

Publications

- Abdurashitov, J. N., Gavrin, V. N., Girin, S. V., Gorbachev, V. V., Gurkina, P. P., Ibragimova, T. V., Kalikhov, A. V., Khairnasov, N. G., Knodel, T. V., Mirmov, I. N., Shikhin, A. A., Veretenkin, E. P., Vermul, V. M., Yants, V. E., Zatsepin, G. T., Bowles, T. J., Teasdale, W. A., Nico, J. S., Cleveland, B. T., Elliott, S. R., Wilkerson, J. F., "Solar Neutrino Flux Measurements by the Soviet-American Gallium Experiment (SAGE) for Half the 22-Year Solar Cycle," *Jour. Exp. Th. Phys.* **95** (2), 181 (2002).
- Adams, C. P., Lynn, J. W., Smolyaninova, V. N., Biswas, A., Greene, R. L., Ratcliff, W., Cheong, S.-W., Mukovskii, Y. M., Shulyatev, D. A., "First-Order Nature of the Ferromagnetic Phase Transition in (La-Ca)MnO₃ Near Optimal Doping," *Phys. Rev. B*, in press.
- Agamalian, M., Iolin, E., Kaiser, H., Rehm, C., Werner, S. A., "A New Dynamical Diffraction-Based Technique of Residual Stress Measurements in Thin Films," *Appl. Phys. A* **74**, S1686 (2002).
- Allen, A. J., Berk, N. F., Ilavsky, J., Long, G. G., "Multiple Small-Angle Neutron Scattering Studies of Anisotropic Materials," *Appl. Phys. A* **74**, S937 (2002).
- Allen, J. W., Aronson, M., Boebinger, G. S., Broholm, C., Lance Cooper, S., Crow, J. E., Hammel, P. C., Lander, G., "Future Probes in Materials Science," *Physica B* **318**, 12 (2002).
- Anderson, D. L., Mackey, E. A., "Improvements in Food Analysis by Thermal Capture Prompt Gamma-ray Spectrometry," *J. Radioanal. Nucl. Chem.*, in press.
- Angell, C. A., Yue, Y.-Z., Wang, L.-M., Copley, J. R. D., Borick, S., Mossa, S., "Potential Energy, Relaxation, Vibrational Dynamics and the Boson Peak of Hyperquenched Glasses," *J. Phys. Condens. Matter* **15**, S1051 (2003).
- Annis, B. K., Kim, M.-H., Brown, C., "Comparison of Boson Peaks in Polypropylenes," *Macromol.* **36** (2), 520 (2003).
- Azuah, R. T., Glyde, H. R., Scherm, R., Mulders, N., Fak, B., "Bose-Einstein Condensation in Liquid He-4 in Vycor," *J. Low Tem. Phys.* **130** (5-6), 557 (2003).
- Baklanov, M. R., Kondoh, E., Lin, E. K., Gidley, D. W., Lee, H.-J., Mogilnikov, K. P., Sun, J. N., "Comparative Study of Porous SOG Films with Different Non-Destructive Instrumentation," in *Proceedings of the National Interconnect Technology Conference*, in press.
- Bao, W., Trevino, S. F., Lynn, J. W., Pagliuso, P. G., Sarrao, J. L., Thompson, J. D., Fisk, Z., "Effect of Pressure on Magnetic Structure in Heavy Fermion CeRhIn₅," *Appl. Phys. A* **74**, S557 (2002).
- Berk, N. F., Majkrzak, C. F., "Wavelet Analysis Neutron Reflectivity," *Langmuir*, in press.
- Bhatia, S., Barker, J., Mourchid, A., "Scattering of Disk-Like Particle Suspensions: Evidence for Repulsive Interactions and Large Length Scale Structure from Static Light Scattering and Ultra-Small-Angle Neutron Scattering," *Langmuir* **19** (3), 532 (2003).
- Biggs, S., Walker, L. M., Kline, S. R., "The Formation of an Irreversibly Adsorbed and Organized Micelle Layer at the Solid-Liquid Interface," *Nanoletters* **2** (12), 1409 (2002).
- Bishop, R. L., Blackman, M. J., "Instrumental Neutron Activation Analysis of Archaeological Ceramics: Scale and Interpretation," *Acc. Chem. Res.*, in press.
- Black, T. C., Huffman, P. R., Jacobson, D. L., Snow, W. M., Schoen, K., Arif, M., Kaiser, H., Lamoreaux, S. K., Werner, S. A., "Precision Neutron Interferometric Measurement of the n-d Coherent Neutron Scattering Length and Consequences for Models of Three-Nucleon Forces," *Phys. Rev. Lett.* **90**, 192502 (2003).
- Blackman, M. J., Redford, S., "Northern Syrian Luster and Fruitware: Petrographic and Chemical Implications for Productions and Distribution," *Antiquity*, in press.
- Blasie, J. K., Kneller, L. R., Majkrzak, C. F., "Neutron Interferometry of Vectorially-Oriented Single Monolayers of Membrane Proteins and Their Artificial Synthetic Maquettes," *Abstr. Pap. Am. Chem. Soc.* **224**, 123 (2002).
- Böni, P., Clementyev, E., Stadler, C. H., Roessli, B., Shirane, G., Werner, S. A., "Fincher-Burke Excitations in Single-*Q* Chromium," *Appl. Phys. A* **74**, S716 (2002).
- Bordallo, H. N., Chapon, L. C., Cook, J. C., Copley, J. R. D., Goremychkin, E., Kern, S., Lee, S.-H., Yildirim, T., Manson, J. L., "Spin Excitations in 3D Molecular Magnets Probed by Neutron Scattering," *Appl. Phys. A* **74**, S634 (2002).
- Borgoul-Maciejczyk, P., Ondov, J. M., "Heterogenous Nature of Metallic Components in Baltimore Particulate Matter," *Environ. Sci. Technol.*, in press.
- Borodin, O., Douglas, R., Smith, G. D., Trouw, F., Petrucci, S., "MD Simulations and Experimental Study of Structure, Dynamics, and Thermodynamics of Poly(ethylene oxide) and Its Oligomers," *J. Phys. Chem. B* **107**, 6813 (2003).
- Bossev, D. P., Ferdinand, S., Paulaitis, M. E., "Effect of Pressure on Microstructure in Water-in-Oil and Oil-in-Water Microemulsions for C₁₂E₅-n-Octane/D₂O Mixtures," *Langmuir*, in press.
- Boukari, H., Allen, A. J., Long, G. G., Ilavsky, J., Wallace, J. S., Berndt, C. C., Herman, H., "Small-Angle Neutron Scattering Study of the Role of Feedstock, Particle Size on the Microstructural Behavior of Plasma-Sprayed Yttria-Stabilized Zirconia Deposits," *J. Mater. Res.* **18** (3), 624 (2003).
- Broholm, C., Aepli, G., "Dynamic Correlations in Quantum Magnets," to appear in *Strong Interactions in Low Dimensions*, edited by D. Baeriswyl, and L. Degiorgi, (Kluwer), in press.
- Brown, C. M., Manson, J. L., "Solid State Ligand Dynamics in Interpreting Mn[N(CN)2]2(pyrazine): A Neutron Spectroscopy Study," *J. Amer. Chem. Soc.* **124** (42), 12600 (2002).

- Caffrey, P. F., Ondov, J. M., "Dry Deposition of Elemental Aerosol Constituents to Lake Michigan Surface Waters, by Size and by Source," *Environ. Sci. Technol.*, in press.
- Caffrey, P. F., Ondov, J. M., "Dry Removal of Elemental Aerosol Particulate Constituents in Near Shore Gradient of Southern Lake Michigan," *Environ. Sci. Tech.*, in press.
- Campbell, B. J., Sinha, S. K., Osborn, R., Rosenkranz, S., Vasiliu-Doloc, L., Mitchell, J. F., Islam, Z., Seeck, O. H., Lynn, J. W., "Polaronic Orbital Polarization in a Layered Colossal Magnetoresistive Manganite," *Phys. Rev. B* **67**, R020409 (2003).
- Cappelletti, R. L., "MSEL, FY2002 Programs and Accomplishments," *NIST IR*, 6908 (2002).
- Cappelletti, R. L., "NCNR 2002 NIST Center for Neutron Research Accomplishments and Opportunities," *NIST SP 993* (2002).
- Cava, R. J., DiSalvo, F. J., Brus, L. E., Dunbar, K. R., Gorman, C. B., Maile, S. M., Interrante, L. V., Musfeldt, J. L., Navrotsky, A., Nuzzo, R. G., Pickett, W. E., Wilkinson, A. P., Ahn, C., Allen, J. W., Burns, P. C., Ceder, G., Chidsey, C. E. D., Clegg, W., Coronado, E., Dai, H., Deem, M. W., Dunn, B. S., Galli, G., Jacobson, A. J., Kanatzidis, M., Lin, W., Manthiram, A., Mrksich, M., Norris, D. J., Nozik, A. J., Peng, X., Rawn, C., Rolison, D., Singh, D. J., Toby, B. H., Tolbert, S., Wiesner, U. B., Woodward, P. M., Yang, P., "Future Directions in Solid State Chemistry: Report of the NSF-Sponsored Workshop," *Progr. Solid State Chem.* **30**, 1 (2002).
- Chakoumakos, B. C., Rawn, C. J., Rondinone, A. J., Marshall, S. L., Stern, L. A., Circone, S., Kirby, S. H., Jones, C. Y., Toby, B. H., Ishii, Y., "The Use of Rigid Body Constraints in Rietveld Refinements of Neutron Diffraction Data of Clathrate Hydrates," in *Proceeding of the 4th International Conference on Gas Hydrates*, (Yokohama, Japan, 2002), in press.
- Chakoumakos, B. C., Rawn, C. J., Rondinone, A. J., Stern, L. A., Circone, S., Kirby, S. H., Ishii, Y., Jones, C. Y., Toby, B. H., "Temperature Dependence of Polyhedral Cage Volumes in Clathrate Hydrates" *Can. J. Phys.* **81** (1-2), 183 (2003).
- Chen, S.-H., Chen, W.-R., Mallamace, F., "The Glass-to-Glass Transition and Its End Point in a Copolymer Micellar System," *Science*, **300**, 619 (2003).
- Chen, S.-H., Mallamace, F., Faraone, A., Gambadauro, P., Lombardo, D., Chen, W. R., "Observation of a Re-Entrant Kinetic Glass Transition in a Micellar System with Temperature-Dependent Attractive Interaction," *Eur. Phys. J. E* **9**, 283 (2002).
- Chen, W. C., Bailey, C., Borchers, J. A., Farrow, R. F. C., Gentile, T. R., Hussey, D. H., Majkrzak, C. F., O'Donovan, K. V., Remmes, N., Snow, W. M., Thompson, A. K., "Polarized ³He Analyzers for Neutron Reflectometry," *Physica B* **335**, 196 (2003).
- Cheng, X., Fisher, J. W., Yen, B. T., Roy, S., Prask, H. J., Gnäupel-Herold, T., "Residual Stress Modification by Post-Weld Treatment and Its Beneficial Effect on Fatigue Strength of Welded Structures," *ASM Matls. Solutions Conf. & Show*, (Columbus, OH, 2002), in press.
- Chen-Mayer, H. H., Lamaze, G. P., Coakley, K. J., Satija, S. K., "Two Aspects of Thin Film Analysis: Boron Profile and Scattering Length Density Profile," *Nucl. Inst. Meth. A* **505**, 531 (2003).
- Choi, E. J., Foster, M. D., Daly, S., Tilton, R., Przybien, T., Majkrzak, C. F., Witte, P., Menzel, H., "Effect of Flow on Human Serum Alumin Adsorption to Self-Assembled Monolayers of Varying Packing Density," *J. Colloid Interf. Sci.*, in press.
- Choi, H. D., Firestone, R. B., Lindstrom, R. M., Molnar, G. L., Reddy, A. V. R., Tan, V. H., Zhou, C. M., Paviotia-Corcuera, R. A., Trkov, A., "Development of a Database for Prompt Gamma-Ray Neutron Activation Analysis," *J. Nucl. Sci. Tech.*, in press.
- Choi, E. J., Foster, M. D., Daly, S., Tilton, R., Przybien, T., Majkrzak, C. F., Witte, P., Menzel, H., "Effect of Flow on Human Serum Alumin Adsorption to Self-Assembled Monolayers of Varying Packing Density," *Langmuir* **19** (13), 5464 (2003).
- Chong, K. P., Sung, L., VanLandingham, M. R., "Solid Micromechanics: Research and Challenges," in *Proceedings of the 13th Micromechanics Europe (MME 2002) Workshop*, (Sinaia, Romania, Oct. 6-8, 2002), in press.
