

**COMPRES Publications [2002-2008]
February 2009**

- Ablett, J. M., C. C. Kao, S. R. Shieh, H. K. Mao, M. Croft and T. A. Tyson (2003). High-pressure x-ray near-edge absorption study of thallium rhenium oxide up to 10.86 GPa. High Pressure Res. **23**: 471-476. X17 DAC
- Ackermann, S., N. Kunz, T. Armbruster, J. Schefer and H. Hänni (2005). Cation distribution in a Fe-bearing K-feldspar from Itrongay, Madagascar. A combined neutron- and X-ray single crystal diffraction study. Schweiz. Mineral. Petrogr. Mitt. Neutron Studies
- Akahama, Y., H. Kawamura and A. K. Singh (2002). The equation of state of Bi and cross-checking of Au and Pt scales to megabar pressure. J. Phys.: Condensed Matter **14**: 11495-11500. Commission on High P
- Aksoy, R. (2008). High pressure x-ray diffraction study of transition metal dichalcogenides, Ph.D. Thesis. Texas Tech University, Lubbock, TX (2008). X17 DAC
- Aksoy, R., E. Selvi, Y. Ma (2008). X-ray diffraction study of molybdenum diselenide to 35.9 GPa. J. Phys. Chem. Solids **69**: 2138- 2140. X17 DAC
- Aksoy, R. Y. M., E Selvi, Ming C. Chyu, Atila Ertas and Allen White (2006). Equation of state measurement of molybdenum disulfide. J. Phys. Chem. Solids **67**: 1914-1917. X17 DAC
- Amulele, G., M. Manghnani, B. Li, D. J. Errandonea, M. Somayazulu and Y. Meng (2003). High pressure ultraoic and X-ray studies on SiC composite. J. Applied Physics. MAC NSLS
- Anand, M. L., A. Taylor, M. A. Nazarov, J. Shu, H. K. Mao and R. J. Hemley (2003). New lunar mineral hapkeite: product of impact-induced vapor-phase deposition in the regolith. Lunar and planetary Science XXXIV. X17 DAC
- Anand, M. L. A., Taylor, M. A. Nazarov, J. Shu, H. K. Mao and R. J. Hemley (2004). Space weathering on airless planetary bodies: Clues from the lunar mineral hapkeite. PNAS **101**: 6847–6851. X17 DAC (X17C)
- Angel, R., U. Bismayer and W. Marshall (2004). Local and long range order in ferroelastic lead phosphate at high pressure. Acta Crystallographica **B60**: 1-9. Neutron Studies
- Antao, S., I. Jackson, B. Li, J. Kung, J. Chen, I. Hassan, R. Liebermann and J. Parise (2007). High-temperature elasticity, cation disorder and magnetic transition in magnesioferrite. Phys Chem Min **34**: 345-350. MAC NSLS
- Antao, S., C Benmore, B Li, L Wang, E Bychkov, J Parise (2008). Network Rigidity in GeSe₂ Glass at High Pressure. Phys. Rev. Lett. **100(115501)**. MAC NSLS
- Atkinson, T., K. Chynoweth, P. Cervantes, (2006). Electronic Band Gap of SrSe at High Pressure,. Solid State Commun. **139(215)**. U2A DAC
- Back, A., I. Halevy, I. Yaar, S. Kahane, O. Levy, E. Auster, H. Ettetdgui, E. Caspi, M. Ganor, O. Rivin (2007). TDPAC study of the intermetallic compound

