

Publications/Refereed Journals

1. R. K. Brow and W. C. LaCourse, "Fluorine Treatments of Soda-Lime Silicate Glass Surfaces," *J. Amer. Ceram. Soc.*, **66** [8], C123-C124 (1983).
2. R. K. Brow and C. G. Pantano, "Nitrogen Coordination in Oxynitride Glasses," *J. Amer. Ceram. Soc.*, **67**[4], C72-C74 (1984).
3. R. K. Brow and C. G. Pantano, "Oxidation Resistant Sol-Gel Derived Silicon Oxynitride Thin Films," *Appl. Phys. Lett.*, **48**[1], 27-29 (1986).
4. R. K. Brow and C. G. Pantano, "Compositionally Dependent Si2p Binding Energy Shifts in Silicon Oxynitride Thin Films," *J. Amer. Ceram. Soc.*, **69**[4], 314-316 (1986).
5. R. K. Brow and C. G. Pantano, "Thermochemical Nitridation of Microporous Silica Films in Ammonia," *J. Amer. Ceram. Soc.*, **70**[1], 9-14 (1987).
6. R. K. Brow, "Oxidation States of Chromium Dissolved in Glass Determined by X-Ray Photoelectron Spectroscopy (XPS)," *J. Amer. Ceram. Soc.*, **70**[5], C-129-C-131 (1987).
7. R. K. Brow, M. R. Reidmeyer, and D. E. Day, "Oxygen Bonding in Nitrided Sodium- and Lithium-Metaphosphate Glasses," *J. Non-Cryst. Solids*, **99**, 178-189 (1988).
8. R. K. Brow, "Glass Surface Modifications During Ion Beam Sputtering," *J. Non-Cryst. Solids*, **107**, 1-11 (1988).
9. C. G. Pantano and R. K. Brow, "Hydrolysis Reactions at the Surface of Fluorozirconate Glass," *J. Am. Ceram. Soc.*, **71**[7], 577- 581 (1988).
10. R. K. Brow, "Ion Beam Effects on the Composition and Structure of Glass Surfaces," *J. Vac. Sci. Tech. A*, **7**[4], 1673-1676 (1989).
11. R. K. Brow, R. J. Kirkpatrick, and G. L. Turner, "The Short Range Structure of Sodium Phosphate Glasses. I. MAS NMR Studies," *J. Non-Cryst. Solids*, **116**, 39-45 (1990).
12. C. J. Brinker, R. K. Brow, D. R. Tallant, and R. J. Kirkpatrick, "Surface Structure and Chemistry of High Surface Area Silica Gels," *J. Non-Cryst. Solids*, **120**, 26-33 (1990).
13. R. K. Brow, G. W. Arnold, Y. Zhu, and D. E. Day, "Surface Nitridation of a Phosphate Glass," *J. Non-Cryst. Solids*, **120**, 172-177 (1990).
14. G. W. Arnold, R. K. Brow, and D. R. Myers, "Characterization of the Near-Surface Region of Glass Implanted with Light Elements," *J. Non-Cryst. Solids*, **120**, 234-240 (1990).
15. R. K. Brow, R. J. Kirkpatrick, and G. L. Turner, "Local Structure of $x\text{Al}_2\text{O}_3 \cdot (1-x)\text{NaPO}_3$ Glasses: An NMR and XPS Study," *J. Amer. Ceram. Soc.*, **73**[8], 2293-2300 (1990).
16. R. K. Brow, Y. Peng and D. E. Day, "Properties and Structure of P-O-N-H Glasses," *J. Non-Cryst. Solids*, **126**, 231-238 (1990).
17. R. K. Brow, C. C. Phifer, G. L. Turner and R. J. Kirkpatrick, "Cation Effects on ^{31}P Chemical Shifts of Metaphosphate Glasses," *J. Amer. Ceram. Soc.*, **74** [6] 1287-90 (1991).
18. B. C. Bunker, R. J. Kirkpatrick, and R. K. Brow, "Local Structure of Alkaline-Earth Boroaluminate Crystals and Glasses: I, Crystal Chemical Concepts- Structural Predictions and Comparisons to Known Crystal Structures" *J. Amer. Ceram. Soc.*, **74**[6] 1425-29 (1991).

