, S.-Q.; **Bobev, S.** *Inorg. Chem.* **2008**, 47, 1919 - available on-line 02/21/2008.

78. "Structure and Properties of a New Family of Nearly Equiatomic Rare-earth Metal-Tin-Germanides $RESn_{1+x}Ge_{1-x}$ ($RE = Y, Gd-Tm$): an Unusual Example for Site Preferences Between Elements from the Same Group"
Tobash, P. H.; Meyers, J. J.; DiFilippo, G.; **Bobev, S.**; Ronning, F.; Thompson, J. D.; Sarrao, J. L. *Chem. Mater.* **2008**, 20, 2151 - available on-line 02/25/2008.
77. "Zinc-deficiency in Intermetallics with the $NaZn_{13}$ type. Re-determination of the Crystal Structure and Physical Properties of $EuZn_{13-x}$ ($x = 0.25(1)$)"
Saparov, B.; **Bobev, S. J.** *Alloys Compds.* **2008**, 463, 119. doi:10.1016/j.jallcom.2007.09.040 - available on-line 09/15/2007.
76. " Pr_3InO . Re-assessment of the Cubic Pr_3In Structure"
Christianson, A. D.; **Bobev, S.** *Acta Cryst.* **2007**, E63, i184.
75. "Synthesis, Structure and Physical Properties of the New Uranium Ternary Phase $U_3Co_2Ge_7$ "
Bobev, S.; Bauer, E. D.; Ronning, F.; Thompson, J. D.; Sarrao, J. L. *J. Solid State Chem.* **2007**, 180, 2830.
74. " $Sr_{11}InSb_9$ Grown from Molten In"
Hullmann, J.; Xia, S.-Q.; **Bobev, S.** *Acta Cryst.* **2007**, E63, i178.
73. "Structure and Properties of Gd_3Ge_4 . The Orthorhombic RE_3Ge_4 Structures Revisited ($RE = Y, Tb-Tm$)"
Tobash, P. H.; DiFilippo, G.; **Bobev, S.**; Hur, N.; Thompson, J. D.; Sarrao, J. L. *Inorg. Chem.* **2007**, 46, 8690 - available on-line 09/18/2007.
72. "An Interplay Between Size and Electronic Effects in Determining the Homogeneity Range of the $A_9Zn_{4+x}Pn_9$ and $A_9Cd_{4+x}Pn_9$ Phases ($0 \leq x \leq 0.5$), $A = Ca, Sr, Yb, Eu$; $Pn = Sb, Bi$ "
Xia, S.-Q.; **Bobev, S. J.** *Am. Chem. Soc.* **2007**, 129, 10019 - available on-line 07/20/2007.
71. "Synthesis, Crystal Structures, Magnetic and Electric Transport Properties of $Eu_{11}InSb_9$ and $Yb_{11}InSb_9$ "
Xia, S.-Q.; Hullmann, J.; **Bobev, S.**; Ozbay, A.; Nowak, E. R. *J. Solid State Chem.* **2007**, 180, 2088 - available on-line 05/18/2007.
70. "Low Temperature Behavior of the Heavy-fermion Compound $Ce_3Co_4Sn_{13}$ "
Christianson, A. D.; Gardner, J. S.; Kang, H. J.; Chung, J. -H.; **Bobev, S.**; Sarrao, J. L.; Lawrence, J. M. *J. Magn. Magn. Mater.* **2007**, 310, 266.
69. "Synthesis, Structural Characterization, Electronic Structure and Magnetic Properties of the New Zintl Phase $Eu_{10}Cd_6Bi_{12}$ "
Xia, S.-Q.; **Bobev, S.** *Chem. Asian J.* **2007**, 2, 619.
68. "Cation-anion Interactions as Structure Directing Factors: Structure and Bonding of Ca_2CdSb_2 and Yb_2CdSb_2 "
Xia, S.-Q.; **Bobev, S. J.** *Am. Chem. Soc.* **2007**, 129, 4049 - available on-line 03/10/2007.