- Chowdhuri, Z., Hansen, G., Snow, W. M., Keith, C. D., Thompson, A. K., Dewey, M. S., Gilliam, D. M., Nico, J. S., Wietfeldt, F. E., Lozowski, W. M., Jane, V., Greene, G. L., "A Cryogenic Radiometer for Absolute Neutron Rate Measurement," *Rev. Sci. Instrum.*, in press.
- Clarke, W. B., Guscott, R., Lindstrom, R. M., "Binding of Lithium and Boron to Human Plasma Proteins II: Results for a Bipolar Not on Lithium Therapy," *Biol. Trace Element Res.*, in press.
- Coakley, K. J., Chowdhuri, Z., Snow, W. M., Richardson, J. M., Dewey, M. S., "Estimation of Neutron Mean Wavelength From Rocking Curve Data," *Meas. Sci. Technol.* **14** (1), 131 (2003).
- Copley, J. R. D., "An Acceptance Diagram Analysis of the Contaminant Pulse Removal Problem with Direct Geometry Neutron Chopper Spectrometers," *Nucl. Inst. Meth. A*, in press.
- Copley, J. R. D., Cook, J. C., "The Disk Chopper Spectrometer at NIST: A New Instrument for Quasielastic Neutron Scattering Studies," *Chem. Phys.* **292**, 477 (2003).
- Cranswick, L. M. D., Mumme, W. G., Grey, I. E., Roth, R. S., Bordet, P., "A New Octahedral Tilt System in the Perovskite Phase Ca₃Nb₂O₈," *J. Solid State Chem.* **172**, 178 (2003).
- Dag, S., Gulseren, O., Ciraci, S., Yildirim, T., "Electronics Structure of the Contact Between Carbon Nanotube and Metal Electrodes," *Appl. Phys. Lett.*, in press.
- Dag, S., Gulseren, O., Yildirim, T., Ciraci, S., "Oxidation of Carbon Nanotubes: Structure and Energetics," *Phys. Rev. B* **67**, 165424 (2003).
- Dattelbaum, A., He, L., Tsui, F., Martin, J. D., "Synthesis and Characterization of Cu₂ZrCl₆: A Thermochromic, Van Vleck Paramagnet," *J. Alloys and Comp.* **338**, 173 (2002).
- DeBruyn, H., Gilbert, R. G., White, J. W., Schulz, J. C., "Characterization of Electrosterically Stabilized Polystyrene Latex; Implications for Radical Entry Kinetics," *Polymer* **44** (16), 4411 (2003).
- DeBruyn, H., Gilbert, R. G., White, J. W., Schulz, J. C., "SANS Study of Electrosterically Stabilized Polystyrene Latex," *Langmuir*, in press.

- DeSanto, P., Buttrey, J., Grasselli, R. K., Lugmair, C. G., Volpe, A. F., Toby, B. H., Vogt, T., "Structural Characterization of the Orthorhombic Phase M2 in MoVNbTeO Propane Ammonium Catalyst," *Topics in Catalysis*, in press.
- DeWall, J., Dimeo, R. M., Sokol, P. E., "Slow Diffusion of Molecular Hydrogen in Zeolite 13X," *J. Low Temp. Phys.* **129** (3-4), 171 (2002).
- Dimeo, R. M., "Visualization and Measurement of Quantum Rotational Dynamics," *Am. J. Phys.*, **71** (9), 885 (2003).
- Dimeo, R. M., Chowdhuri, Z., Meyer, A., Gehring, P. M., Neumann, D. A., "The NIST High-Flux Backscattering Spectrometer," *Appl. Phys. A* **74**, S311 (2002).
- Dimeo, R. M., Neumann, D. A., "The Effects of Confinement on Rotational Tunneling," *Appl. Phys. A* **74**, S1382 (2002).
- DiNoia, T. P., Van Zanten, J. H., Fetter, L. J., Wright, P. J., Kline, S. R., Garach-Domech, A., McHugh, M. A., "Impact of Supercritical Fluid Solvent Quality on Polymer Conformation in Semidilute Solutions: SANS Data for Poly(ethylene-co-1-butene) in Dimethyl Ether to Kilobar Pressures," *Macromol.*, in press.
- Divita, F., Terry, J., Kidwell, C. A., Ondov, J. M., Pandis, S., "Characterization of Primary Aerosol Emissions from a Municipal Incinerator Via Ground-Level Sampling with a Micro-Orifice Impactor," *Atmos. Environ.*, in press.
- Downing, R. G., Iyengar, G. V., "Methodological Issues in the Analytical Determination of Boron," *Environ. Health Perspect.*, in press.
- Dubsky, J., Prask, H. J., Matejicek, J., Gnäupel-Herold, T., "Stresses in Plasma Sprayed Cr₂O₃ Coatings Measured by Neutron Diffraction," *Appl. Phys. A* **74**, S1115 (2002).
- Duckham, A., Zhang, D. Z., Liang, D., Luzin, V., Cammarata, R. C., Leheny, R. L., Chien, C. L., Weihs, T. P., "Temperature Dependent Mechanical Properties of Ultra-Fine Grained FeCo-2V," *Acta Mater.* **51** (14), 4083 (2003).
- Dullo, A. R., Ruddy, F. H., Seidel, J. G., Adams, J. M., Nico, J. S., Gilliam, D. M., "The Neutron Response of Miniature Silicon Carbide Semiconductor Detectors," *Nucl. Instrum. Meth. A* **498** (1-3), 415 (2003).
- Durgun, E., Dag, S., Bagci, V. M. K., Gulseren, O., Yildirim, T., Ciraci, S., "Systematic Study of Adsorption of Single Atoms on a Carbon Nanotube," *Phys. Rev. B* **67**, 201401 (2003).
- Eitouni, H. B., Hahn, H., Balsara, N. P., Pople, J. A., Hempenius, M. A., "Thermodynamic Interactions in Organometallic Block Copolymers: Poly(styrene-block-ferrocenyldimethylsilane)," *Macromol.* **35**, 7765 (2002).
- Elliot, J., Meuse, V., Silin, V., Krueger, S., Woodward, J. T., Petrali-Mallow, T. P., Plant, A. L., "Biomedical Membranes on Metal Supports: Opportunites and Challenges," in *Proceedings of the Biomolecular Films: Design, Function, and Application*, edited by J. Rusling (New York, Marcel Dekker, Inc., 2003), p. 99.
- Faraone, A., Liu, L., Mou, C.-Y., Shih, P.-C., Brown, C. M., Copley, J. R. D., Dimeo, R. M., Chen, S.-H., "Dynamics of Supercooled Water in Mesoporous Silica Matrix MCM-48-S," *Eur. Phys. J. E*, in press.
- Faraone, A., Liu, L., Chen, S.-H., Mou, C.-Y., Shih, P.-C., Copley, J. R. D., "Translational and Rotational Dynamics of Water in Mesoporous Silica Materials: MCM-41-S and MCM-48-S," *J. Chem. Phys.* **119**, 3963 (2003).
- Garvey, C. J., Parker, I. H., Simon, G. P., Whittaker, A. K., Knott, R. B., "An Experimental Study by NMR and SANS of the Ambient Hydration of Paper," in *Proceedings of the 12th Fundamental Research Symposium*, (Pulp and Paper Fundamental Research Society, Oxford), in press.
- Gaulin, B. D., Mao, M., Wiebe, C. R., Qiu, Y., Shapiro, S. M., Broholm, C., Lee, S.-H., Garrett, J. D., "Spin and Lattice Excitations in the Heavy Fermion Superconductor UNi₂Al₃," *Phys. Rev. B* **66** (17), 174520 (2002).
- Gawrys, K. L., Spiecker, P. M., Kilpatrick, P. K., "The Role of Asphaltene Solubility and Chemistry on Asphaltene Aggregation," *Petroleum Science and Technology* **21**, 461 (2003).
- Gehring, P. M., "Summer School on Methods and Applications of Neutron Spectroscopy Held at NIST," *Neutron News*, in press.
- Geissler, E., Hecht, A. M., Rochas, C., Horkay, F., Bley, F., Livet, F., "Structure and Dynamics of Silica-Filled Polymers by SANS and Coherent SAXS," *Macromol. Symp.* **190**, 23 (2002).
- Gentile, T. R., Hayden, M. E., Barlow, M. J., "Comparison of Metastability Optical Pumping Sources," *J. Opt. Am. B*, in press.
- Gibson, W. M., Schultz, A. J., Chen-Mayer, H. H., Mildner, D. F. R., Gnäupel-Herold, T., Miller, M. E., Prask, H. J., Vitt, R., Youngman, R., Carpenter, J. M., "Polycapillary Focusing Optic for Small Sample Neutron Crystallography," *J. Appl. Cryst.* **35** 677 (2002).
- Gilliam, D. M., Thompson, A. K., Nico, J. S., "A Neutron Sensor For Detection of Nuclear Materials In Transport," *AIP Conference Proceedings*, (Unattended Radiation Sensor Systems for Remote Applications), edited by J. I. Trombka, D. P. Spears, and P. H. Solomon, **632**, 0-7354-0087 (American Institute of Physics), p. 291.
- Glagolenko, I. Y., Carney, K. P., Kern, S., Goremychkin, E. A., Udrovic, T. J., Copley, J. R. D., Cook, J. C., "Quantitative Analysis of UH₃ in U Metal and UO₂ Matrices by Neutron Vibrational Spectroscopy," *Appl. Phys. A* **74**, S1397 (2002).
- Glinka, C. J., "Summer School on SANS and Reflectometry Held at NIST," *Neutron News* **13** (4), 6 (2002).
- Gnäupel-Herold, T., "Single Crystal Elastic Constants From Powder Measurements," in *Proceedings of Accuracy in Powder Diffraction. III* (NIST Special Publication), in press.
- Gnäupel-Herold, T., Prask, H. J., Biancaniello, F. S., "Residual Stresses and Elastic Constants in Thermal Deposits", in *Recent Advances in Experimental Mechanics – In Honor of Isaac M. Daniel*, edited by E.E. Gdoutos, (Kluwer Academic Publishers, Dordrecht 2002), in press.
- Goodrich, R. G., Young, D. P., Hall, D., Fisk, Z., Harrison, N., Betts, J., Migliori, A., Woodward, F. M., Lynn, J. W., "New Aspects of the Temperature - Magnetic Field Phase Diagram of CeB₆," *Phys. Rev. B*, in press.
- Granado, E., Huang, Q., Lynn, J. W., Gopalakrishnan, J., Greene, R. L., Ramesha, K., "Spin-Orbital Ordering and Mesoscopic Phase Separation in the Double Perovskite Ca₂FeReO₆," *Phys. Rev. B* **66** (6), 064409 (2002).

- Granado, E., Ling, C. D., Neumeier, J. J., Lynn, J. W., Argyriou, D. N., "Inhomogeneous Magnetism in La-doped CaMnO₃: (I) Nanometric-Scale Spin Clusters and Long-Range Spin Canting," Phys. Rev. B, in press.
- Granado, E., Martinho, H., Sercheli, M. S., Pagliuso, P. G., Jackson, D., Torelli, M., Lynn, J. W., Rettori, C., Fisk, Z., Oseroff, S. B., "Unconventional Metallic Magnetism in LaCrSb₃," Phys. Rev. Lett. **89** (10), 107204 (2002).
- Grohol, D., Huang, Q., Toby, B., Lynn, J. W., Lee, Y. S., Nocera, D. G., "Powder Neutron Diffraction Analysis and Magnetic Structure of Kagomé type Vanadium Jarosite NaV₃(OD)₆(SO₄)₂," Phys. Rev. B **68**, 094404 (2003).
- Gruell, H., Sung, L., Karim, A., Douglas, J. F., Satija, S. K., Han, C. C., "Surface Segregation of a Symmetrical Segregating Polymer Blend Film Above and Below the Critical Point of Phase Separation," Europhys. Lett., in press.
- Gu, X., Raghavan, D., Ho, D. L., Sung, M. R., VanLandingham, M. R., Nguyen, T., "Nanocharacterization of Surface and Interface of Different Epoxy Network," in *Proceedings of the MRS Fall 2001 Meeting*, edited by Frank, C. W., in press.
- Gu, X., Sung, L., Ho, D. L., Michaels, C. A., Nguyen, D., Jean, Y. C. Nguyen, T., "Surface and Interface Properties of PVDF/Acrylic Copolymer Blends Before and After UV Exposure," in *Proceedings of the 80th Annual Meeting Technical Program* (Oct. 30-Nov.1, New Orleans, LA, 2002), in press.