19. B. C. Bunker, R. J. Kirkpatrick, R. K. Brow, G. L. Turner, and C. Nelson, "Local Structure of Alkaline-Earth Boroaluminate Crystals and Glasses: II, ^{11}B and ^{27}Al MAS NMR Spectroscopy of Alkaline-Earth Boroaluminate Glasses" *J. Amer. Ceram. Soc.*, **74**[6] 1430-38 (1991).
20. R. K. Brow, D. R. Tallant, Z. A. Osborne, Y. Yang, and D. E. Day, "The Effect of Fluorine on the Structure of Phosphate Glass," *Phys. Chem. Glasses*, **32**[5] 188-195 (1991).
21. J. A. Kelber and R. K. Brow, "Model Epoxy/Metal-Oxide Chemical Interactions: Diethanolamine on Oxidized Copper and Aluminum," *Applied Surface Science*, **59**, 273-280 (1992).
22. R. K. Brow, C. C. Phifer, X. J. Xu and D. E. Day, "An XPS Study of Anion Bonding in Tin(II)-Fluorophosphate Glass," *Phys. Chem. Glasses*, **33**[2], 33-39 (1992).
23. R. K. Brow, Z. A. Osborne, and R. J. Kirkpatrick, "A Multinuclear MAS NMR Study of the Short-Range Structure of Fluorophosphate Glass," *J. Materials Research*, **7**[7], 1892-99 (1992).
24. R. K. Sato, R. J. Kirkpatrick, and R. K. Brow, "Structure of Li, Na Metaphosphate Glasses by ^{31}P and ^{23}Na MAS NMR Correlated with the Mixed Alkali Effect," *J. Non-Crystalline Solids*, **143** 257-264 (1992).
25. R. K. Brow, "The Nature of Alumina in Phosphate Glass I. Properties of Sodium Aluminophosphate Glass," *J. Amer. Ceram. Soc.* **76**[4], 913-18 (1993).
26. R. K. Brow, R. J. Kirkpatrick and G. L. Turner, "The Nature of Alumina in Phosphate Glass II. Structure of Sodium Aluminophosphate Glass," *J. Amer. Ceram. Soc.*, **76**[4] 919-28 (1993).
27. R. K. Brow, C. M. Arens, X. Yu, and D. E. Day, "An XPS Study of Fe-Phosphate Glasses," *Phys. Chem. Glasses*, **35**[3] 132-36 (1994).
28. R. K. Brow, "Electron Beam Reduction of Sodium-Containing Glass Surfaces," *J. Non-Cryst. Solids*, **175** 155-159 (1994).
29. P. F. Green, D. L. Sidebottom, and R. K. Brow, "Relaxations in Mixed Alkali Metaphosphate Glass," *J. Non-Cryst. Solids*, **172-174** 1353-1362 (1994).
30. R. K. Brow, D. R. Tallant, J. J. Hudgens, S. W. Martin, and A. D. Irwin, "The Short-Range Structure of Sodium Ultraphosphate Glasses," *J. Non-Cryst. Solids* **177** 221-228 (1994).
31. M. R. Reidmeyer, D. E. Day, and R. K. Brow, "Phosphorus Oxynitride Glasses of Variable Sodium Content," *J. Non-Cryst. Solids* **177** 208-215 (1994).
32. R. K. Brow, D. R. Tallant, S. T. Myers, and C. C. Phifer, "The Short Range Structure of Zinc Phosphate Glass," *J. Non-Cryst. Solids* **191** 45-55 (1995).
33. X. J. Xu, D. E. Day, R. K. Brow, and P. M. Calahan, "Structure of tin fluorophosphate glasses containing PbO or B_2O_3 ," *Phys. Chem. Glasses*, **36**[6] 264-271 (1995).
34. D. L. Sidebottom, P. F. Green, and R. K. Brow, "Comparison of KWW and power law analyses of an ion-conducting glass," *J. Non-Cryst. Solids* **183** 151-160 (1995).