67. "Synthesis, Structure and Electronic Structure of a New Polymorph of CaGe_2 "
Tobash, P. H.; **Bobev, S. J.** *Solid State Chem.* **2007**, 180, 1575 - available on-line 03/12/2007.
66. "On the Crystal Structure of the Quasicrystalline Approximant YbCd_6 at Low Temperature"
Xia, S.-Q.; **Bobev, S.** *Intermetallics* **2007**, 15, 550 - available on-line 10/30/2006.
65. "Oscillations in the Magnetocaloric Effect and Magnetic Properties of $\text{RE}_2\text{Al}_3\text{Si}_2$ ($\text{RE} = \text{Dy, Ho, Er}$) and REAlSi ($\text{RE} = \text{Ce, Pr}$)"
Lima-Sharma, A. L.; **Bobev, S.**; Sarrao, J. L. *J. Magn. Magn. Mater.* **2007**, 312, 400 - available on-line 11/30/2006.
64. "Diverse Polyanions Based on MnBi_4 and MnSb_4 Tetrahedra: Polymorphism, Structure and Bonding in $\text{Ca}_{21}\text{Mn}_4\text{Bi}_{18}$ and $\text{Ca}_{21}\text{Mn}_4\text{Sb}_{18}$ "
Xia, S.-Q.; **Bobev, S.** *Inorg. Chem.* **2007**, 46, 874 - available on-line 01/05/2007.
63. "Gallium-Tin mixing in $\text{BaGa}_{3.11(2)}\text{Sn}_{0.89(2)}$ with the BaAl_4 type"
Tobash, P. H.; Yamasaki, Y.; **Bobev, S.** *Acta Cryst.* **2007**, E63, i35.
62. "On the Existence of Ca_2Bi – Crystal and Electronic Structure of $\text{Ca}_4\text{Bi}_2\text{O}$ "
Xia, S.-Q.; **Bobev, S.** *J. Alloys Compd.* **2007**, 427, 67 - available on-line 04/03/2006.
61. "Mg and Zn Disorder in $\text{Mg}_{1.59(1)}\text{Zn}_{1.41(1)}\text{Sb}_2$ "
Xia, S.-Q.; King, P.; **Bobev, S.** *Acta Cryst.* **2006**, E62, i184.
60. "On the Stoichiometry Breadth of $\text{YbIn}_{1-x}\text{Rh}_x\text{Cu}_4$ [$x = 0.19(3)$]"
Bobev, S.; Fritsch, V. *Acta Cryst.* **2006**, E62, i182.
59. "Vacancy Ordering in SmGe_{2-x} and GdGe_{2-x} ($x = 0.33$): Structure and Properties of Two Sm_3Ge_5 Polymorphs and of Gd_3Ge_5 "
Tobash, P. H.; Lins, D.; **Bobev, S.**; Hur, N.; Thompson, J. D.; Sarrao, J. L. *Inorg. Chem.* **2006**, 45, 7286 - available on-line 07/28/2006.
58. "Temperature-dependent Crystallographic Studies and Electronic Structure of $\text{Ba}_2\text{Cd}_3\text{Bi}_4$ "
Xia, S.-Q.; **Bobev, S.** *J. Solid State Chem.* **2006**, 179, 3371 - available on-line 07/07/2006.
COVER PAGE FOR: Journal of Solid State Chemistry, 2006, vol. 179, issue No. 11.
57. "Antiferromagnetic Quantum Critical Point in $\text{CeRhIn}_{5-x}\text{Sn}_x$ "
Bauer, E. D.; Mixson, D.; Ronning, F.; Hur, N.; Movshovich, R.; Thompson, J. D.; Sarrao, J. L.; Hundley, M. F.; Tobash, P. H.; **Bobev, S.** *Physica B* **2006**, 378-80, 142.
56. "Valence Transition in YbInCu_4 : Systematic Studies of Magnetic and Transport Properties of $\text{YbIn}_{1-x}\text{Cd}_x\text{Cu}_4$ and $\text{YbIn}_{1-x}\text{Rh}_x\text{Cu}_4$ "
Fritsch, V.; Thompson, J. D.; **Bobev, S.**; Sarrao, J. L. *Phys. Rev. B* **2006**, 73, 214448.
55. " $\text{Ba}_{11}\text{Cd}_8\text{Bi}_{14}$: Bismuth Zigzag Chains in a Ternary Alkaline-Earth Transition Metal Zintl Phase"
Xia, S.-Q.; **Bobev, S.** *Inorg. Chem.* **2006**, 45, 7126 - available on-line 07/27/2006.