- HfB₂. XII International Conference on Hyperfine Interactions, Iguazu Falls, Brazil, Aug , p. 128, (2007). X17 DAC
- Balogh, L., S Nauyoks, T Zerda, C Pantea, S Stelmakh, B Palosz, T Ungar, (2008). Structure of Diamond-Silicoin Carbide Nanocomposites as a Function of Sintering Temperature at 8 GPa. Mater. Sci. Eng. A **487**: 180 - 188. MAC NSLS
- Bass, J., S. Sinogeikin, B. Li (2007). Elastic Properties of Minerals: A Key For Understanding the Composition and Temperature of Earth's Interior. Elements (submitted). MAC NSLS
- Bass, J. D., S. V. Sinogeikin, D. Lakshtanov, V. Prakapenka and G. Shen (2005). Brillouin Scattering and Synchrotron X-Ray Measurements at GSECARS, Advanced Photon Source: Simultaneous Measurements of Sound Velocities and Density. Fall AGU meeting, San Francisco CA. Brillouin
- Biswas, K., D. Muthu, A. Sood, M. Kruger, B. Chen, C. Rao (2007). Pressure-induced phase transitions in nanocrystalline ReO₃. J. Phys.: Condens. Matter **19(436214)**. X17 DAC
- Botez, C., J Hermosillo, J Zhang, J Qian, Y Zhao, J Majzlan, R Chianelli, C Pantea (2007). High-Temperature Phase Transitions in CsH₂PO₄ Under Ambient and High-Pressure Conditions: A Synchrotron X-ray Diffraction Study. J. Chem. Phys. **127(194701)**. MAC NSLS
- Botez, C. C. R., Zhang J, Qian J, Zhao Y., Majzlan J, and Pantea C (2007). Evidence for a structural transition to the superprotonic phase of CsH₂PO₄ under high pressure. Submitted to J. Phys. Chem. MAC NSLS
- Bréger, J., N. Dupré, P. J. Chupas, P. L. Lee, T. Proffen, B. , J. B. a. P. Parise and C. P. Grey (2005). Short- and Long-Range Order in the Positive Electrode Material, Li(NiMn)_{0.5}O₂: A Joint X-ray and Neutron Diffraction, Pair Distribution Function Analysis and NMR Study. . J. Am. Chem. Soc. **127** 7529-7537 Neutron Studies
- Bud'ko, S. L. T. A. W., R. A. Ribeiro, P. C. Canfield, Y. Lee, T. Vogt and A. H. Lacerda (2006). Effect of pressure and chemical substitutions on the charge-density-wave in LaAgSb₂. Phys Rev, B **73(184111)**. X17 DAC
- Burnley, P., D Zhang (2008). Interpreting In-Situ X-ray Diffraction Data from High Pressure Deformation Experiments using Elastic Plastic Self Consistent Models: an Example using Quartz. J. Phys.: Condens. Matter **20(285201)**. MAC NSLS
- Caldwell, W. A. K., M.; Celeste, R.S.; Domning, E.E; Walter, M.J; Walker, D.; Glossinger, J.; MacDowell, A.A.; Padmore, H.A.; Jeanloz, R.; and Clark, S (2007). Laser Heated Diamond Anvil Cell at the Advanced Light Source Beamline 12.2.2. Nuclear Instrumentation and Methods in Physics Research Section A **582**: 221-225. ALS
- Campbell, A. J., L. Danielson, K. Richter, Y. Wang and G. Davidson (2006). Oxygen fugacity at high pressure: equations of state of metal-oxide pairs. Lunar and Planetary Science XXXVII. MAC ASU
- Carpenter, M. A. B. L., R. C. Liebermann (2007). Elastic anomalies accompanying phase transitions in (CaSr)TiO₃ perovskite III: experimental investigation of polycrystalline samples. Am. Min. **92**: 344-355. MAC