35. D. L. Sidebottom, P. F. Green, and R. K. Brow, "Anomalous Diffusion Model of Ionic Transport in Oxide Glasses," *Phys. Rev. B* **51**[5] 2770-76 (1995).
36. D. L. Sidebottom, P. F. Green, and R. K. Brow, "Two Contributions to the ac Conductivity of Alkali Oxide Glasses," *Phys. Rev. Lett.* **74**[25] 5068-5071 (1995).

37. R. J. Kirkpatrick and R. K. Brow, "NMR Investigation of the Structures of Phosphate and Phosphate-Containing Glasses: A Review," *Solid State Nuclear Magnetic Resonance*, **5**, 9-21 (1995).
38. R. K. Brow, "An XPS Study of Oxygen Bonding in Zinc Phosphate and Zinc Borophosphate Glasses," *J. Non-Cryst. Solids*, **194** 267-273 (1996).
39. R. K. Brow, D. R. Tallant, and G.L. Turner, "Raman and ^{11}B NMR Spectroscopic Studies of Alkaline Earth Lanthanoborate Glasses," *J. Amer. Ceram. Soc.* **79**[9] 2410-16 (1996).
40. R. K. Brow and Z. A. Osborne, "XPS Studies of Fluorine Bonding In Phosphate Glasses," *Surf. Interface Analyses*, **24** 91-94 (1996).
41. S. K. Saha, H. Jain. A. C. Miller, and R. K. Brow, "XPS Characterization of *In situ* Prepared Ti/Glass Interfaces," *Surf. Interface Analyses*, **24** 113-118 (1996).
42. D. L. Sidebottom, P. F. Green, and R. K. Brow, "Scaling Behavior in the Conductivity of Alkali Oxide Glasses, Polymers, and Doped Crystals," *J. Non-Crystalline Solids*, **203**, 300-305 (1996).
43. D. L. Sidebottom, P. F. Green, and R. K. Brow, "Scaling Parallels in the Non-Debye Behavior of Ionic and Dipolar Supercooled Liquids," *Phys. Rev. B*, **56** 170 (1997).
44. R. K. Brow, D. R. Tallant, and G. L. Turner, "Polyhedral Arrangements in Lanthanum Aluminoborate Glasses," *J. Amer. Ceram. Society*, **80**[5] 1239-1244 (1997).
45. X. Yu, D. E. Day, G. L. Long, and R. K. Brow, "Structure and Properties of Sodium-Iron-Phosphate Glasses," *J. Non-Cryst. Solids* **215**[1], 21-31 (1997).
46. R. K. Brow, D. R. Tallant, W. L. Warren, A. McIntyre and D. E. Day, "Spectroscopic Studies of the Structure of Titanophosphate and Calcium Titanophosphate Glasses," *Phys. Chem. Glasses*, **38**[6], 300-306 (1997).
47. D. L. Sidebottom, M. A. Hruschka, B. G. Potter, and R. K. Brow, "Increased Radiative Lifetime of Rare Earth-Doped Zinc Oxyhalide Tellurite Glasses," *Appl. Phys. Lett.* **71**[14] 1963-65 (1997).
48. D. L. Sidebottom, M. A. Hruschka, B. G. Potter, and R. K. Brow, "Structure and Optical Properties of Rare Earth-Doped Zinc Oxyhalide Tellurite Glasses," *J. Non. Cryst. Solids*, **222** 282-289 (1997).
49. D. L. Sidebottom, P. F. Green, and R. K. Brow, "Structural Correlations in the AC Conductivity of Ion Containing Glasses," *J. Non. Cryst. Solids*, **222** 354-360 (1997).
50. R. K. Brow and D. R. Tallant, "Structural Design of Sealing Glasses," *J. Non. Cryst. Solids*, **222** 396-406 (1997).
51. T. M. Alam and R. K. Brow, "Local structure and connectivity in lithium phosphate glasses: a solid-state ^{31}P MAS NMR and 2D exchange investigation," *J. Non. Cryst. Solids*, **223**[1,2] 1-20 (1998).