54. "Copper Deficiency in $UCu_{5-x}Sn$ [$x = 0.37(1)$]"
Bobev, S.; Bauer, E. D.; Sarrao, J. L. *Acta Cryst.* **2006**, E62, i106.
53. "Unusual Mn–Mn Spin Coupling in the Polar Intermetallic Compounds $CaMn_2Sb_2$ and $SrMn_2Sb_2$ "
Bobev, S.; Merz, J.; Lima, A.; Fritsch, V.; Thompson, J. D.; Sarrao, J. L.; Gillessen, M.; Dronskowski, R. *Inorg. Chem.* **2006**, 45, 4047.
52. "Structure and Bonding in Yb_4MgGe_4 : Yb^{2+}/Yb^{3+} Mixed Valency and Charge Ordering"
Tobash, P. H.; **Bobev, S.** *J. Am. Chem. Soc.* **2006**, 128, 3252 - available on-line 03/01/2006.
51. "Uranium and Aluminum Order-disorder in $U_{1-x}Pt_2Al_{7-6x}$: [$x = 0.33(1)$]"
Bobev, S.; Bauer, E. D.; Sarrao, J. L. *Acta Cryst.* **2006**, E62, i77.
50. " $Ta_{1.40(1)}Mn_{4.60(1)}Si_5$: Distribution of the Ta and Mn atoms"
Bobev, S.; Bauer, E. D.; Sarrao, J. L. *Acta Cryst.* **2006**, E62, i69.
49. "Partial Pd Occupancy in Uranium Palladium Diantimonide, $UPd_{0.603(6)}Sb_2$ "
Bobev, S.; Mixson, D. J.; Bauer, E. D.; Sarrao, J. L. *Acta Cryst.* **2006**, E62, i64.
48. "Uranium Copper Diantimonide, $UCu_{0.44(1)}Sb_2$ with a Large Copper Deficiency"
Bobev, S.; Mixson, D. J.; Bauer, E. D.; Sarrao, J. L. *Acta Cryst.* **2006**, E62, i66.
47. "Synthesis, Structure and Physical Properties of $GdCu_4Al$ and $GdCu_4Ga$ "
Bobev, S.; Fritsch, V.; Thompson, J. D.; Sarrao, J. L.; *J. Solid State Chem.* **2006**, 179, 1061.
46. " $SmAl_{2.64(4)}Ge_{0.36(4)}$ with the Hexagonal Ni_3Sn Structure Type"
Xia, S.-Q.; Lins, D.; **Bobev, S.** *Acta Cryst.* **2006**, E62, i10.
45. "Antiferromagnetic Order and Evolution of Magnetic Entropy in $RE_4Zn_5Ge_6$ ($RE = Y, Gd-Lu$)"
Fritsch, V.; Moreno, N. O.; Thompson, J. D.; Sarrao, J. L.; **Bobev, S.** *J. Magn. Magn. Matter.* **2006**, 299, 87.
44. "Synthesis, Flux Crystal Growth, Structure and Properties of the New Rare-earth Compounds $EuAl_{4-x}Si_x$ ($x \approx 1$), $TmAlSi$ and $LuAlSi$ "
Tobash, P. H.; **Bobev, S.** *J. Alloys Compd.* **2006**, 418, 58.
43. "Structure of $YbMn_6Sn_6$ "
Xia, S.-Q.; **Bobev, S.** *Acta Cryst.* **2006**, E62, i7.
42. "Crystal Growth, Structural and Property Studies on a Family of Ternary Rare-Earth Phases RE_2InGe_2 ($RE = Sm, Gd, Tb, Dy, Ho, Yb$)"
Tobash, P. H.; Lins, D.; **Bobev, S.**; Lima, A.; Hundley, M. F.; Thompson, J. D.; Sarrao, J. L. *Chem. Mater.* **2005**, 17, 5567.
41. "Cerium Copper Diantimonide, $CeCu_{0.93(1)}Sb_2$ "
Tobash, P. H.; **Bobev, S.** *Acta Cryst.* **2005**, E61, i174.