NSLS

- Carpenter, M. A. P. S., B. Li, R C. Liebermann, J.W. Walsh, J Schreuer, and T W. Darling (2006). Structural evolution, strain and elasticity of perovskites at high pressures and temperatures. Journal of Mineralogical and Petrological Sciences **101**: 95-109. MAC NSLS
- Catalli, K., S.-H. Shim and V.B. Prakapenka (2008). A crystalline-to-crystalline phase transition in Ca(OH)₂ at 8 GPa and room temperature. Geophysical Research Letters **35**, L05312. ALS
- Chen, B., L. Gao, K. Funakoshi, J. Li, (2007). Thermal expansion of iron-rich alloys and implications for the earth's core. Proc Natl Acad Sci USA [premier] **104**: 9162-9167. X17 DAC
- Chen, B., D. V. S. Muthu, Z. Liu, A. W. a. Sleight and M. B. Kruger (2002). High-pressure optical study of HfW₂O₈ J. Phys: Condens. Matter **14**: 13911-13916 U2A DAC
- Chen, B., D. Penwell, L. R. Benedetti, R. Jeanloz and M. B. Kruger (2002). Particle-size effect on the compressibility of nanocrystalline alumina. Phys. Rev. B **66**: 144101. X17 DAC
- Chen, B., D. Penwella, J. H. Nguyenc and M. B. Kruger (2004). High pressure X-ray diffraction study of Fe₂B. Solid State Communications **129**: 573-575. X17 DAC
- Chen, B. H. Z., K. D.-Guzman, D. Spagnoli, M. B. Kruger, V. Muthu, M. Kunz, S. Fakra, J. Z. Hu, Q. Z. Guo, Jillian F. Banfield (2007). Compressibility Minimum in Nanomaterials of a Specific Particle Size. Science, submitted, 2007. X17 DAC
- Chen, B. L., J.; Gao, L.; Leinenweber, K.; Wang, Y.; Sanehira, T. (2008). In Situ Investigation of Melting Behavior in Fe-S System Using Synchrotron X-ray Radiography. High Pressure Research **28 (3)**: 315-326. MAC ASU
- Chen, J., Y Yang, T Yu, J Zhang, Y Zhao, L Wang (2008). Strength Measurement of Boron Suboxide B₆O at High Pressure and Temperature Using in situ Synchrotron X-ray Diffraction. High Pressure Res. **28(3)**: 423-430. MAC NSLS
- Chen, J., T. Inoue, H. Yurimoto and D. J. Weidner (2002). Water and 410-km Seismic Discontinuity: Experimental results of water effect on alpha-beta phase transition in (Mg,Fe)₂SiO₄ system. Geochimica Et Cosmochimica Acta **66 (15A)**: A135-A135. MAC NSLS
- Chen, J., L. Li, D. J. Weidner and M. Vaughan (2004). Deformation Experiments using Synchrotron X-rays: In situ stress and strain measurements at high pressure and temperature. Physics of The Earth and Planetary Interiors **143-144**: 347-356. MAC NSLS
- Chen, J., L. Li, T. Yu, H. Long, D. Weidner, L. Wang and M. Vaughan (2006). Do Reuss and Voigt bounds really bound in high pressure rheology experiments? Journal of Physics: Condensed Matter, special issue: Rheology and Elasticity studies at Ultra-High Pressures and Temperatures **18 (25)**: S1049-S1059. MAC NSLS
- Chen, J., H. Liu, C. D. Martin, J. B. Parise and D. J. Weidner (2005). Crystal chemistry of NaMgF₃ perovskite at high pressure and temperature.

- American Mineralogist **90 (10)**: 1534-1539 MAC NSLS
- Chen, J., N. Schmidt and J. Chen (2005). Yield Strength enhancement of MgO by nanocrystals. Journal of Materials Science **40 (21)**: 5763-5766 MAC NSLS
- Chen, J., D. J. Weidner and M. T. Vaughan (2002). Strength of Mg_{0.9}Fe_{0.1}SiO₃ Perovskite at High Pressure and Temperature. Nature **419**: 824-826. MAC NSLS
- Chen, J., D. J. Weidner, L. Wang, M. T. Vaughan and C. E. Young (2005). Density measurements of molten materials at high pressure using synchrotron x-ray radiography: Melting volume of FeS in "Advances in High Pressure Technology for Geophysical Applications". MAC NSLS
- Chen, J. H., T. Inoue, H. Yurimoto and D. J. Weidner (2002). Effect of water on olivine-wadsleyite phase boundary in the (Mg, Fe)₂SiO₄ system %J Geophysical Research Letters. Geophysical Research Letters **29(18)**: 1875. MAC NSLS
- Chen, M., J. Shu, H. K. Mao, X. Xie and R. J. Hemley (2003). Natural occurrence and synthesis of two new post-spinel polymorphs of chromite. Proc. Natl. Acad. Sci. **100**: 14651-14654. X17 DAC
- Chen, M., J. Shu, X. Xie and H. K. Mao (2003). Natural CaTi₂O₄-structured FeCr₂O₄ polymorph in the Suizhou meteorite and its significance in mantle mineralogy. Geochim. Cosmochim. Acta **67**: 3937-3942. X17 DAC
- Chen, X. J., V. V. Struzhkin, A. F. Goncharov, Y. Song, Z. Liu, H. K. Mao and R. J. Hemley (2007). Spectroscopic Evidence for Pressure-induced Metallization in Solid Silane. Bull. Am. Phys. Soc. (APS March Meeting) (Denver, CO, March 5-9, 2007). U2A DAC
- Chen, X. J., V. V. Struzhkin, Y. Song, A. F. Goncharov, M. Ahart, Z. Liu, H. K. Mao and R. J. Hemley (2008). Pressure-induced metallization of silane. Proc. Nat. Acad. Sci. **105(1)**: 20-23. U2A DAC
- Chen, Z., T. A. Tyson, K. H. Ahn, Z. Zhong, J. Hu (2008). Origin of the non-linear pressure effects in perovskite manganites: Buckling of Mn-O-Mn bounds and Jahn-Teller distortion of the MnO₆ octahedra induced by pressure. Appl. Phys. Lett., submitted (2008). X17 DAC
- Chen, Z. (2008). Probing spin, charge, and lattice coupling in manganites, Ph.D. Thesis. New Jersey Institute of Technology, Newark, NJ (2008). X17 DAC
- Chen, Z. T. A. T., K. H. Ahn, Z. Zhong, J. Z. Hu (2007). Origin of the Critical Pressure in Perovskite Manganites: Pressure Induced Distortion of the MnO₆ Octahedra. Phys. Rev. Lett., submitted, 2007. X17 DAC
- Chestnut, G. N., B. D. Streetman, D. Schiferl, R. S. Hixson, W. M. Anderson, M. Nicol and Y. Meng (2003). Static X-ray diffraction study of cerium: The standard approach & the magic-angle approach,. 13th APS Conference on Shock-Compression of Condensed Matter,, American Institute of Physics, Argonne, IL,. X17 DAC
- Chung, H., M. Weinberger, J. Levine, A. Kavner, J. Yang, S. Tolbert, R. Kaner (2007). Synthesis of ultra-incompressible superhard rhenium diboride at ambient pressure,. Science [premier] **316(426)**. X17 DAC
- Chung, H. Y., M. B. Weinberger, J. B. Levine, A. Kavner, J. M. Yang, S. H.