52. J. J. Hudgens, R. K. Brow, D. R. Tallant, and S.W. Martin, "Raman Spectroscopy Study of the Structure of Lithium and Sodium Ultraphosphate Glasses," *J. Non. Cryst. Solids*, **223**[1,2] 21-31 (1998).
53. D. L. Sidebottom, P. F. Green, and R. K. Brow, "Regarding the Correlation of Nuclear Spin Relaxation and Electrical Conductivity Relaxation in Ionic Glasses," *Journal of Chemical Physics*, **108**(14):5870-5875 (1998).

54. S. K Saha, H. Jain, J. I. Goldstein, A. C. Miller and R. K. Brow, "Reaction Between Titanium and B₂O₃ Melt/Glass", *Physics & Chemistry of Glasses*, **39**(2):118-121 (1998).
55. P. F. Green, D. L. Sidebottom, R. K. Brow, and J. J. Hudgens, "Mechanical Relaxation Anomalies in Mixed Alkali Oxides," *J. Non. Cryst. Solids*, **231** 89-98 (1998).
56. P. F. Green, R. K. Brow, and J. J. Hudgens, "Specific heat and transport "anomalies" in mixed alkali glasses," *J. Chem. Physics*, **109**[18] 7907-7912 (1998).
57. R. K. Brow, T. M. Alam, D. R. Tallant, and R. J. Kirkpatrick, "Spectroscopic Studies on the Structures of Phosphate Sealing Glasses," *MRS Bulletin*, **23**[11] 63-67 (1998).
58. D. L. Sidebottom, P. F. Green, and R. K. Brow, "Brillouin scattering in alkali metaphosphate glasses and melts," *Journal of Molecular Structure*, **479** 219-226 (1999).
59. P. F. Green, E. F. Brown, and R. K. Brow, "Dynamics of Mixed Alkali Metaphosphates Glasses and Melts," *Journal of Non-Crystalline Solids*, **255**[1], 87-96 (1999).
60. T. M. Alam, S. Conzone, T. J. Boyle, R. K. Brow, "⁶Li, ⁷Li nuclear magnetic resonance investigation of alkali coordination in lithium ultraphosphate glasses," *Journal of Non-Crystalline Solids*, **258** 140-154 (1999).
61. R. K. Brow, "Review: The Structure of Simple Phosphate Glasses," *J. Non-Cryst. Solids*, **263/264** 1-28 (2000).
62. P. F. Green, E. F. Brown, and R. K. Brow, "Linear Viscoelasticity of an Ultraphosphate Glass," *J. Non-Cryst. Solids* **263/264** 195-201 (2000).
63. T. M. Alam, J. McLaughlin, C. Click, S. Conzone, R. K. Brow, T. J. Boyle and J. Zwanziger, "Sodium Distributions in Phosphate Glasses Probed With Spin-Echo ²³Na NMR," *J. Phys. Chemistry B*, **104**[7] 1464-1472 (2000).
64. R. K. Brow, C. A. Click, and T. M. Alam, "Modifier Coordination and Phosphate Glass Networks," *J. Non-Cryst. Solids* **274** 9-16 (2000).
65. M. Karabulut, E. Metwalli, and R. K. Brow, "Properties and Structure of Lanthanum Aluminophosphate Glasses," *J. Non-Cryst. Solids*, **283**, 211-219 (2001).
66. E. Metwalli, R. K. Brow, and F. S. Stover, "Cation effects on anion distributions in aluminophosphate glasses," *J. Amer. Ceram. Soc.*, **84**[5] 1025-32 (2001).
67. E. Metwalli and R. K. Brow, "Modifier effects on the properties and structures of aluminophosphate glasses," *J. Non-Cryst. Solids*, **289** 113-122 (2001).
68. U. Hoppe, E. Metwalli, R. K. Brow, and J. Neufeind, "High-energy X-ray diffraction study of La-coordination in lanthanum phosphate glasses," *J. Non-Cryst. Solids*, **297** 263-274 (2002).