40. "Strontium Tetragallide"
Tobash, P. H.; Yamasaki, Y.; **Bobev, S.** *Acta Cryst.* **2005**, *E61*, i174.
39. "YbAg_xSi_{2-x} [$x = 0.28(1)$] with the Tetragonal α -ThSi₂ Structure Type"
Bobev, S.; Bauer, E. D. *Acta Cryst.* **2005**, *E61*, i96.
38. "CeCu_{5-x}In_{1+x} [$x = 0.17(1)$] with the CeCu₆ Structure Type"
Bobev, S.; Bauer, E. D. *Acta Cryst.* **2005**, *E61*, i89.
37. "PrCu_{5-x}In_{1+x} [$x = 0.24(1)$] with the CeCu₆ Structure Type"
Bobev, S.; Bauer, E. D. *Acta Cryst.* **2005**, *E61*, i79.
36. "Ternary Rare-Earth Alumo-Silicides – Single Crystal Growth from Al Flux, Structural and Physical Properties"
Bobev, S.; Tobash, P. H.; Fritsch, V.; Thompson, J. D.; Hundley, M. F.; Sarrao, J. L.; Fisk, Z. *J. Solid State Chem.* **2005**, *178*, 2091.
35. "Ce₅Au_xGe_{4-x} [$x = 0.43(2)$] with the Orthorhombic Sm₅Ge₄ Structure Type"
Bobev, S.; Bauer, E. D. *Acta Cryst.* **2005**, *E61*, i73.
34. "Synthesis, Structure and Properties of the New Rare-earth Zintl Phase Yb₁₁GaSb₉"
Bobev, S.; Fritsch, V.; Thompson, J. D.; Sarrao, J. L.; Eck, B.; Dronskowski, R.; Kauzlarich, S. M. *J. Solid State Chem.* **2005**, *178*, 1071.

Los Alamos National Laboratory

33. "Comparison of Bulk-sensitive Spectroscopic Probes of Yb Valence in Kondo Systems"
Moreschini, L.; Dallera, C.; Joyce, J. J.; Sarrao, J. L.; Bauer, E. D.; Fritsch, V.; **Bobev, S.**;
Carpene, E.; Huotari, S.; Vankó, G.; Monaco, G.; Lacovig, P.; Panaccione, G.; Fondacaro, A.;
Paolicelli, G.; Torelli, P.; Grioni, M. *Phys. Rev. B*, **2007**, *75*, 035113.
32. "Crystal Field Effects in the Mixed-valence Compounds Yb₂M₃Ga₉ (M = Rh, Ir)"
Moreno, N. O.; Lobos, A.; Aligia, A. A.; Bauer, E. D.; **Bobev, S.**; Fritsch, V.; Sarrao, J. L.;
Pagliuso, P. G.; Thompson, J. D.; Batista, C. D.; Fisk, Z. *Phys. Rev. B*. **2005**, *71*, 165107.
31. "High Pressure Investigation of the Heavy-fermion Antiferromagnet U₃Ni₅Al₁₉"
Bauer, E. D.; Sidorov, V. A.; **Bobev, S.**; Mixson, D. J.; Thompson, J. D.; Sarrao, J. L.; Hundley,
M. F. *Phys. Rev. B*. **2005**, *71*, 014419.
30. "Antiferromagnetic Order in Ce₃Ni_{2+x}Si_{8-x}"
Fritsch, V.; **Bobev, S.**; Thompson, J. D.; Sarrao, J. L. *J. Alloys Comp.* **2005**, *388*, 28.
29. "Metallic Behavior of the Zintl Phase EuGe₂: Combined Structural Studies, Property Measurements and Electronic Structure Calculations"
Bobev, S.; Bauer, E. D.; Thompson, J. D.; Sarrao, J. L.; Miller, G. J.; Eck, B.; Dronskowski, R. J. *Solid State Chem.* **2004**, *177*, 3545.