- Guàrdia, E., Martí, J., Padró, J. A., Saiz, L., Komolkin, A. V., "Dynamics in Hydrogen Bonded Liquids: Water and Alcohols," J. Molec. Liq. **96-97**, 3 (2002).
- Gulseren, O., Yildirim, T., Ciraci, S., "Effects of Hydrogen Adsorption on Single Wall Carbon Nanotubes: Metallic Hydrogen Decoration," Phys. Rev. B **66**, 121401 (2002).
- Gulseren, O., Yildirim, T., Ciraci, S., "Formation of Quantum Structures on a Single Nanotube by Modulation Hydrogen Adsorption," Phys. Rev. B, in press.
- Gulseren, O., Yildirim, T., Ciraci, S., Kilic, C., "Reversible Band-Gap Engineering in Carbon Nanotubes by Radical Deformation," Phys. Rev. B **65**, 155410 (2002).
- Guo, H. K., Tao, R. B., Lin, M. Y., "Quantitative Analysis of Rod Like Micelle Solutions Viscosity Using Microscopic Parameters," Int. J. Mod. Phys. B **17** (1-2), 119 (2003).
- Hammouda, B., Ho, D., Kline, S., "SANS from Poly(ethylene oxide) Water Systems," Macromol. **35**, 8578 (2002).
- Hanley, H. J. M., Muzny, C. D., Ho, D. L., Glinka, C. J., "A Small-Angle Neutron Scattering Study of a Commercial Organoclay Dispersion," Langmuir **19**, 5575 (2003).
- Harris, A. B., Aharony, A., Entin-Wohlman, O., Korenblit, I. Ya., Yildirim, T., "Landau Expansion for the Kugel-Khomskii t_{2g} Hamiltonian," Phys. Rev. B, in press.
- Harris, A. B., Yildirim, T., Aharony, A., Entin-Wohlman, O., Korenblit, I. Ya., "Hidden Symmetries and Their Consequences in t_{2g} Cubic Perovskites," Phys. Rev. B, in press.
- Harris, A. B., Yildirim, T., Aharony, A., Entin-Wohlman, O., Korenblit, I. Ya., "Unusual Symmetries in the Kugel-Khomskii-Hamiltonian," Phys. Rev. Lett., in press.
- Harris, S. P., Heller, W. T., Greaser, M. L., Moss, R. L., Trehella, J., "Solutions Structure of Heavy Meromyosin by Small Angle Scattering," J. Bio. Chem. **278**, 6034 (2003).
- Hase I., Ikeda S. I., Shirakawa N., Stalick J. K., "Electronic Structure of Sr₂MoO₄," J. Low. Temp. Phys. **131** (3-4), 269 (2003).
- Hassan, P. A., Fritz, G., Kaler, E. W., "Small Angle Neutron Scattering Study of Sodium Dodecyl Sulfate Micellar Growth Driven by Addition of a Hydrotropic Salt," J. Coll. Interface Sci. **257** (1), 154 (2003).
- Hayashi, M., Hashimoto, T., Weber, M., Gruell, H., Esker, A., Han, C. C., Satija, S. K., "Transient Interface Instability in Bilayer Polymer Films as Observed by Neutron Reflectivity Studies," Macromol., in press.
- Heath, C. H., Streletzky, K., Wyslouzil, B. E., Wolk, J., Strey, R., "H₂O-D₂O Condensation in a Supersonic Nozzle," J. Chem. Phys. **117** (13), 6176 (2002).
- Heath, C. H., Streletzky, K. A., Wyslouzil, B. E., Wolk, J., Strey, R., "Small Angle Neutron Scattering From D₂O-H₂O Nanodroplets and Binary Nucleation Rates in a Supersonic Nozzle," J. Chem. Phys. **118** (12), 5465 (2003).
- Hecht, A. M., Horkay, F., Geissler, E., "Thermal Fluctuations in Polymer Gels Investigated by Neutron Spin Echo and Dynamic Light Scattering," Macromol. **35**, 8552 (2002).
- Hedden, R. C., Bauer, B. J., "Structure and Dimensions of PAMAM/PEG Dendrimer-Star Polymers," Macromol. **36** (6), 1829 (2003).
- Hedden, R. C., Lee, H. J., Bauer, B. J., Soles, C. L., Wu, W. L., Lin, E. K., "Measurement of Pore Size and Matrix Characteristics in Low-k Dielectrics by Neutron Contrast Variation," in *Proceedings of the International Conference on Characterization and Metrology for ULSI Technology*, (March, 2003, Austin TX), in press.
- Heller, W. T., Anusamhadneh, E., Finley, N., Rosevear, P. R., Trehella, J., "The Solution Structure of a Cardiac Troponin C-Troponin I-Troponin T Complex Shows a Somewhat Compact Troponin C Interacting with an Extended Troponin I-Troponin T Component," Biochem. **41**, 15654 (2002).
- Henrickson, R. C., Vandiver, P. B., Blackman, M. J., "Lustrous Black Fine Ware at Gordion, Turkey: A Distinctive Sintered Slip Technology," in *Materials Research Society Symposium Proceedings*, Materials Issues in Art and Archaeology VI, edited by P. B. Vandiver, M. Goodway, and J. L. Mass. **712** (2002), p. 391.
- Hentze, H. P., Raghavan, S. R., McKelvey, C. A., Kaler, E. W., "Silica Hollow Spheres by Templating of Catanionic Vesicles," Langmuir **19** (4), 1069 (2003).
- Ho, D. L., Glinka, C. J., "Effects of Solvent Solubility Parameters on Organoclay Dispersions," Chem. Mater. **15** (6), 1309 (2003).
- Ho, D. L., Hammouda, B., Kline, S. R., "Clustering of Poly(ethylene oxide) in Water Revisited," J. Poly. Sci.: Part B: Poly. Phys. **41**, 135 (2003).
- Hoffman, A., Seo, J. W., Fitzsimmons, M. R., Siegwart, H., Fompeyrine, J., Locquet, J.-P., Dura, J. A., Majkrzak, C. F., "Induced Magnetic Moments at a Ferromagnet-Antiferromagnet Interface," Phys. Rev. B **66** (22), 220406 (2002).

- Horkay, F., Hecht, A. M., Grillo, I., Bassler, P. J., Geissler, E., "Experimental Evidence for Two Thermodynamic Length Scales in Neutralized Polyacrylate Gels," *J. Chem. Phys.* **117** (20), 9103 (2002).
- Huang, Q. Z., Karen, V. L., Santoro, A., Kjekshus, A., Linden, J., Pietari, T., Karen, P., "Substitution of Co³⁺ in YBa₂Fe₃O₈," *J. Solid State Chem.* **172** (1), 73 (2003).
- Huffman, P. R., "An Experiment to Search for Parity-Conserving Time Reversal Invariance Using Epithermal Neutrons From the Spallation Neutron Source," in *Astrophysics, Symmetries, and Applied Physics at Spallation Neutron Sources*, (World Scientific Publishing Co. Pte. Ltd.) **156** (2002).
- Huffman, P. R., Arif, M., Dewey, M. S., Gentile, T. R., Gilliam, D. M., Jacobson, D. L., Nico, J. S., Thompson, A. K., "The Fundamental Neutron Physics Facilities at NIST," *AIP Conference Proceedings*, Application of Accelerators in Research and Industry: Seventeenth International Conference on the Application of Accelerators in Research and Industry, edited by J. L. Duggan, (Denton, Texas, 12-16 November 2002), **680** (2003).
- Huffman, P. R., Coakley, K. J., Dzhosyuk, S. N., Golub, R., Korobkina, E., Lamoreaux, S. K., Mattoni, C. E. H., McKinsey, D. N., Thompson, A. K., Yang, G. L., Yang, L., Doyle, J. M., "Progress Towards Measurement of the Neutron Lifetime Using Magnetically Trapped Ultracold Neutrons," in *Proceedings for the "Quark-mixing, CKM Unitarity,"* (Heidelberg, 19-20 September 2002), in press.
- Hussey, D., Fan, S., Neff, B., Bailey, C., Snow, W. M., Rich, D., Thompson, A. K., Gentile, T. R., Te Velthuis, S. G. E., Felcher, G. P., "Simultaneous Polarization Analysis of Zeeman Splitting in Polarized Neutron Reflectometry Using a Polarized ³He Neutron-Spin Filter," *Appl. Phys. A* **74**, S234 (2002).
- Ishii, Y., Jones, C. Y., Marshall, S. L., Rawn, C. J., Chakomakos, B. C., "Structure Study of Tetrahydrofuran Deuterate by Neutron Powder Diffraction," JAERI Review, Progress Report on Neutron Scattering Research (April 1, 2001 – March 31, 2002), edited by S. Katano, S. Koizumi, M. Matsuda (2002), in press.
- Jeng, U.-S., Lin, T.-L., Wang, L. Y., Chiang, L. Y., Ho, D. L., Han, C. C., "SANS Structural Characterization of Fullerol-Derived Star Polymers In Solutions," *Appl. Phys. A* **74**, S487 (2002).
- Jeon, H. S., Dixit, P. S., Yim, H., Kent, M. S., Shin, S., Satija, S., "Interfacial Structure and Properties in Polystyrene/Epoxy Bilayer Films," *J. Polym. Sci. Pol. Phys.* **40** (23), 2653 (2002).
- Jones, C. Y., Marshall, S. L., Chakoumakos, B. C., Rawn, C. J., Ishii, Y., "Structure and Thermal Expansivity of Tetrahydrofuran Deuterate Determined by Neutron Powder Diffraction," *J. Phys. Chem. B* **107** (25), 6026 (2003).
- Jones, R. L., Hu, T. J., Prabhu, V. M., Soles, C. L., Lin, E. K., Wu, W. L., Goldfarb, D. L., Angelopoulos, M., "Form of Deprotection in Chemically Amplified Resists," in *Proceedings of the International Conference on Characterization and Metrology for ULSI Technology*, (March, 2003, Austin, TX), in press.
- Jones, R. L., Hu, T. J., Prabhu, V. M., Soles, C. L., Lin, E. K., Wu, W. L., Goldfarb, D. L., Trinque, B. C., Willson, C. G., "Deprotection Volume Characteristics and Line Edge Morphology in Chemically Amplified Resists," in *Proceedings of the SPIE: Advances in Resist Technology and Processing XX*, (March, 2003, Austin, TX), **5039** (2003), p. 1031.
- Jones, R. L., Hu, T., Lin, E. K., Wu, W. L., Casa, D. M., Orji, N. G., Vorburger, T. V., Bolton, P. J., Barclay, G. G., "Sub-Nanometer Wavelength Metrology of Lithographically Prepared Structures: A Comparison of Neutron and X-ray Scattering," in *Proceedings of the SPIE: Metrology, Inspection, and Process Control for Microlithography XVII*, (February, 2003, Santa Clara, CA), in press.
- Jones, R. L., Kumar, S. K., Grull, H., Han, C. C., Briber, R. M., Russell, T. P., "Experimental Phase Behavior of Ultrathin Film Polymer Mixtures," in press.
- Jones, R. L., Prabhu, V. M., Goldfarb, D. L., Lin, E. K., Soles, C. L., Lenhart, J. L., Wu, W. L., Angelopoulos, M., "Correlation of the Reaction Front with Roughness in Chemically Amplified Photoresists," in *Symposia of the American Chemical Society*, (American Chemical Society, Washington, DC), in press.
- Jones, R. L., Soles, C. L., Starr, F. W., Lin, E. K., Lenhart, J. L., Wu, W. L., Goldfarb, D. L., Angelopoulos, M., "Chain Conformation in Ultrathin Polymer Films," in *Proceedings of the SPIE: Advances in Resist Technology and Processing XIX*, (March, 2002, Santa Clara, CA) **4690** (2003), p. 342.
- Jones, R. L., Starr, F. W., Soles, C. L., Lin, E. K., Lenhart, J. L., Wu, W. L., Goldfarb, D., Angelopoulos, M., "Chain Conformation in Ultrathin Polymer Resists," in *Proceedings of the SPIE Conference*, **4689** (2002).
- Jones, T. D., Chappin, K. A., Bates, F. S., Annis, B. K., Hagaman, E. W., Kim, M.-H., Wignall, G. D., Fan, W., Waymouth, R., "Effect of Tecticity on Coil Dimensions and Thermodynamics Properties of Polypropylene," *Macromol.* **35**, 5061 (2002).