69. M. Karabulut, G.K. Marasinghe, E. Metwalli, A. K. Wittenauer, R.K. Brow, C.H. Booth, J.J. Bucher, and D.K. Shuh, "Neodymium and erbium coordination environments in phosphate glasses," *Physical Review B* **65**[10] 104206-1-7 (2002)
70. M. Karabulut, G. K. Marasinghe, C. A. Click, E. Metwalli, R. K. Brow, C. H. Booth, J. J. Bucher, D. K. Shuh, T. I. Suratwala and J. H. Campbell, "An XAFS investigation of platinum local environment in phosphate laser glasses," *J. American Ceramic. Soc.*, **85**[5] 1093-1099 (2002).

71. C. A. Click, R. K. Brow, and T. M. Alam, "Properties and Structure of Cesium Phosphate Glasses," *J. Non-Cryst. Solids*, **311** 294-303 (2002).
72. C.R. Kurkjian, P.K. Gupta, R.K. Brow, and N.P. Lower, "The intrinsic strength and fatigue of oxide glasses," **316** 114-124 (2003).
73. C.A. Click, R.K. Brow, P.R. Ehrmann, and J.H. Campbell, "Characterization of Pt⁴⁺ in aluminometaphosphate laser glasses," *J. Non-Cryst. Solids*, **319** 95-108 (2003).
74. B. R. Cherry, T. M. Alam, C. Click, R. K. Brow, and Z. Gan. "Combined *Ab Initio* Computational and Solid-State ¹⁷O MAS NMR Studies of Crystalline P₂O₅", *J. Phys. Chem B*, 107 4894-4903 (2003).
75. U Hoppe, M Karabulut, E Metwalli, R K Brow and P Jóvári, "The Fe-O coordination in iron phosphate glasses by x-ray diffraction with high-energy photons," *Journal of Physics: Condensed Matter*, **15** 1-11 (2003).
76. M. Karabulut, E. Metwalli, D.E. Day, and R.K. Brow, "Mössbauer and IR Investigations of Iron Ultraphosphate Glasses," *Journal of Non-crystalline Solids*, **328** 199-206 (2003).
77. M. Bengisu and R.K. Brow, "Effect of long-term heating and thermal cycling on thermal expansion, phase distribution and micro-hardness of lithium aluminosilicate glass-ceramics," *J. Non-Crystalline Solids*, **331** 137-144 (2003).
78. M. Bengisu, R. K. Brow, and J. E. White, "Interfacial reactions between lithium-silicate glass-ceramics and Ni-based superalloys and the effect of heat treatment at elevated temperatures," (accepted, *Journal of Materials Science*, 2/03)
79. R. F. Brown, H. K. Teitelbaum, N. Adams, and R. K. Brow, "*In Vitro* Behavior of Human Osteoblast-like Cells Cultured on Borate Glass," *Journal of Biomedical Materials Research* (submitted 3/02).
80. S.T. Reis, R.K. Brow, C.S. Ray and C-W Kim, "Deformation, stress relaxation and crystallization of lithium silicate glass fibers below the glass transition temperature, (submitted to *J. Materials Science*, 6/03).
81. N.P. Lower, R.K. Brow and C.R. Kurkjian, "Inert Failure Strain Studies of Sodium Silicate Glass Fibers," submitted *J. Non-Cryst. Solids*, 8/03.
82. P. R. Ehrmann, K. Carlson and J. H. Campbell, C. C. Click and R.K. Brow, "Neodymium fluorescence quenching by hydroxyl groups in phosphate laser glasses," submitted *J. Non-Cryst. Solids*, 8/03.
83. N.P. Lower, R.K. Brow and C.R. Kurkjian, "Inert Failure Strains of Sodium Aluminosilicate Glass Fibers," submitted to *J. Non-Cryst. Solids*, 10/03 accepted by *JNCS*, 12/03.
84. S.T. Reis, C.W. Kim, R.K. Brow, C. S. Ray, "Nucleation and crystallization as induced by bending stress in lithium silicate glass fibers," submitted *J. Non-Cryst. Solids*, 10/03.