28. "Antiferromagnetic Order in $\text{EuRh}_2(\text{Ga or In})_8$ and YbCo_2Ga_8 "
Fritsch, V.; **Bobev, S.**; Moreno, N. O.; Fisk, Z.; Thompson, J. D.; Sarrao, J. L. *Phys. Rev. B* **2004**, *70*, 052410.
27. "Thermal Expansion in YbGaGe "
Bobev, S.; Williams, D. J.; Thompson, J. D.; Sarrao, J. L. *Solid State Comm.* **2004**, *131*, 431.
26. "Probing the Limits of the Zintl Concept: Structure and Bonding in Rare-Earth and Alkaline-Earth Zinc-Antimonides $\text{Yb}_9\text{Zn}_{4+x}\text{Sb}_9$ and $\text{Ca}_9\text{Zn}_{4+x}\text{Sb}_9$ "
Bobev, S.; Thompson, J. D.; Sarrao, J. L.; Olmstead, M. M.; Hope, H.; Kauzlarich, S. M. *Inorg. Chem.* **2004**, *43*, 5044; available on-line 07/16/2004.
25. "Methanol – Kinetic Inhibitor or Promoter of the Hydrate Formation?"
Bobev, S.; Tait, K. *Amer. Miner.* **2004**, *89*, 1208.
24. "Intermediate Valence Behavior in the New Kondo Lattice Compound $\text{Yb}_3\text{Ni}_5\text{Al}_{19}$ "
Bauer, E. D.; **Bobev, S.**; Thompson, J. D.; Hundley, M. F.; Sarrao, J. L.; Lobos, A.; Aligia, A. A. *J. Phys. Cond. Matter* **2004**, *16*, 4025.
23. "Single Crystal Growth, and Magnetic and Electronic Properties of EuGa_4 "
Bobev, S.; Bauer, E. D.; Thompson, J. D.; Sarrao, J. L. *J. Magn. Magn. Mater.* **2004**, *277*, 236.
22. "Instabilities in the Linear Sb Atom Chain of the New Binary Antimonide $\text{Ti}_{11-x}\text{Sb}_{8-y}$ "
Bobev, S.; Kleinke, H. *Chem. Mater.* **2003**, *15*, 3523.
21. " $\text{Nd}_2\text{Ba}_2\text{CaZn}_2\text{Ti}_3\text{O}_{14.4}$: A New High Dielectric Constant Oxide Having a Disordered (Cubic) Perovskite Structure"
Jha, P.; **Bobev, S.**; Subbanna, G. N.; Ganguli, A. K. *Chem. Mater.* **2003**, *15*, 2229.
HIGHLIGHTED IN: MRS Bulletin, 2003, Vol. 28, Issue No. 7.

University of Notre Dame (1997 – 2002)

20. "Naked Clusters of 56 Tin Atoms in the Solid State"
Bobev, S.; Sevov, S. C. *J. Am. Chem. Soc.* **2002**, *124*, 3359.
19. "Synthesis, Characterization and Bonding of $\text{Ba}_3\text{Li}_4\text{Sn}_8$ "
Bobev, S.; Sevov, S. C. *J. Alloys Comp.* **2002**, *338*, 87.
18. "Isolated Deltahedral Clusters of Lead in the Solid State: Synthesis and Characterization of Rb_4Pb_9 and $\text{Cs}_{10}\text{K}_6\text{Pb}_{36}$ with Pb_9^{4+} , and $\text{A}_3\text{A}'\text{Pb}_4$ ($\text{A} = \text{Cs, Rb, K}$; $\text{A}' = \text{Na, Li}$) with Pb_4^{4+} "
Bobev, S.; Sevov, S. C. *Polyhedron* **2002**, *21*, 641.
17. "Single Crystal Structure of Two New Cation-deficient Thiospinels: $\text{Cu}_{7.38(11)}\text{Mn}_4\text{Sn}_{12}\text{S}_{32}$ and $\text{Cu}_{7.07(6)}\text{Ni}_4\text{Sn}_{12}\text{S}_{32}$ "
Garg, G.; **Bobev, S.**; Ganguli, A. K. *Solid State Ionics* **2002**, *146*, 195.