- Tolbert and R. B. Kaner (2007). Synthesis of ultra-incompressible superhard rhenium diboride at ambient pressure. Science **316(5823)**: 436-439. ALS
- Ciezak, J., T. Jenkins, Z. Liu, R.J. Hemley, (2007). High Pressure Vibrational Spectroscopy of Energetic Materials: Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX). J. Phys. Chem. A **111**: 59-63. U2A DAC
- Ciezak, J. A., T. A. Jenkins, and Z. Liu (2007). Evidence for a high-pressure phase transition of e-2,4,6,8,10,12-hexanitrohexaazaisowurtzitane (CL-20) using vibrational spectroscopy. Propellants Explos. Pyrotech **32**: 472 - 477. U2A DAC
- Ciezak, J. A. (2008). Metastable Polymeric Nitrogen: the Ultimate Green High-Energy-Density Material, Technical Report ARL-TR-4478. Army Research Laboratory, Aberdeen Proving Ground, MD. U2A DAC
- Ciezak, J. A., and T. A. Jenkins (2008). The Low-Temperature Vibrational Behavior of Pentaerythritol Tetranitrate, Technical Report ARL-TR-4470. Army Research Laboratory, Aberdeen Proving Ground, MD. U2A DAC
- Ciezak, J. A. (2008). High-Pressure Characterization of Energetic Materials: Diaminotetrazolium Nitrate. Propellants Explosives Pyrotechnics, submitted. X17 DAC
- Clark, S. M. and R. Jeanloz (2005). A new paradigm to extend diffraction measurements beyond the megabar regime J. Synch. Rad **12(5)** 632-636 ALS
- Clark, S. M., S. G. Prilliman, C. K. Erdonmez and A. P. Alivisatos (2005). Size dependence of the pressure-induced α to β structural transition in iron oxide nanocrystals, J NanoTechnology. **16** 2813-2818. ALS
- Clark, S. M. C., B.; Kunz, M.; Speziale, S. and Monteiro, P.J.M. (2007). Effect of pressure on the crystal structure of ettringite. Cem. Conc. Res. **38**: 19-26. ALS
- Colligan, M., P. M. Forster, A. K. Cheetham, Y. Y. Lee, T. Vogt and J. A. Hriac (2004). Synchrotron X-ray powder diffraction and computational investigation of purely siliceous zeolite Y under pressure. J. Am. Chem. Soc. **126**: 12015-12022. X17 DAC
- Couvy, H., C. P., D. J. Frost, F. Heidelbach, D. Mainprice and A. Tommasi (2005). Pressure sensitivity of olivine deformation mechanisms and implications for seismic anisotropy of deep upper mantle. AGU Fall Meeting, San Francisco, USA. MAC NSLS
- Croft, M., I. Zakharchenko, Z. Zhong, Y. Gurlak, J. Hastings, J. Hu, R. Holtz, M. DaSilva and T. Tsakalakos (2002). Strain field and scattered intensity profiling with energy dispersive x-ray scattering. Journal of Applied Physics **92**: 578-586. X17 DAC
- Crowhurst, J. C. G., A.F.; Sadigh, B.; Zaug, J.M.; Aberg, D.; Meng, Y.; Vitali-Prakapenka, B. (2008). Synthesis and Characterization of Nitrides of Iridium and Palladium. Journal of Materials Research **23**: 1-5. ALS
- Cui, C., T. A. Tyson, Z. Zhong, J. P. Carlo and Y. Qin (2003). Effects of pressure on electron transport and atomic structure of manganites: Low to high pressure regimes. Phys. Rev. B **67**: 104107. X17 DAC