85. E. Metwalli, M. Karabulut, D. L. Sidebottom, M. M. Morsi, and R. K. Brow "Properties and structure of copper ultraphosphate glasses," (in preparation, 12/03)
86. M. Karabulut, G.K. Marasinghe, E. Metwalli, R.K. Brow, C.H. Booth, J.J. Bucher, and D.K. Shuh, "An EXAFS investigation of rare-earth phosphate glasses," (submitted *Phys Rev B.*, 11/03).

Publications/Conference Proceedings

1. C. G. Pantano, C. A. Houser, and R. K. Brow, "Chemical Analyses of Sol/Gel Surfaces and Thin Films," *Mat. Res. Soc. Symp.*, **Vol. 32**, 255-266 (1984).
2. R. K. Brow and C. G. Pantano, "Composition and Chemical Structure of Nitrated Silica Gel," *Mat. Res. Soc. Symp.*, **Vol. 32**, 361-367 (1984).
3. R. D. Watkins, B. C. Bunker, S. C. Douglas, R. K. Brow, and E. E. Hellstrom, "Corrosion Resistant Glasses for Use in Lithium Ambient-Temperature Batteries," Proceedings of the 22nd Intersociety Energy Conversion Engineering Conference, pp. 1113-1118, Amer. Inst. Aeronaut. Astronaut., Philadelphia, PA, Aug. 10-14, 1987.
4. R. K. Brow and R. D. Watkins, "Reactions and Bonding Between Glasses and Titanium," in *Technology of Glass, Ceramic, or Glass-Ceramic to Metal Sealing*, ed. W. E. Moddeman, et al., pp. 25-30, Winter Annual Meeting, Amer. Soc. Mech. Eng., Boston, MA, Dec. 13-18, 1987.
5. C. G. Pantano, R. K. Brow, and L. A. Carman, "Oxynitride Thin Films from the Sol-Gel Process," in *Sol-Gel Technology for Thin Films, Fibers, Preforms, Electronics, and Specialty Shapes* ed. L. C. Klein, pp. 110-138, Noyes Publications, Park Ridge, NJ (1988).
6. C. J. Brinker, R. K. Brow, D. R. Tallant, and R. J. Kirkpatrick, "Structure of Sol-Gel Silica," *Mat. Res. Soc. Symp. Proc.*, **Vol. 105**, 289-294 (1988).
7. R. K. Brow, "An XPS Study of YBa₂Cu₃O_x Surface Corrosion," in *Ceramic Superconductors II*, ed. M. F. Yan, pp. 598-606, Amer. Ceram. Soc., Westerville, OH (1988).
8. R. K. Brow, R. E. Loehman, A. P. Tomsia, and J. A. Pask, "Interface Interactions During Brazing of AlN," in *Advances in Ceramics 26, Ceramic Substrates and Packages for Electronic Applications*, ed. M. F. Yan, pp. 189-196, Amer. Ceram. Soc., Westerville, OH (1989).
9. R. K. Brow and R. E. Loehman, "Interfacial Reactions in Metal-Si₃N₄ Bonding," *Ceram. Eng. Sci. Proc.*, [**11-12**], 1685-1695 (1989).
10. G. W. Arnold, R. K. Brow, M. J. Carr, and J. C. Barbour, "Characterization of N and B Implanted Fused Silica," *Proc. Materials Research Soc.*, **Vol. 157** 569-74 (1990).
11. Z. A. Osborne, R. K. Brow and D. R. Tallant, "The Short-Range Structure of Fluorine-Modified Phosphate Glass," in *Properties and Characteristics of Optical Glass II, Proceedings to the SPIE 1990 International Symposium on Optical and Optoelectronic Applied Science and Engineering*, **Vol. 1327**, 203-211 (1990).
12. G. A. Knorovsky, R. K. Brow, R. D. Watkins and R. E. Loehman, "Interactions at Glass-Ceramic/Metal Interfaces", in *Glasses for Electronic Applications, Ceramic Transactions*, **Vol. 20**, pp. 447-454, American Ceramic Society, 1991.