16. "Five Ternary Zintl Phases in the Systems Alkali-Metal–Indium–Bismuth"
Bobev, S.; Sevov, S. C. *J. Solid State Chem.* **2002**, 163, 436.
15. "Single Crystal Structure and Mössbauer Studies of a New Cation-deficient Thiospinel:
 $Cu_{5.47}Fe_{2.9}Sn_{13.1}S_{32}$ "
Garg, G.; **Bobev, S.;** Roy, A.; Ghose, J.; Das, D.; Ganguli, A. K. *Mat. Res. Bull.* **2001**, 36, 2429.
14. "A New Silicon-doped Cation Deficient Thiospinel, $Cu_{5.52(8)}Si_{1.04(8)}\square_{1.44}Fe_4Sn_{12}S_{32}$: Crystal Structure, Mössbauer Studies and Electrical Properties"
Garg, G.; **Bobev, S.;** Roy, A.; Ghose, J.; Das, D.; Ganguli, A. K. *J. Solid State Chem.* **2001**, 161, 327.
13. "Single Crystal Structure and Electrical Properties of $Cu_8Ni_4Sn_{12}S_{32}$ "
Garg, G.; **Bobev, S.;** Ganguli, A. K. *J. Alloys Comp.* **2001**, 327, 113.
12. "Synthesis and Characterization of the Largest Isolated Clusters of Tin, $[Sn_{12}]^{12-}$, in $(AE)Na_{10}Sn_{12}$ ($AE = Ca$ or Sr)"
Bobev, S.; Sevov, S. C. *Inorg. Chem.* **2001**, 40, 5361.
HIGHLIGHTED IN: *Chemistry & Industry*, **2001**, November 19, p. 742.
11. "Clathrate III of Group 14 Exists After All"
Bobev, S.; Sevov, S. C. *J. Am. Chem. Soc.* **2001**, 123, 3389.
10. "Synthesis and Characterization of $RbLi_7Ge_8$ with Isolated *closo*- $[Li_4Ge_{12}]^{8-}$, Lithium-Capped Truncated Tetrahedra of Ge_{12}^{12-} "
Bobev, S.; Sevov, S. C. *Angew. Chem. Int. Ed.* **2001**, 40, 1507.
9. "Synthesis and Characterization of $A_3Na_{10}Sn_{23}$ ($A = Cs, Rb, K$) with a New Clathrate-Like Structure and of the Chiral Clathrate $Rb_3Na_3Sn_{25}$ "
Bobev, S.; Sevov, S. C. *Inorg. Chem.* **2000**, 39, 5930.
HIGHLIGHTED IN: *Chemistry & Industry*, **2001**, January 22, p. 53.
8. "arachno- $[Sn_8]^{6-}$ or *closo*- $[Li_2Sn_8]^{4-}$? Synthesis and Characterization of $A_4Li_2Sn_8$ ($A = Rb, K$)"
Bobev, S.; Sevov, S. C. *Angew. Chem. Int. Ed.* **2000**, 39, 4108.
7. "Synthesis and Characterization of Large Single Crystals of Silicon and Germanium Clathrate-II Compounds and a New Tin Compound with Clathrate Layers"
Bobev, S.; Sevov, S. C. *Mat. Res. Soc. Symp. Proc.* **2000**, 626, Z13.5.
6. "Clathrates of Group 14 with Alkali Metals: An Exploration"
Bobev, S.; Sevov, S. C. *J. Solid State Chem.* **2000**, 153, 92.
COVER PAGE FOR: *Journal of Solid State Chemistry*, **2000**, vol. 153, issue No. 2.
5. "A Naked Diatomic Molecule of Bismuth, Bi_2^{2-} , with a Short Bi–Bi Bond: Synthesis and Structure"
Xu, L.; **Bobev, S.;** El-Bahraoui, J.; Sevov, S. C. *J. Am. Chem. Soc.* **2000**, 122, 1838.
HIGHLIGHTED IN: *Nachrichten aus der Chemie*, **2000**, vol. 48, p. 589.

4. "*Cs₇In₄Bi₆: A Zintl Phase Tailored from the PbO-type Layers of the Parent InBi Compound*"
Bobev, S.; Sevov, S. C. *Inorg. Chem.* **1999**, 38, 2672.
3. "*Synthesis and Characterization of Stable Stoichiometric Clathrates of Silicon and Germanium: Cs₈Na₁₆Si₁₃₆ and Cs₈Na₁₆Ge₁₃₆*"
Bobev, S.; Sevov, S. C. *J. Am. Chem. Soc.* **1999**, 121, 3795.
HIGHLIGHTED IN: *Chemistry & Industry*, **1999**, May 17, p. 401.

University of Sofia

2. "*Formation and Stabilization of Monomeric Pt(III) Species Through Complexation with Linear Tetrapyrrole Ligand Bilirubin*"
Mitewa, M.; Gencheva G.; **Bobev, S.**; Gochev, G.; Mehandjiev, D.; Wawer, I. *Res. Chem. Intermed.* **1999**, 25, 431.
1. "*Formation and Stabilization of Pd(III) in Presence of the Porphyrinato-type Ligand Bilirubin*"
Gencheva, G.; **Bobev, S.**; Mitewa M. *Res. Chem. Intermed.* **1997**, 23, 10.