- Kang, H. J., Dai, P., Lynn, J. W., Matsuura, M., Thompson, J. R., Zhang, S.-C., Argyriou, D. N., Onose, Y., Tokura, Y., "Antiferromagnetic Order as the Competing Ground State in Electron Doped Nd_{1.85}Ce_{0.15}CuO₄," *Nature* **423**, 522 (2003).
- Karen, P., Kjekshus, A., Huang, Q., Karen, V. L., Lynn, J. W., Rosov, N., Natali-Sora, I., Santoro, A., "Neutron Powder Diffraction Study of Nuclear and Magnetic Structures of Yba₂Fe₃O_{8+ω} (-0.24 < ω < 0.11)," *J. Solid State Chem.*, in press.
- Karim, A., Yurekli, K., Meredith, C., Amis, E., Krishnamoorti, R., "Combinational Methods for Polymer Materials Science: Phase Behavior of Nanocomposite Blend Films," *Polym. Eng. Sci.* **42** (9), 1836 (2002).
- Karlsson, E. B., Abdul-Redah, T., Udovic, T. J., Hjörvarsson, B., Chatzidimitriou-Dreismann, C. A., "Short-lived Proton Entanglement in Yttrium Hydrides," *Appl. Phys. A* **74**, S1203 (2002).
- Karunadasa, H., Huang, Q., Ueland, B. G., Schiffer, P., Cava R. J., "²Ba₂LnSbO₆ and Sr₂LnSbO₆ (Ln = Dy, Ho, Gd) Double Perovskites: Lanthanides in the Geometrically Frustrating fcc Lattice," in *Proceedings of the National Academy of Sciences of the United States* **100** (14), 8097 (2003).
- Keller, T., Wagner, W., Allen, A., "Characterisation of Thermally Sprayed Metallic NiCrAlY Deposits by Multiple Small-Angle Scattering," *Appl. Phys. A* **74**, S975 (2002).

- Kelly, R. W., Murphy, K. E., Becker, D. A., Mann, J. L., "Determination of Cr in Certified Reference Material HISS-1, Marine Sediment, by Cold Plasma Isotope Dilution ICP-MS and INAA: Comparison of Microwave Versus Closed (Carius) Tube Digestion," *J. Anal. At. Spectrom.* **18**, 166 (2003).
- Kent, M., "A Quantitative Study of Tethered Chains in Various Solution Conditions Using Langmuir Diblock Copolymer Monolayers," *Macromol.*, in press.
- Kenzelmann, M., Chien, Y., Broholm, C., Reich, D. H., Qiu, Y., "Field Dependence of Solitons and breathers in an Antiferromagnetic S=1/2 Chain," *Phys. Rev. Lett.*, in press.
- Kenzelmann, M., Xu, G., Zaliznyak, I. A., Broholm, C., DiTusa, J. F., Aepli, G., Ito, T., Oka, K., Takagi, H., "Structure of End States for a Haldane Spin Chain," *Phys. Rev. Lett.* **90** (8), 087202 (2003).
- Kepa, H., Kutner-Pielaszek, J., Twardowski, A., Majkrzak, C. F., Story, T., Sadowski, J., Giebultowicz, T. M., "Polarized Neutron Reflectometry Studies of GaMnAs/GaAs Superlattices," *Appl. Phys. A* **74**, S1526 (2002).
- Kepa, H., Majkrzak, C. F., Sipatov, A. Y., Giebultowicz, T. M., "Polarized Neutron Reflectometry Studies of Magnetic Semiconductor Superlattices," *Physica B*, in press.
- Kepa, H., Springholz, G., Giebultowicz, T. M., Goldman, K. I., Majkrzak, C. F., Kacman, P., Blinowski, J., Holl, S., Krenn, H., Bauer, G., "Magnetic Interactions in EuTe Epitaxial Layers and EuTe/PbTe Superlattices," *Phys. Rev. B*, in press.
- Kepa, H., Van Khoi, L., Brown, C. M., Sawicki, M., Furdyna, J. K., Giebultowicz, T. M., "Probing Hole-Induced Ferromagnetic Exchange in Magnetic Semiconductors by Inelastic Neutron Spectroscopy," *Phys. Rev. Lett.*, in press.
- Khalifah, P., Osborn, R., Huang, Q., Zandergen, H. W., Jin, R., Liu, Y., Mandrus, D., Cava, R. J., "Orbital Ordering Transition in La₄Ru₂O₁₀," *Science* **297** (5590), 2237 (2002).
- Khaykovich, B., Birgeneau, R. J., Chou, F. C., Erwin, R. W., Kastner, M. A., Lee, S.-H., Lee, Y. S., Smeibidl, P., Vorderwisch, P., Wakimoto, S., "Effect of a Magnetic Field on Long-Range Magnetic Order in Stage-4 and Stage-6 Superconducting La₂CuO_{4+y}," *Phys. Rev. B* **67** (5), 054501 (2003).
- Kidwell, C. B., Ondov, J. M. "Elemental Analysis of Sub-Hourly Ambient Aerosol Collections," *Aerosol. Sci. Technol.*, in press.
- Kim, H., Huang, Q. Z., Lynn, J. W., Kauzlarich, S. M., "Neutron Diffraction Study of the Ternary Metal Zintl Compound Ca₁₄MnSb₁₁," *J. Solid. State. Chem.* **168** (1), 162 (2002).
- Kim, H.-C., Volksen, W., Miller, R. D., Huang, E., Yang, G., Briber, R. M., Shin, K., Satija, S., "Neutron Reflectivity on Nanoporous Poly(Methylsilsesquioxane) Thin Films," *Chem. Mater.* **15** (3), 609 (2003).
- Kline, S. R., Hammouda, B., "Corrective Refractive Optics Sharpens Focus of SANS Instruments," *J. Res. Natl. Inst. Stand. Technol.*, in press.
- Kodibagkar, V. D., Browning, C. D., Udovic, T. J., Conradi, M. S., "Deuterium NMR Study of Structure and Motion in LuD₃," *Phys. Rev. B* **67**, 174115 (2003).
- Koga, T., Seo, Y. S., Zhang, Y., Shin, K., Kusano, K., Nishikawa, K., Rafailovich, M. H., Sokolov, J. C., Chu, B., Peiffer, D., Occiogrosso, R., Satija, S. K., "Density-Fluctuation-Induced Swelling of Polymer Thin Films in Carbon Dioxide," *Phys. Rev. Lett.* **89** (12), 125506 (2002).
- Koga, T., Seo, Y.-S., Hu, X., Shin, K., Zhang, Y., Rafailovich, M. H., Sokolov, J. C., Chu, B., Satija, S., "Dynamics of Polymer Thin Films in Supercritical Carbon Dioxide," *Europhys. Lett.* **60** (4), 559 (2002).
- Koga, T., Seo, Y.-S., Shin, K., Zhang, Y., Rafailovich, M. H., Sokolov, J. C., Chu, B., Satija, S. K., "The Role of Elasticity in the Anomalous Swelling of Polymer Thin Films in Density Fluctuating Supercritical Fluids," *Macromol.* **36**, 5236 (2003).
- Koga, T., Shin, K., Zhang, Y., Seo, Y.-S., Rafailovich, M. H., Sokolov, J., Chu, B., Satija, S. K., "Polymer Thin Films in Supercritical CO₂," in *Proceedings of the ASR-2000*, J. Phys. Soc. Japan., in press.
- Kreyssig, A., Stockert, O., Reznik, D., Woodward, F. M., Lynn, J. W., Bitterlich, H., Souptel, D., Behr, G., Loewenhaupt, M., "Magnetic Excitations of RNi₂B₂C Single Crystals with R=Tb and Ho," *Physica C*, in press.
- Krishnamurthy, V. V., Bhandar, A. S., Piao, M., Zoto, I., Lane, A. M., Nikles, D. E., Wiest, J. M., Mankey, G. J., Porcar, L., Glinka, C. J., "Shear and Magnetic Field Induced Ordering in Magnetic Nanoparticles Dispersions from Small Angle Neutron Scattering," *Phys. Rev. E* **67** (5), 051406 (2003).
- Krueger, S. K., Gregurick, S., Shi, Y., Wang, S., Wladkowski, B. D., Schwartz, F. P., "Entropic Nature of the Interaction Between Promoter Bound CRP Mutants and RNA Polymerase," *Biochemistry* **42** (7), 1958 (2003).
- Krueger, S. K., Gregurick, S., Zondlo, J., Eisenstein, E., "Interaction of GroEL and GroES/GroES Complexes with a Non-Native Subtilisin Variant: A Small-Angle Neutron Scattering Study," *J. Struc. Biology* **141**, 240 (2003).
- Kucera, J., Zeisler, R., "Low-Level Determination of Silicon in Biological Materials Using Radiochemical Neutron Activation Analysis," *J. Radioanal. Nucl. Chem.*, in press.
- Kulkarni, A., Wang, Z., Nakamura, T., Sampath, S., Goland, A., Herman, H., Allen, J., Ilavsky, J., Long, G., Frahm, J., Steinbrech, R. W., "Comprehensive Microstructural Characterization and Predictive Property Modeling of Plasma-Sprayed Zirconia Coatings," *Acta Mater.* **51** (9), 2457 (2003).
- Kutteruf, M. R., Brown, C. M., Iwaki, L. K., Cambell, T. M., Korter, T. M., Heilweil, E. J., "Terahertz Spectroscopy of Short-Chain Polypeptides," *Chem. Phys. Letts.* **375** (3-4), 337 (2003).
- Kuzmanovic, D. A., Elashvili, I., Wick, C., O'Connell, Krueger, S., "Spatial Distribution Analysis and Molecular Weight Determination of Bacteriophage MS2 by Small Angle Neutron Scattering and a Novel Concentration Determination Method," Structure, in press.
- Lamaze, G. P., Chen-Mayer, H. H., Becker, D. A., Vereda, F., Goldner, R. B., Haas, T., Zerigian, P., "Cold Neutron Depth Profiling of Lithium Battery Materials," *J. Power Sources* **119**, 680 (2003).
- Lee, A. S., Butun, V., Vamvakaki, M., Armes, S. P., Pople, J. A., Gast, A. P., "Structure of pH-Dependent Block Copolymer Micelles: Charge and Ionic Strength Dependence," *Macromol.* **35** (22), 8540 (2002).

- Lee, H. J., Lin, E. K., Bauer, B. J., Wu, W. L., Hwang, B. K., Gray, W. D., "Characterization of Chemical-Vapor-Deposited Low-k Thin Films Using X-Ray Porosimetry," *Appl. Phys. Lett.* **82**, 1084 (2003).
- Lee, H. J., Soles, C. L., Liu, D. W., Bauer, B. J., Wu, W. L., "Pore Size Distributions in Low-k Dielectric Thin Films from X-ray Porosimetry," *Journal of Polymer Science Part B-Polymer Physics* **40**, 2170-2177 (2002).
- Lee, J. H., Balsara, N. P., Chakraborty, A. K., Krishnamoorti, R., Hammouda, B., "Thermodynamics and Phase Behavior of Block Copolymer/Homopolymer Blends with Attractive and Repulsive Interactions," *Macromol.* **35** (20), 7748 (2002).
- Lee, S.-H., Broholm, C., Ratcliff, W., Gasparovic, G., Huang, Q., Kim, T. H., Cheong, S. W., "Emergent Excitations in a Geometrically Frustrated Magnet," *Nature*, **418**, 856 (2002).
- Lefebvre, A. A., Lee, J. H., Balsara, N. P., Vaidyanathan, C., "Determination of Critical Length Scales and the Limit of Metastability in Phase Separating Polymer Blends," *J. Chem. Phys.* **117**, 9063 (2002).
- Lefebvre, A. A., Lee, J. H., Balsara, N. P., Vaidyanathan, C., "Fluctuation Mediated Phase Separation in Polymer Blends Near the Limit of Metastability," *J. Chem. Phys.* **117**, 9074 (2002).
- Levin, I., Amos, T. G., Nino, J. C., Vanderah, T. A., Randall, C. A., Lanagan, M. T., "Structural Study of an Unusual Cubic Pyrochlore $\text{Bi}_{1.5}\text{Zn}_{0.92}\text{Nb}_{1.5}\text{O}_{6.92}$," *J. Solid State Chem.* **168** (1), 69 (2002).
- Li, Z. G., Harlow, R. L., Foris, C. M., Li, H., Ma, P., Vickery, R. D., Maurin, M. B., Toby, B. H., "New Applications of Electron Diffraction in the Pharmaceutical Industry: Polymorph Determination by Using a Combination of Electron Diffraction and Synchrotron X-ray Powder Diffraction Techniques," *Microscopy and Microanalysis* **8**, 134 (2002).