13. R. K. Brow, R. E. Loehman and A. P. Tomsia, "Reactive Metal Brazing of Aluminum Nitride," in *Metal-Ceramic Joining*, edited by P. Kumar and V. A. Greenhut, pp. 229-235, The Minerals, Metals Materials Society, 1991
14. G. A. Knorovsky, R. K. Brow, R. D. Watkins, and R. E. Loehman, "Interfacial Debonding in Stainless Steel/Glass-Ceramic Seals," in *Metal-Ceramic Joining*, edited by P. Kumar and V. A. Greenhut, pp. 237-246, The Minerals, Metals & Materials Society, 1991.
15. R. K. Brow, "Bonding in Simple Phosphate Glass," *Proceedings of the XVIth International Congress on Glass*, **Vol. 3**, 191-196, Madrid, Spain, Oct. 4-9, 1992.

16. R. K. Brow, S. K. Saha, and J. I. Goldstein, "Interfacial Reactions Between Titanium and Borate Glass," *Joining and Adhesion of Advanced Inorganic Materials, Proceedings of the Materials Research Society*, **Vol. 314**, pp. 77-81 (1993).
17. R. K. Brow, S. K. Saha, and J. I. Goldstein, "Interfacial Reactions Between Titanium and Borate Glass," *Joining and Adhesion of Advanced Inorganic Materials, Proceedings of the Materials Research Society*, **Vol. 314**, pp. 77-81 (1993).
18. D. W. Schaefer, R. K. Brow, B. J. Olivier, T. Rieker, and G. Beaucage, "Characterization of Porosity in Ceramic Materials by Small-Angle Scattering: Vycor Glass and Silica Aerogel," in *Modern Aspects of Small-Angle Scattering*, ed. H. Brumberger, pp. 299-307, Kluwer Academic Press, the Netherlands, (1995).
19. L. Kovacic, S. V. Crowder, R. K. Brow, and D. N. Bencoe, "Designing Aluminum Sealing Glasses for Manufacturability," *Ceramic Transactions* **50** 95-108 (1995).
20. R. K. Brow, L. Kovacic, and R. E. Loehman "Novel Glass Sealing Technologies," Proceedings of the International Symposium on Manufacturing Practices and Technologies, *Ceramics Transactions*, **Vol. 70**, 177-87 (1996).
21. R. K. Brow, L. Kovacic, and R. E. Loehman "Novel Glass Sealing Technologies," Proceedings of the International Symposium on Manufacturing Practices and Technologies, *Ceramics Transactions*, **Vol. 70**, 177-87 (1996).
22. R. K. Brow, "Spectroscopic Studies of Glass Structure," *Proceedings of the Norbert Kreidl Symposium, Glastechn. Ber.*, **70C** 55-62 (1997).
23. D. L. Sidebottom, M. A. Hruschka, B. G. Potter, R. K. Brow, and J. J. Hudgens, "Optical Properties of Lanthanide-Containing Halide-Modified Zinc Tellurite Glasses," *Solid-State Chemistry of Inorganic Materials Materials Research Society Symposium Proceedings*. v **453** 1997. *Materials Research Society, Pittsburgh, PA, USA*. p 253-258
24. T. M. Alam and R. K. Brow, "NMR Studies of Bond Arrangements in Alkali Phosphate Glasses" *Proceedings of the 18th International Congress on Glass*, San Francisco, CA, July 5-10, 1998.
25. D. Zhang, J. O. Stoffer, R. Leerssen, R. K. Brow, "New Mechanism of Fabrication of Highly Damage Resistant Glass Fiber reinforced Polyester Composites," *Abstr. papers Amer. Chem. Soc.* **219**: U470-U470 Part 2, Mar 26 2000.
26. R. K. Brow, E. Metwalli, and D. L. Sidebottom, "Properties and Structure of Lanthanum Phosphate Glasses," in *Inorganic Optical Materials II, Proceedings of the International 45th Annual Meeting of the SPIE*, **Vol. 4102**, 88-94 (2000).
27. R. K. Brow*, M. Karabulut, E. Metwalli, A. Wittenauer & K. Marasinghe C.H. Booth, J.J. Bucher & D.K. Shuh, "The Structure of Rare Earth Phosphate Glasses," Extended Abstract, 19th ICG, Edinburgh, Scotland, July 1-7, 2001.