- Lin, E. K., Lee, H. J., Bauer, B. J., Wang, H., Wetzel, J. T., Wu, W. L., "Structure and Property Characterization of Low-k Dielectric Porous Thin Films Determined by X-ray Reflectivity and Small-angle Neutron Scattering," in *Low Dielectric Constant Materials for IC Applications*, edited by P. S. Ho, J. Leu, and W. W. Lee (Springer Publishing Inc), in press.
- Lin, E. K., Soles, C. L., Goldfarb, D. L., Trinque, B. C., Burns, S. D., Jones, R. L., Lenhart, J. L., Angelopoulos, M., Willson, C. G., Satija, S. K., Wu, W.-L., "Measurement of the Spatial Evolution of the Deprotection Reaction Front with Nanometer Resolution Using Neutron Reflectometry," in *Proceedings of SPIE Conference* (2002).
- Lin, Y., Alexandridis, P., "Self-Assembly of an Amphiphilic Siloxane Graft Copolymer in Water," *J. Phys. Chem. B* **106**, 10845 (2002).
- Lin, Y., Alexandridis, P., "Small-Angle Neutron Scattering Characterization of Micelles Formed by Poly(dimethyl-siloxane)-graft-polyether Copolymers in Mixed Polar Solvents," *J. Phys. Chem. B* **106**, 12124 (2002).
- Lin, Y., Alexandridis, P., "Temperature-Dependent Adsorption of Pluronic F127 Block Copolymers onto Carbon Black Particles Dispersed in Aqueous Media," *J. Phys. Chem. B* **106**, 10834 (2002).
- Lin, Z., Wu, C., Heller-Zeisler, S., Ondov, J. M., "Chemical Mass Balance of Primary Aerosol Constituents in Baltimore Air," *Atmos. Environ.*, in press.
- Lindstrom, R. M., "An Improved Radiochemical Neutron Activation Analysis Procedure for Trace Mercury," *J. Radioanal. Nucl. Chem.*, in press.
- Lindstrom, R. M., Blaauw, M., Unterweiger, M., and Lucas, L. "The Half-Lives of ^{24}Na , ^{42}K , and ^{198}Au ," *J. of Radioanal. Nucl. Chem.*, in press.
- Ling, C. D., Granado, E., Neumeier, J. J., Lynn, J. W., Argyriou, D. N., "Inhomogeneous Magnetism in La-Doped CaMnO_3 : (II) Phase Separation due to Lattice-Coupled Ferromagnetic Interactions," *Phys. Rev. B*, in press.
- Ling, X. S., Park, S. R., Choi, S. M., Dender, D. C., Lynn, J. W., Reply to Comment on "Direct Observation on Superheating and Supercooling of Vortex Matter Using Neutron Diffraction," *Phys. Rev. Lett.* **89** (25), 259702 (2002).
- Lin-Gibson, S., Schmidt, G., Kim, H., Han, C. C., Hobbie, E. K., "Shear-Induced Mesostructure in Nanoplatelet-Polymer Gels," *J. Chem. Phys.*, in press.
- Liu, Q. T., Diamond, M. L., Gingrich, S. E., Ondov, J. M., Maciejczyk, P., Stern, G. A. "Accumulation of Metals, Trace Elements and Semi-Volatile Organic Compounds in Films on an Urban Impervious Surface," *Environ. Pollut.* **122**, 51 (2003).
- Livingston, R. A., Bumrongjaroen, W., Neumann, D. A. "Inelastic Neutron Scattering Measurements of Pozzolan Performance in Portland Cement," *Nondestructive Characterization of Materials XI*, edited by R. E. Green, B. B. Djordjevic, and M. P. Hentschel, (Springer, Berlin, Germany) **615** (2003).
- Luzin, V., Brokmeier, H. G., "Attenuation Corrections in Neutron Texture Experiment," *Mater. Sci. Forum* **408**, 191 (2002).
- Luzin, V., Gnäupel-Herold, T., Prask, H. J., "Evaluation of Local and Global Elastic Properties of Textured Polycrystals Means of FEM," *Mater. Sci. Forum* **408**, 407 (2002).
- Lynn, G., Dadmun, M. D., Lin, E. K., Wallace, W. E., Wu, W., "Neutron Reflectivity Studies on a Small Molecules Liquid Crystal/Polymer Interface," *Liquid Crystal* **29**, 551 (2002).
- Lynn, J. W., "Polaron Glass in Colossal Magnetoresistive Oxides Researched," *J. Res. Natl. Inst. Stand. Technol.* **107**, 480 (2002).
- Lynn, J. W., Huang, Q., Brown, C. M., Miller, V. L., Foo, M. L., Schaak, R. E., Jones, C. Y., Mackey, E. A., Cava, R. J., "Structure and Dynamics of Superconducting Na_xCoO_2 Hydrate and Its Unhydrated Analog," *Phys. Rev. B*, in press.
- Maciejczyk, P. B., Zeisler, R., Hwang, J. S., Thurston, G. D., Chen, L. C., "Characterization of Size-Fractioned World Trade Center Dust and Estimation of Relative Dust Contribution to Ambient Concentrations," *ACS Symposium Series*, in press.
- Mackay, M. E., Dao, T. T., Tuteja, A., Ho, D. L., Van Horn, B., Kim, H.-C., Hawker, C. J., "Nanoscale Effects Leading to Non-Einstein-like Behavior – Reduction in Polymer Melt Viscosity by the Addition of Nanometer-sized Particles," *Nature Materials*, in press.

- Mackay, M. E., Hong, Y., Jeong, M., Tande, B. M., Wagner, N. J., Hong, S., Gido, S. P., Vestberg, R., Hawker, C. J., "Microphase Separation of Hybrid Dendron-Linear Diblock Copolymers into Ordered Structures," *Macromol.* **35**, 8391 (2002).
- Mackey, E. A., Oflaz, R. D., Epstein, M. S., Buehler, B., Porter, B. J., Rowles, T., Wise, S. A., Becker, P. R., "Elemental Composition of Liver and Kidney Tissues of Rough-Toothed Dolphins (*Steno bredanensis*)," *Archives of Environ. Contamination and Toxicology* **44** (4), 523 (2003).
- Majewski, J., Smith, G. S., Burgess, I., Zamlynny, V., Szymanski, G., Lipkowski, J., Satija, S. K., "Neutron Reflectivity Studies of Electric Field Driven Structural Transformations of Surfactants," *Appl. Phys. A* **74**, S364 (2002).
- Majkrzak, C. F., Berk, N. F., "Advances in Specular Neutron Reflectometry," *J. Appl. Phys. A* **74**, S67 (2002).
- Majkrzak, C. F., Berk, N. F., "Phase Sensitive Reflectometry and the Unambiguous Determination of Scattering Length Density Profiles," *Physica B*, in press.
- Majkrzak, C. F., Berk, N. F., Perez-Salas, U. A., "Phase-Sensitive Neutron Reflectometry," *Langmuir*, in press.
- Manson, J. L., Bordallo, H. N., Lynn, J. W., Huang, Q., Feyerherm, R., Loose, A., Chapon, L., Argyriou, N., "Magnetic Ordering and Spin Excitations in Mn(dca)₂(pyz) [dca = N(CN)⁻; pyz = pyrazine]," *Appl. Phys. A* **74**, S722 (2002).
- Marazano, B. J., Wagner, N. J., "Flow-Small Angle Neutron Scattering Measurements of Colloidal Dispersion Microstructure Through the Shear Thickening Transition," *J. Chem. Phys.* **117** (22), 10291 (2002).
- Marshall, J. C., Cosgrove, T., Jack, K., Howe, A., "Small-angle Neutron Scattering of Gelatin/Sodium Dodecyl Sulfate Complexes at the Polystyrene/Water Interface," *Langmuir* **18** (25), 9668 (2002).
- Martinho, H., Granado, E., Moreno, N. O., Garcia, A., Toniani, I., Rettori, C., Neumeier, J. J., Oseroff, S. B., "Strong Charge Carrier Effect on the Magnetic Coupling of La-doped CaMnO₃," *Physica B*, in press.
- Martter, T. D., Foster, M. D., Yoo, T., Xu, S., Lizzaraga, G., Quirk, R. P., Butler, P. D., "Nonuniversal Behavior of the Thermodynamic Interaction Parameter in Blends of Star and Linear Polybutadiene," *Macromol.* **35** (26), 9763 (2002).
- Mason, T. G., Lin, M. Y., "Time-Resolved Small Angle Neutron Scattering Measurements of Asphaltene Nanoparticle Aggregation Kinetics in Incompatible Crude Oil Mixtures," *J. Chem. Phys.* **119**, 565 (2003).
- Mason, T. G., Lin, M. Y., "Asphaltene Nanoparticle Aggregation in Mixtures of Incompatible Crude Oils," *Phys. Rev. E* **67**, 050401(2003), in press.
- Matějček, J., Sampath, S., Gnäupel-Herold, T., Prask, H. J., "Residual Stress in Sprayed Ni+5% Al Coatings Determined by Neutron Diffraction," *Appl. Phys. A* **74**, S1692 (2002).
- McGuire, S. C., Samuel, M. J., Sulcer, J. D., Lamaze, G. P., Chen-Mayer, H. H., "Neutron Depth Profiling of Boron-Doped Ni₃Al Coatings," *American Laboratory*, in press.
- McKinsey, D. N., Dzhosyuk, S. N., Golub, R., Habicht, K., Huffman, P. R., Mattoni, C. E. H., Yang, L., Doyle, J. M., "Detecting Ionizing Radiation in Liquid Helium Using Wavelength Shifting Light Collection," *Nucl. Intrum. Meth. A*, in press.
- McKinsey, D. N., Dzhosyuk, S. N., Huffman, P. R., Mattoni, C. E. H., Yang, L., Doyle, J. M., Golub, R., Habicht, K., "The Time Dependence of Liquid Helium Fluorescence," *Phys. Rev. A* **67**, 044005 (2003).
- Meyer, A., Dimeo, R. M., Gehring, P. M., Neumann, D. A., "The High-Flux Backscattering Spectrometer at the NIST Center for Neutron Research," *Rev. Sci. Instrum.* **74** (5), 2759 (2003).
- Mildner, D. F. R., Chen-Mayer, H. H., Gibson, W. M., "Focusing Neutrons with Tapered Capillary Optics," *J. Appl. Phys.* **92**, 6911 (2002).
- Mildner, D. F. R., Chen-Mayer, H. H., Gibson, W. M., Schultz, A. J., "A Monolithic Polycapillary Focusing Optic for Polychromatic Neutron Diffraction Applications," in *Proceedings of the SPIE Conference, "Advanced In Neutron Scattering Instrumentation*, edited by I. S. Anderson, B. Guérard (July 2002, Seattle, WA) **4785**, (2002), p. 43.
- Mook, H. A., Dai, P., Hayden, S. M., Hiess, A., Lynn, J. W., Lee, S.-H., Dogan F., "Magnetic Ordering in YBa₂Cu₃O_{6+x} Superconductors," *Phys. Rev. B* **66** (14), 144512 (2002).
- Moyer, R. O., Toby, B. H., "Ca₂IrD₅- An Order-Disorder Transition," *J. Alloys Comp.*, in press.
- Mukherjee, S., Cohen, R. E., Gulseren, O., "Vacancy Formation Enthalpy at High Pressure in Tantalum," *Phys. Rev. B*, in press.
- Nair, S., Tsapatsis, M., "Infared Reflectance Measurements of Zeolite Film Thickness, Refractive Index and Other Characteristics," *Micro. Meso. Mater.* **58**, 81 (2003).
- Nakatani, A. I., "Chain Dimensions in Polysilicate-Filled Poly (Dimethyl Siloxane)," in *Proceedings of the International Journal of Thermophysics, 14th Symposium on Thermophysical Properties*, (Boulder, CO), in press.
- Narehood, D. G., Grube, N., Dimeo, R. M., Brown, D. W., Sokol, P. E., "Inelastic Neutron Scattering of H₂ in Xerogel," *J. Low. Temp. Phys.* **132** (3-4), 223 (2003).
- Narehood, D. G., Pearce, J. V., Eklund, P. C., Sokol, P. E., Lechner, R. E., Pieper, J., Copley, J. R. D., Cook, J. C., "Diffusion of H₂ Adsorbed on Single Walled Carbon Nanotubes," *Phys. Rev. B* **67**, 205409 (2003).
- Natali-Sora, I., Santoro, A., Huang, Q., "Oxidation States of Fe in YBa₂Fe₃O₈ From a Bond Valence Analysis of the Structure," *J. Solid State Chem.*, in press.
- Noakes, D. R., Arrott, A. S., Belk, M. G., Deevi, S. C., Huang, Q. Z., Lynn, J. W., Shull, R. D., Wu, D., "Incommensurate Spin Density Waves in Iron Aluminides," *Phys. Rev. Lett.*, in press.
- Norman, B. R., Iyengar, G. V., "Further Applications of Pre-Irradiation Combustion and Neutron Activation Analysis Technique for the Determination of Iodine in Food and Environmental Reference Materials: Merits and Demerits," *Fresen. J. Anal. Chem.*, in press.

- O'Donovan, K. V., Borchers, J. A., Majkrzak, C. F., Hellwig, O., Fullerton, E. E., "Extracting Buried Twists With Polarized Neutron Reflectometry," *Appl. Phys. Lett.* **A 74**, S1544 (2002).
- Olin, J. S., Blackman, M. J., Mitchem, J. E., Waselkov, G. A., "Compositional Analysis of Glazed Earthenwares from Eighteenth-Century Sites on the Northern Gulf Coast," *J. Hist. Arch.* **36** (1), 79 (2002).
- Olin, J. S., Blackman, M. J., Waselkov, G., "Databases for the Analysis of European Ceramics in American Archaeology," in *Patterns and Process: A Festschrift in Honor of Dr. Edward V. Sayre*, Edited by Lambertus van Zelst, (Smithsonian Center for Materials Research and Education, Suitland, Maryland) p. 65.
- Ondov, J. M., Caffrey, P. F., Suarez, A. E., Borgoul, P. V., Holsen, T., Paode, R. D., Sofuooglu, S. C., Sivadechathep, J., Lu, J., Kelly, M. J., Church, T., Scudlark, J., "Atmospheric Deposition of Trace Elements to Lake Michigan: Influence of Urban and Industrial South Shore Sources," *Aerosol. Sci. Technol.*, in press.
- Otano-Rivera, W., Messier, R., Pilione, L. J., Santiago, J. J., Lamaze, G. P., "Effect of Al Additions and AlN Interlayers on the Stabilization of cBN Sputtered Thin Films," *J. Diamond & Rel. Matls.*, in press.
- Ou-Yang, W.-C., Chen, H.-L., Ho, D. L., Tsao, C.-C., Yang, G., Peng, K.-Y., Chen, S.-A., Han, C., "Solution Structure of Electroluminescent Semiconducting Polymers MEH-PPV Studied by SANS," *Phys. Rev. Lett.*, in press.
- Park, S.-H., Gies, H., Toby, B. H., Parise, J. B., "Characterization of a New Microporous Lithosilicate with ANA Topology," *Chem. Mater.* **14**, 3187 (2002).
- Paul, R. L., Chen-Mayer, H. H., Myneni, G. R., "Determination of Hydrogen in Niobium by Cold Neutron Prompt Gamma-ray Activation Analysis and Neutron Incoherent Scattering," in *Hydrogen in Materials and Vacuum Systems*, edited by G. R. Myneni, S. Chattopadhyay (American Institute of Physics) *AIP Conference Proceedings* **671** (Melville, NY 2003) p. 151.
- Paul, R. L., Simons, D. S., "Calibration of Phosphorus Implantation Dose in Silicon by Radiochemical Neutron Activation Analysis," in: *Silicon Front-End Junction Formation Technologies, MRS Symposium Proceedings*, edited by D. F. Downey, M. E. Law, A. Claverie, M.J. Rendon, *Matls. Res. Soc.*, **717** (Warrendale, PA, 2002), p. 291.
- Paul, R. L., Simons, D. S., "Radiochemical Neutron Activation Analysis for Certification of Ion-Implanted Phosphorus in Silicon," *Anal. Chem.*, in press.
- Perez-Salas, U., Briber, R. M., Rafailovich, M. H., Sokolov, J., "Interfacial Fracture Toughness Between Glassy Polymer Networks," *J. of Polym. Sci. Part B: Poly. Phys.* **41** (16), (2003).
- Perez-Salas, U., Faucher, K. M., Majkrzak, C. F., Berk, N. F., Chaikof, E. L., Krueger, S., "Characterization of a Biomimetic Polymeric Lipid Bilayer by Phase Sensitive Neutron Reflectometry," *Langmuir*, in press.
- Perez-Salas, U., Briber, R. M., Hamilton, W. A., Rafailovich, M. H., Sokolov, J., Nasser, L., "Polystyrene Network-Network Interdiffusion," *Macromol.* **35** (17), 6638 (2002).
- Phair, J. W., Schulz, J. C., Aldridge, L. P., Smith, J. D., "Small-Angle Neutron Scattering (SANS) and Rheological Characterization of AluminosilicateHydrogels," *J. Am. Cer. Soc.*, in press.
- Phair, J. W., Schulz, J. C., Bertram, W. K., Aldridge, L. P., VanDeventer, J. S. J., "Investigation of the Microstructure of Alkali Activated Cements by Neutron Scattering," *Cem. Conc. Res.*, in press.
- Popov, G., Lobanov, M. V., Tsiper, E., Greenblatt, M., Caspi, E. N., Lynn, J. W., "Neutron Diffraction Study of the $\text{Sr}_2\text{MnReO}_6$ Double Perovskite," *J. Phys. C*, in press.
- Porcar, L., Hamilton, W. A., Butler, P. D., Warr, G. G., "Scaling of Membrane Phase Dynamics," *NCNR Highlights*, 30 (2002).
- Porcar, L., Hamilton, W. A., Butler, P. D., Warr, G. G., "Scaling of Shear-Induced Transformations in Membrane Phases," *Phys. Rev. Lett.* **89**, 168301 (2002).
- Porcar, L., Hamilton, W. A., Butler, P. D., Warr, G. G., "Scaling of Structural and Rheological Response of L3 Sponge Phases in the "Sweetened" Cetylpyridinium-Hexanol/dextrose-brine System," *Langmuir*, in press.
- Prabhu, V. M., Jones, R. L., Lin, E. K., Soles, C. L., Wu, W. L., Goldfarb, D. L., Angelopoulos, M., "Polyelectrolyte Effects in Model Photoresist Developer Solutions: Roles of Base Concentration and Added Salts," in *Proceedings of the SPIE, Advances in Resist Technology and Processing XX* **5039** (February, 2003, Santa Clara, CA), p. 404.
- Prabhu, V. M., Jones, R. L., Lin, E. K., Wu, W. L., "Polyelectrolyte Effects in Model Photoresist Developer Solutions," *J. of Vacuum Sci. Tech. B* **21**, 1403 (2003).
- Prask, H. J., Gnäupel-Herold, T., Luzin, V., Fisher, J. W., Cheng X., Roy, S., "Residual Stress Modification and Fatigue Life Enhancement," in *Trends in Welding Research*, edited by S. A. David et al. (ASM International, Materials Park, OH, 2003), p. 897.
- Prask, H. J., Gnäupel-Herold, T., Fisher, J. W., Cheng, X., Stuart, J. T., "Residual Stress Modification by Means of Ultrasonic Impact Treatment," in *Proceedings of the SEM Annual Conference on Experimental and Applied Mechanics*, (June, 2001, Portland, Oregon), p. 551.
- Pugh, D. V., Dursun, A., Corcoran, S. G., "Formation of Nanoporous Platinum by Selective Dissolution of Cu From $\text{Cu}_{0.75}\text{Pt}_{0.25}$," *J. Mater. Res.* **18** (1), 216 (2003).
- Qiu, Y., Broholm, C., Ishiwata, S., Azuma, M., Takano, M., Bewley, R., Buyers, W. J. L., "Spin Trimer Antiferromagnetism in $\text{La}_4\text{Cu}_3\text{MoO}_{12}$," *Phys. Rev. B*, in press.
- Radlinski, A. P., Ioannidis, M. A., Hinde, A. L., Hainbuchner, M., Baron, M., Rauch, H., Kline, S. R., "Angstrom to Millimeter Characterization of Sedimentary Rock Microstructure," *Phys. Rev. Lett.*, in press.
- Raphael, M. P., Ravel, B., Huang, Q., Willard, M. A., Cheng, S. F., Das, B. N., Stroud, R. M., Bussmann, K. M., Claassen, J. H., Harris, V. G., "Presence of Antisite Disorder and its Characterization in the Predicted Half-Metal Co_2MnSi ," *Phys. Rev. B* **66**, 104429 (2002).
- Rathgeber, S., Gast, A. P., Hedrick, J. L., "Structural Properties of Star-Like Dendrimers in Solution," *Appl. Phys. A* **74**, S396 (2002).

- Rawn, C. J., Rondinone, A. J., Chakoumakos, B. C., Marshall, S. L., Stern, L. A., Circone, S., Kirby, S. H., Jones, C. Y., Toby, B. H., Ishii, M., "Neutron Powder Diffraction Studies as a Function of Temperature of Structure II Hydrate Formed a Methane + Ethane Gas Mixture," in *Proceedings of the 4th International Conference on Gas Hydrates*, (Yokohama, Japan, 2002), in press.
- Reynolds, A. P., Tang, W., Gnäupel-Herold, T., Prask, H., "Structure, Properties, and Residual Stress of 304L Stainless Steel Friction Stir Welds," *Scripta Mater.* **48** (9), 1289 (2003).
- Riseman, T. M., Forgan, E. M., "Maximum Entropy µSR Analysis I: Planting the Kernel," in *Conference Proceedings, 9th International Conference on Muon Spin Rotation/Relaxation/Resonance*, *Physica B* **326**, 226 (2003).
- Riseman, T. M., Forgan, E. M., "Maximum Entropy µSR Analysis II: The Search For Truthful Errors," in *Conference Proceedings, 9th International Conference on Muon Spin Rotation/Relaxation/Resonance*, *Physica B* **326**, 230 (2003).
- Riseman, T. M., Forgan, E. M., "Maximum Entropy µSR Analysis III: Automatic Selection of the Default Level and Looseness Factor," in *Conference Proceedings, 9th International Conference on Muon Spin Rotation/Relaxation/Resonance*, *Physica B* **326**, 234 (2003).
- Rondinone, A. J.; Jones ,C. Y.; Marshall, S. L.; Chakoumakos, B. C.; Rawn, C. J.; Lara-Curcio, E. "A Sapphire Cell for High-Pressure, Low-Temperature Neutron Scattering Experiments on Gas Hydrates," *Can. J. Chem.*, **81** (1-2), 381 (2003).
- Rothman, M. S., Blackman, M. J., "Late Fifth Millennium and Earliest Fourth Millennium B. C. Exchange Systems in Northern Mesopotamia: Chemical Characterization of Sprig and Impressed Ware," *Al-Rafidan XXIV*, 1 (2003).
- Rush, J. J., Udovic, T. J., "Modern Neutron Methods for the Study of Hydrogen in Materials," in EPD Congress 2002 and Fundamentals of Advanced Materials for Energy Conversion, edited by P. R. Taylor, D. Chandra, and R. G. Bautista, (The Minerals, Metals & Materials Society, Warrendale, PA, 2002) p. 161.
- Ruzette, A.-V. G., Mayes, A. M., Pollard, M., Russell, T. P., Hammouda, B., "Pressure Effects on the Phase Behavior of Styrene/n-Alkyl Methacrylate Block Copolymers," *Macromol.* **36** (9), 3351 (2003).
- Sackett, D. L., Chernomordik, V., Krueger, S., Nossal, R., "Use of Small-Angle Neutron Scattering To Study Tubulin Polymers," *Biomacro.* **4** (2), 461 (2003).
- Saiz, L., Bandyopadhyay, S., Klein, M. L., "Effect of the Pore Region of a Transmembrane Ion-Channel on the Physical Properties of a Simple Membrane," in *Proceedings of the National Academy of Science USA*, in press.
- Saiz, L., Bandyopadhyay, S., Klein, M. L., "Towards an Understanding of Complex Biological Membranes from Atomistic Molecular Dynamics Simulations," *Bioscience Reports* **22**, 151 (2002).
- Saiz, L., Klein, M. L., "Computer Simulation Studies of Model Biological Membranes," *Acc. Chem. Res.* **35**, 482 (2002).
- Saiz, L., Klein, M. L., "Electrostatic Interaction in a Neutral Model Phospholipid Bi-Layer by Molecular Dynamics Simulations," *J. Chem Phys.* **116**, 3052 (2002).
- Saiz, L., Koubi, L., Tarek, M., Scharf, D., Klein, M. L., "Influence of Anesthetic and Non-Immobilizer Molecules on the Physical Properties of a Polyunsaturated Lipid Bilayer," *J. Phys. Chem.*, in press.