28. W. G. Fahrenholtz, C. A. Click, and R. K. Brow, "Laboratory Experiences in Glasses and Traditional Ceramics," Proceedings of the 2002 American Society for Engineering Education Conference, Montreal, Canada, June 16-20, 2002.
29. C.A. Click, R.K. Brow, B.R. Cherry, and T.M. Alam, "¹⁷O MQ MAS NMR Investigation of P₂O₅ Crystals and Glasses," *Phosphorus Research Bulletin*, **13**, *Proceedings of the 4th International Symposium on Inorganic Phosphate Materials*, Jena, Germany, July 10-13, 2002.

30. R.K. Brow, A. K. Wittenauer, "Rare Earth Coordination Environments in Ultraphosphate Glasses," *Phosphorus Research Bulletin*, **13**, *Proceedings of the 4th International Symposium on Inorganic Phosphate Materials*, Jena, Germany, July 10-13, 2002.
31. C.A. Click, W.J. Reichman, R. K. Brow, P. E. Ehrmann, T.I. Suratwala, and J. H. Campbell, "Influence of hydroxyl contamination on neodymium fluorescence lifetime in potassium-magnesium alumino-metaphosphate glasses," *Proceedings of the 7th Otto Schott Colloquium*, Jena, Germany, July 7-11, 2002, *Glastech. Ber.*, **75** C2 209-214 (2002).
32. Richard K. Brow, Nathan P. Lower, Adam J. Lang, and Charles R. Kurkjian, "Structure and the Intrinsic Strength of Glass," *Proceedings of the 7th Otto Schott Colloquium*, Jena, Germany, July 7-11, 2002, *Glastech. Ber.*, **75** C2 133-138 (2002).
33. William G. Fahrenholtz, Richard K. Brow, and Amanda L. Young, "Recruiting a New Generation of Ceramic Engineers," *Proceedings of the 2003 American Society for Engineering Education Annual Conference & Exposition*.
34. Matthew H. Krohn, John R. Hellmann, Carlo G. Pantano, Nathan Lower, and Richard K. Brow, "Effects Of Tin On The Physical Properties And Crack Growth In Soda-Lime-Silica Float Glass," *Fracture Mechanics of Ceramic.... International Fracture Mechanics.....*

Publications/Reports, Book Chapters, Miscellaneous Publications

1. R. D. Watkins, L. Kovacic, P. R. Wengert, S. C. Douglas, R. K. Brow, S. N. Burchett, and H. K. Street, "Technology Transfer of CABAL-12 Glass to Support the Fabrication of the MC4050 Power Supply," Sandia Report SAND88-0498, Oct. 1988.
2. R. K. Brow, "Inorganic Glasses and Glass-Ceramics," chapter 6 in *Characterization of Ceramics*, ed. R. E. Loehman, pp. 103-118, Butterworth-Heinemann, Stoneham, MA (1993).
3. R. K. Brow and H. L. McCollister, "Specialty Glass and Glass/Ceramic-to-Metal Seals," *Materials Technology*, **8**[11/12] 242-45 (1993).
4. R. K. Brow, "Precollege Science Education: Start Them Early," *Bulletin of the American Ceramic Society*, **75**[4] 69-70 (1996).
5. R. K. Brow, D. R. Tallant, S. V. Crowder, S. K. Saha, H. Jain, A. McIntyre, and D. E. Day, "Advanced Materials for Aerospace and Biomedical Applications: New Glasses for Hermetic Titanium Seals," Sandia Report, SAND 96-2772, Nov. 1996.
6. R. K. Brow, D. N. Bencoe, L. Kovacic, and D. R. Tallant, "PbO-Free Materials for Low Temperature Packaging," Sandia Report SAND97-2391, Printed October 1997.
7. Mariano Velez, Signo T. Reis, Richard K. Brow, GLASS, chapter in *Kirk-Orthmer: Encyclopedias of Chemical Technology*, Vol. XX, XX Edition, pp. XXX, 2003 (submitted Jan. '03, accepted Aug. '03)