- Sato, T. J., Lee, S.-H., Katsufuji, T., Masaki, M., Park, S., Copley, J. R. D., Takagi, H., "Unconventional Spin Fluctuations in the Hexagonal Antiferromagnet YMnO₃," *Phys. Rev. B* **68**, 014432 (2003).
- Sayer, E. V., Yener, A. K., Joel, E. C., Blackman, M. J., Özbal, H., "Stable Lead Isotope Studies of Black Sea Anatolian Ore Sources and Related Bronze Age and Phrygian Artifacts From Nearby Archaeological Sites Appendix: New Central Taurus Ore Data," *Archaeometry*, in press.
- Schneider, J. P., Poohan, D. J., Ozbas, B., Rajagopal, K., Pakstis, L. M., Gill, J., "Responsive Hydrogels From the Intramolecular Folding and Self-Assembly of a Designed Peptide," *J. Am. Chem. Soc.* **124**, 15030 (2002).
- Schoen, K., Kaiser, H., Werner, S. A., Arif, M., Huffman, P. R., Jacobson, D. L., Black, T. C., Snow, W. M., Lamoreaux, S. K., "Precision Neutron Interferometric Measurements of the n-H and n-D Coherent Neutron Scattering Lengths," *Phys. Rev. C* **67**, 044005 (2003).
- Schubert, B. A., Kaler, E. W., Wagner, N. J., "The Microstructure and Rheology of Mixed Cationic/anionic Wormlike Micelles," *Langmuir* **19** (10), 4079 (2003).
- Sen, P., Gulseren, O., Yildirim, T., Batra, I. P., Ciraci, S., "Pentagonal Nanowires: A First-Principles Study of Atomic and Electronic Structure," *Phys. Rev. B* **65**, 235433 (2002).
- Shah, S. A., Ramakrishnan, S., Chen, Y. L., Schweizer, K. S., Zukoski, C. F., "Scattering Structures of Colloid-Polymer Suspensions and Gels," *Langmuir* **19** (12), 5128 (2003).
- Shapiro, S. M., Bao, W., Raymond, S., Lee, S. H., Motoya, K., "Observation of Linear Spin Wave Dispersion in Re-Entrant Spin Glass Fe_{0.7}Al_{0.3}," *Appl. Phys. A* **74**, S859 (2002).
- Shin, K., Koga, T., Zhang, Y., Seo, Y., Occhiogrosso, R., Rafailovich, M. H., Sokolov, J. C., Chu, B., Satija, S. K., "Anomalous Carbon Dioxide-Induced Swelling of Polymer Thin Films at Gas-Supercritical Transition," *J. Am. Chem. Soc.*, in press.
- Shirane, G., Gehring, P. M., "Structure and Dynamics of the Ferroelectric Relaxors Pb(Mg_{1/3}Nb_{2/3})O₃ and Pb(Zn_{1/3}Nb_{2/3})O₃," in *Proceedings of the 104th Annual Meeting of the American Ceramics Society*, Ceramic Transactions **136**, 17 (2003).
- Silas, J. A., Kaler, E. W., "Effect of Multiple Scattering on SANS Spectra from Bicontinuous Microemulsions", *J. Coll. Interface Sci.*, **257** (2), 291 (2003).
- Simmons, B., Agarwal, V., McPherson, G., Arjjit Bose, J., "A Small Angle Neutron Scattering Study of Mixed AOT + Lecithin Reverse Micelles," *Langmuir* **18**, 8345 (2002).
- Sitepu, H., Schmahl, W. W., Stalick, J. K., "Correction of Intensities for Preferred Orientation in Neutron-Diffraction Data of NiTi Shape-Memory Alloy Using the Generalized Spherical-Harmonic Description," *Appl. Phys. A* **74**, S1719 (2002).
- Skripov, A. V., Buzlukov, A. L., Kozhanov, V. N., Udovic, T. J., Huang, Q., "Hydrogen in Nb(V_{1-y}Cr_y)₂ Laves-phase Compounds: Neutron Diffraction and Nuclear Diffraction and Nuclear Magnetic Resonance Studies," *J. Alloys. Compndns.*, **359**, 27 (2003).

- Skripov, A. V., Cook, J. C., Udovic, T. J., Gonzalez, M., Hempelmann, R., Kozhanov, V. N., "Quasielastic Neutron Scattering Study of Hydrogen Motion in C15-type YMn_2H_x ," *J. Phys.: Condens. Matter* **15**, 3555 (2003).
- Smee, S. A., Orndorff, J. D., Scharfstein, G. A., Qiu, Y., Brand, P. C., Broholm, C. L., Anand, D. K., "MACS Low-Background Doubly Focusing Neutron Monochromator," *Appl. Phys. A* **74**, S255 (2002).
- Soles, C. L., Douglas, J. F., Lin, E. K., Lenhart, J. L., Jones, R. L., Wu, W.-L., "Incoherent Neutron Scattering and the Dynamics of Thin Film Photoresist Polymers," *J. Appl. Phys.* **93** (4), 1978 (2003).
- Soles, C. L., Douglas, J. F., Wu, W.-L., Dimeo, R. M., "Incoherent Neutron Scattering as a Probe of the Dynamics in Molecularly Thin Polymer Films," *Macromol.* **36** (2), 373 (2003).
- Soles, C. L., Douglas, J. F., Wu, W.-L., Peng, H., Gidley, D. W., "A Broad Perspective on the Dynamics of Highly Confined Polymer Films," in *Proceedings of the MRS Conference* **710**, DD3.7.1 (2002).
- Spiecker, P. M., Gawrys, K. L., Kilpatrick, P. K., "Aggregation and Solubility Behavior of Asphaltenes and Their Subfractions," *J. Colloid Interf. Sci.*, in press.
- Spiecker, P. M., Gawrys, K. L., Trail, C. B., Kilpatrick, P. K., "Effects of Petroleum Resins on Asphaltene Aggregation and Water-in-Oil Emulsion Formation," *Colloids and Surfaces A* **220**, 9 (2003).
- Starr, F. W., Sastry, S., Douglas, J. F., Glotzer, S. C., "What Do We Learn from the Local Geometry of Glass-Forming Liquids?," *Physical Review Letters* **89**, 5501 (2002).
- Stellbrink, J., Allgaier, J., Wilner, L., Richter, D., Slawecki, T., Fetters, "Real Time SANS Study on Head Group Self-Assembly for Lithium Based Anionic Polymerizations," *Polymer* **43** (25), 7101 (2002).
- Stock, C., Birgeneau, R. J., Wakimoto, J. S., Gardner, J. S., Chen, W., Ye, Z.-G., Shirane, G., "Universal Static and Dynamic Properties of the Structural Transitions in $\text{Pb}(\text{Zn}_{1/3}\text{Nb}_{2/3})\text{O}_3$," *Phys. Rev. B*, in press.
- Stone, M. B., Reich, D. H., Broholm, C., Lefmann, K., Rischel, C., Landee, C. P., Turnbull, M. M., "Extended Quantum Critical Phase in a Magnetized Spin-1/2 Antiferromagnetic Chain," *Phys. Rev. Lett.* **91**, 037205 (2003).
- Stone, M. B., Rittner, J., Chen, Y., Yardimci, H., Reich, D. H., Broholm, C., Ferraris, D. V., Lectka, T., "Frustrated Three-Dimensional Quantum Spin Liquid in CuHpCl," *Phys. Rev. B* **65**, 064423 (2002).
- Suarez, A. E., Ondov, J. M., "Atmospheric Deposition of Trace Elements to the Chesapeake Bay: Influence of Urban and Industrial Sources in Baltimore," *Environ. Sci. Tech.*, in press.
- Suarez, A. E., Ondov, J. M., "Contributions of Some Cytokine-Active Metals from Coal and Oil Fired Power Plants," *Energy and Fuels* **16**, 562 (2002).
- Sung, L., Karim, A., Douglas, J. F., Han, C. C., "Modification of Thin Film Phase Separation by a Surfactant," *Macromol.*, in press.
- Tang, F., Gnäupel-Herold, T., Prask, H. J., Anderson, I. E., "Neutron Diffraction Study of Residual Stresses in Al/AlCuFe Composites," in *Advance in Powder Metallurgy & Particulate Materials 2003*, (International Conference on Powder Metallurgy & Particulate Materials, June 8-12, 2003, Las Vegas, Nevada, sponsored by the MPIF/APMI), in press.
- Tang, F., Gnäupel-Herold, T., Prask, H. J., Anderson, I. E., "Neutron Diffraction Measurement on Residual Stresses and Stress Partitioning in Al/AlCuFe Composites," *Matl. Sci. Eng.*, in press.
- Tang, F., Gnäupel-Herold, T., Prask, H. J., Anderson, I. E., "Pure Al Matrix Composites Produced by Vacuum Hot Pressing: Tensile Properties and Strengthening Mechanisms," *Metall. Trans. A.*, in press.
- Tarek, M., Neumann, D. A., Tobias, D. J., "Characterization of Sub-nanosecond Dynamics of the Molten Globule State of α -Lactalbumin using Quasielastic Neutron Scattering and Molecular Dynamics Simulations," *Chem. Phys.* **292**, 435 (2003).
- Tarek, M., Tobias, D. J., "Single Particle and Collective Dynamics of Protein Hydration Water: A Molecular Dynamics Study," *Phys. Rev. Lett.* **89** (27), 275501 (2002).
- Tennant, D. A., Broholm, C., Reich, D. H., Nagler, E., Granroth, G. E., Barnes, T., Damle, K., Xu, G., Chen, Y., Sales, B. C., "Neutron Scattering Study of Two-Magnon States in the Quantum Magnet Copper Nitrate," *Phys. Rev. B* **67** (5), 054414 (2003).
- Terry, J. S., Heller-Zeisler, S., Ondov, J. M., "Behavior of Three Atmospheric Tracer Materials in a Pilot-Scale Coal Combuster," *J. Radio. Analyt. Nuc. Chem.* **251**, 205 (2002).
- Thornton, J., McMahon, P. J., Allman, B. E., Murphy, J. E., Nugent, K. A., Jacobson, D. L., Arif, M., Werner, S. A., "The Detection and Sizing of Flaws in Components from the Hot-end of Gas Turbines Using Phase-Contrast Radiography With Neutrons: a Feasibility Study," *NDT & E International* **36** (5), 289 (2003).
- Toby, B. H., "A Program for Viewing and Editing CIF's," *J. Appl. Crystall.*, in press.
- Toby, B. H., "Inspecting Rietveld Fits from pdCIF: pdCIFplot," *J. Appl. Crystall.*, in press.
- Toby, B. H., "The Classification of Powder Diffraction Data," *International Tables for Crystallography*, in press.
- Toby, B. H., Von Dreele, R. B., Larson, A. C., "Reporting of Rietveld Results Using pdCIF: GSAS2CIF," *J. Appl. Crystall.*, in press.
- Toney, M. F., Rubin, K. A., Choi, S.-M., Glinka, C. J., "Small Angle Neutron Scattering Measurements of Magnetic Cluster Sizes in Magnetic Recording Disks," *Appl. Phys. Lett.*, in press.
- Trouw, F., Borodin, O., Cook, J. C., Copley, J. R. D., Smith, G. D., "A Quasielastic Neutron Scattering Study of the Local Dynamics of Poly(Ethylene Glycol) in Aqueous Solution," *J. Phys. Chem.*, in press.
- Tucker, R. T., Han, C. C., Dobrynin, A. V., Weiss, R. A., "Small-Angle Neutron Scattering Analysis of Blends with Very Strong Intermolecular Interactions: Polyamide/ionomer Blends," *Macromol.* **36**, 4404 (2003).

- Udovic, T. J., Huang, Q., Rush, J. J., "A Neutron-Powder-Diffraction Study of the Rare-Earth Deuteride Two-Phase Region," *J. Alloys. Compndns.* **356-357**, 41 (2003).
- Vajk, O. P., Greven, M., Mang, P. K., Lynn, J. W., "Neutron Scattering, Magnetometry, and Quantum Monte Carlo Study of the Randomly-Diluted Spin-1/2 Square-Lattice Heisenberg Antiferromagnet," *Solid State Commun.* **126** (1-2), 93 (2003).
- Vaknin, D., Krüger, P., Lösche, M., "Anomalous X-Ray Reflectivity Characterization of Ion Distribution at Biomimetic Membranes," *Phys. Rev. Lett.* **90**, 178102 (2003).
- Vogt, B. D., RamachandraRao, V. S., Gupta, R. R., Lavery, K. A., Francis, T. J., Russell, T. P., Watkins, J. J., "Phase Behavior of Polystyrene-Block-Poly(n-alkyl Methacrylate)s Diluted with Carbon Dioxide," *Macromol.* **36** (11), 4029 (2003).
- Wagner, N. J., Butera, R., "Shear Distortion and Relaxation Dynamics of Colloidal Crystals Investigated by SANS Time Slicing" *Phys. Rev. E*, in press.
- Wakimoto, S., Birgeneau, R. J., Ichikawa, N., Kim, Y. J., Kojima, K. M., Lee, S.-H., Tranquada, J. M., Uchida, S., Zimmermann, M. V., "Effect of a Magnetic Field on the Spin-and Charge-Density Wave Order on $\text{La}_{1.45}\text{Nd}_{0.4}\text{Sr}_{0.15}\text{CuO}_4$," *Phys. Rev. B* **67**, 184419 (2003).
- Wakimoto, S., Stock, C., Ye, Z.-G., Chen, W., Gehring, P. M., Shirane, G., "Mode-Coupling and Polar Nanoregions in the Relaxor Ferroelectric $\text{Pb}(\text{Mg}_{1/3}\text{Nb}_{2/3})\text{O}_3$," *Phys. Rev. B* **66** (22), 224102-1 (2002).
- Wang, C. Y., Prabhu, V. M., Soles, C. L., Vogt, B. D., Wu, W. L., Lin, E. K., Satija, S. K., "Interdiffusion in Polystyrene and End-Functional Polystyrene Thin Films near a Solid Surface," in *ACS Polymeric Materials: Science and Engineering*, (New York, NY, September 2003), in press.
- Wang, H., Douglas, J. F., Satija, S. K., Composto, R. J., Han, C. C., "Early-Stage Compositional Segregation in Polymer Blend Films," *Phys. Rev. E* **67** (6), 061801 (2003).
- Wang, H., Nieh, M.-P., Hobbie, E. H., Glinka, C. J., Katsaras, J., "Kinetic Pathway of the Bilayered-Micelle to Perforated-Lamellae Transition," *Phys. Rev. E* **67**, 060902 (2003).
- Wang, H., Zhao, B., Wyslouzil, B., Streletzky, K., "Small-Angle Neutron Scattering of Soot Formed in Laminar Premixed Ethylene Flames," *Proc. Combust. Inst.* **29** 2749, Part 2 (2003).
- Wang, X. H., Dormidontova, E. E., Lodge, T. P., "The Order-Disorder Transition and the Disordered Micelle Regime for Poly(ethylenepropylene-b-dimethylsiloxane) Spheres," *Macromol.* **35** (26), 9687 (2002).
- Welp, K. A., Co, C., Wool, R. P., "Improved Reflectivity Fitting Using SERF: Spreadsheet Environment Reflectivity Fitting," *J. Neutron Res.*, in press.
- Wesley, R., Armes, S. P., Thompson, L. J., "Block Copolymer Interactions With Surfactants," *Langmuir*, in press.
- White, C. C., Wu, W. L., Pu, Y., Rafailovich, M., Sokolov, J., "Probe Segregation and T Determination of a Supported Ultra-Thin Polystyrene Film Studied by X-ray and Neutron Reflectivity, and SIMS," *Poly. Eng. Sci.* **43**, 1241 (2003).
- Winn, B. L., Shapiro, S. M., Erwin, R., Schlagel, D. L., Lograsso, T., "Anomalous Phonon Damping in the High Temperature Shape Memory Alloy $\text{Ti}_{50}\text{Pd}_{42}\text{Cr}_8$," *Appl. Phys. A* **74**, S1182 (2002).
- Wiyatno, W., Fuller, G. G., Pople, J. A., Gast, A. P., Chen, Z. R., Waymouth, R. M., Myers, C. L., "Component Stress-strain Behavior and Small-Angle Neutron Scattering Investigation of Stereoblock Elastomeric Polypropylene," *Macromol.* **36** (4), 1178 (2003).
- Wiyatno, W., Pople, J. A., Gast, A. P., Waymouth, R., Fuller, G. G., "A Scattering Study of Elastomeric Polypropylene," in press.
- Woodward, P. M., Karen, P., "Mixed Valency in YBaFe_2O_5 ," *Inorg. Chem.* **42**, 1121-1129 (2003).
- Wu, S. Y., Yang, C. C., Tsao, F. C., Li, W.-H., Lee, K. C., Lynn, J. W., Yang, H. D., "Crystal Structure and Magnetic Ordering of Mn and Ce in $\text{La}_{0.7}\text{Ce}_{0.15}\text{Ca}_{0.15}\text{MnO}_3$," *J. Phys. Condens. Mat.* **14** (47), 12585 (2002).
- Xu, G., Aepli, G., Broholm, C., DiTusa, J. F., Ito, T., Oka, K., Takagi, H., "Mesoscopic Phase Coherence in a Quantum Spin Fluid," *Nature*, in press.
- Yamada, K., Kurahashi, K., Uefuji, Fujita, M., Park, S. I., Lee, S.-H., Endoh, Y., "Commensurate Spin Dynamics in the Superconducting State of an Electron-Doped Cuprate Superconductor," *Phys. Rev. Lett.* **90** (13), 137004-1 (2003).
- Yamaura, K., Huang, Q., Young, D. P., Arai, M., Takayama-Muromachi, E., "Electronic Properties of the Novel 4d Metallic Oxide SrRhO_3 ," *Physica B* **329**, 820 (2003).
- Yamaura, K., Huang, Q., Young, D. P., Noguchi, Y., Takayama-Muromachi, E., "Crystal Structure and Electronic and Magnetic Properties of the Bilayered Rhodium Oxide $\text{Sr}_3\text{Rh}_2\text{O}_7$," *Phys. Rev. B* **66**, 134431 (2002).
- Yang, C. C., Wu, S. Y., Li, W.-H., Lee, K. C., Lynn, J. W., Liu, R. S., Shen, C. H., "Short-Range Magnetic Correlations in Spinel LiMn_2O_4 ," *Mater. Sci. Eng. B* **95** (2), 162 (2002).
- Yang, C. C., Wu, S. Y., Li, W.-H., Lee, K. C., Lynn, J. W., Wu, C.-G., "Magnetic Ordering of Fe in NCH_5 -Intercalated Iron Phosphate $\text{Fe(OH)}\text{PO}_4$," *Physica B*, **325** (1-4), 240 (2003).
- Yang, G. Y., Briber, R. M., Huang, E., Rice, P. M., Volksen, W., Miller, R. D., "Morphological Development in Nanoporous PMSSQ Films," *Chem. Mater.*, in press.
- Yang, G. Y., Briber, R. M., Huang, E., Rice, P. M., Volksen, W., Miller, R. D., "Morphology of Nanoporous PMSSQ Films," *Appl. Phys. Lett.*, in press.
- Yang, L., Dzhosyuk, S. N., Gabrielse, J., Huffman, P. R., Mattoni, C. E. H., Maxwell, S. E., McKinsey, D. N., Doyle, J. M., "Performance of a Large-Area Avalanche Photodiode at Low Temperature for Scintillation Detection," *Nucl. Instrum. Meth. A*, in press.
- Yildirim, T., "Lattice Dynamics of Solid Cubane within the Quasi-Harmonic Approximation," *Solid State Comm.* **124** (12), 449 (2002).
- Yildirim, T., "The Surprising Superconductor of 2001," *Materials Today* **5** (4), 40 (2002).
- Yildirim, T., Gulseren, O., "A Simple Theory of 40K Superconductivity in MgB_2 ; First-Principles Calculations of T_c , its Dependence on Boron Mass and Pressure," *J. Phys. Chem. Solids* **63**, 2201 (2002).
- Yildirim, T., Gulseren, O., "First-Principles Zone-Center Theory of Superconductivity in MgB_2 ," *Appl. Phys. A* **74**, S945 (2002).

- Yildirim, T., Harris, A. B., "Rotational and Vibrational Dynamics of Interstitial Molecular Hydrogen," *Phys. Rev. B* **66** (21), 214301 (2002).
- Yildirim, T., Harris, A. B., "Quantum Dynamics of a Hydrogen Molecule Confined in a Cylindrical Potential," *Phys. Rev. B* **67**, 245413 (2003).
- Yim, H., Kent, M. S., Huber, D. L., Satija, S., Majewski, J., Smith, G. S., "Conformation of End-Tethered PNIPAM Chains in Water and in Acetone by Neutron Reflectivity," *Macromol.* **36**, 5244 (2003).
- Yim, H., Kent, M. S., Matheson, A., Stevens, M. J., Ivkov, R., Satija, S. K., Majewski, J., Smith, G. S., "Adsorption of Sodium Poly(styrenesulfonate) to the Air Surface of Water by Neutron and X-ray Reflectivity and Surface Tension Measurements: Polymer Concentration Dependence," *Macromol.* **35**, 9737 (2002).
- Young, S. K., Trevino, S. F., Beck Tan, N. C., "Small-Angle Neutron Scattering Investigation of Structural Changes in Nafion Membranes Induced by Swelling with Various Solvents," *J. Polym. Sci. B: Polym. Phys.* **40** (4), 387 (2002).
- Young, S. K., Trevino, S. F., Beck Tan, N. C., Paul, R. L., "Utilization of Prompt-Neutron Activation Analysis in the Evaluation of Nafion Membranes," *J. Polym. Sci. B: Polym. Phys.* **41** (3), 1485 (2003).
- Zaliznyak, I. A., "Continuum Spin Excitations in S=1 One-Dimensional Antiferromagnet," *J. Appl. Phys.* **91**, 81221 (2002).
- Zeder, M. A., Blackman, M. J., "Economy and Administration at Banesh Malyan Exploring the Potential of Faunal and Chemical Data for Understanding State Process," in Yeki Bud, Yeki Nabud: Essays on the Archaeology in Honor of William M. Summer, edited by N. F. Miller, and K. Adbi (Cotsen Institute of Archaeology, University of California at Los Angeles) **48** (2003), p. 121.
- Zeisler, R., "New NIST Sediment SRMs for Inorganic Analysis," *J. of Radioanal. Nucl. Chem.*, in press.
- Zeisler, R., Demiralp, R., "The Use of INAA in the Development of Urban Air Particulate Matter SRMs," *J. Radioanal. Nucl. Chem.*, in press.
- Zeisler, R., Lindstrom, R. M., Greenberg, R. R. "Instrumental Neutron Activation Analysis, a Valuable Link in Chemical Metrology," *J. of Radioanal. Nucl. Chem.*, in press.
- Zhang, Y., Ge, S., Tang, B., Rafailovich, M. H., Sokolov, J., Peiffer, D., Li, Z., Lin, M., Dias, J. A., McElrath, K. O., Nguyen, D., Satija, S., Schwarz, S. A., "Interfacial Properties of Brominated Isobutylene-co-p-Methylstyrene and Butadiene Polymers" in *Proceedings of the American Chemical Society 154th Rubber Conference*, in press.
- Zhao, L., Robinson, L., Paul R. L., Greenberg, R. R., Miao, S., "Determination of Carbon, Nitrogen, and Phosphorus in Cattail (*Typha latifolia*) by Cold Neutron Prompt Gamma Activation Analysis," *J. of Radioanal. Nucl. Chem.*, in press.
- Zheludev, A., Honda, Z., Broholm, C. L., Katsumata, K., Shapiro, S. M., Kolezhuk, A., Park, S., Qiu, Y., "Massive Triplet Excitations in a Magnetized Anisotropic Haldane Spin Chain," *Phys. Rev. Lett.*, in press.
- Zheludev, A., Maslov, S., Zaliznyak, I., Regnault, L. P., Masuda, T., Uchinokura, K., Erwin, R., Shirane, G., "Experimental Evidence for Shekhtman-Entin-Wohlgemuth-Aharony (SEA) Interactions in Ba₂CuGe₂O₇," *Phys. Rev. B*, in press.
- Zhou, J., Deyhim, A., Krueger, S., Gregurick, S. K., "Small Angle Neutron Scattering Studies of PNA and DNA Systems," *Abstr. Pap. Am. Chem. Soc.* **224**, 262 (2002).
- Zhou, C., Hobbie, E. K., Bauer, B. J., Han, C. C., "Equilibrium Structure of Hydrogen-Bonded Polymer Blends," *J. Polym. Sci. Part B: Polym. Phys.*, in press.
- Zimmerman, M. V., "X-Ray Scattering Studies of Orbital and Charge Ordering in Pr_{1-x}Ca_xMnO₃," *Phys. Rev. B*, in press.