- Cumberland, R. W., M. Weinberger, J. J. Gilman, S. M. Clark, S. H. Tolbert and R. B. Kaner (2005). Osmium Diboride, An Ultra-incompressible, Hard Material. J. Am. Chem. Soc. **127(20)** 7264-7265 ALS
- Cunningham, N. C. W. Q., and Y. K. Vohra (2006). Observation of complete regular trivalent rare earth sequence in heavy lanthanide metal holmium under high pressure. High Pressure Research, In Press **26(43)**. X17 DAC
- Cynn, H., J. Klepeis, C. Yoo and D. Young (2002). Osmium has the lowest experimentally determined compressibility. Phys. Rev. Lett.: 138701-4. X17 DAC
- Dandekar, D. P., Ciezak, J. A., and Somayazulu, M. (2008). Compression and Associated Properties of Boron Carbide, Proceedings of 26th Army Science Conference, submitted. X17 DAC
- Danielson, L. R., K.; Leinenweber, K.; Wang, Y. (2007). In situ high P-T melting and phase equilibria experiments on the Allende meteorite. Geochemica et Cosmochemica Acta **71 (15): A200-A200**. MAC ASU
- Darling, K., G. D. Gwanmesia, J. Kung, B. Li and R. C. Liebermann (2004). Ultrasonic measurements of the sound velocities in polycrystalline San Carlos olivine in multi-anvil, high-pressure apparatus. Physics of the Earth and Planetary Interiors **143-144**. MAC NSLS
- Diedrich, T., T. Sharp and K. Leinenweber (2005). Experimental measurements of the effect of water on the kinetics of the olivine to ringwoodite transition in San Carlos olivine. . EOS Transactions American Geophysical Union, Fall 2005. . MAC ASU
- Dobrzhinetskaya, L., R. Wirth, H. Green, II, (2007). A Look Inside of Diamond-Forming Media in Deep Subduction Zones). Proc Nat. Acad. Sci. **104**: 9128-9132. U2A DAC
- Dobrzhinetskaya, L. F., Z. Liu, P. Cartigny, J. Zhang, D. Tchkhetaia, R. J. Hemley and H. W. Green II (2006). Synchrotron infrared and Raman spectroscopy of microdiamonds from Erzgebirge, Germany. Earth Planet Sci. Lett., submitted **248**: 325-334. U2A DAC (X17 DAC)
- Dobson, D., S Hunt, L Li, D Weidner (2008). Measurement of Thermal Diffusivity at High Pressures and Temperatures using Synchrotron Radiography. Miner. Mag **72**: 653-658. MAC NSLS
- Dong, H., D. He, T. S. Duffy, and Y. Zhao (2008). Elastic moduli and strength of nanocrystalline cubic BC₂N from x-ray diffraction under nonhydrostatic compression. Physical Review B, submitted. X17 DAC
- Dubrovinsky, L., and J. F. Lin (2009). Mineral physics quest to the Earth's core. EOS **90, 21-22**. Nuclear Resonant
- Duffy, T. S. (2005). Synchrotron facilities and the study of deep planetary interiors. Reports of Progress in Physics **68**: 1811-1859. CO₂ laser DAC
- Duffy, T. S. (2007). Strength of materials under static loading in the diamond anvil cell. Shock Compression of Condensed Matter. M. L. E. edited by M. D. Furnish, T. P. Russell, and C. T. White. New York, AIP: 639-644. X17 DAC
- Durham, W. B., D. J. Weidner, S. I. Karato and Y. B. Wang (2002). New

- developments in deformation experiments at high pressure. Plastic Deformation of Minerals and Rocks **51**: 21-49. MAC NSLS
- Durham, W. B. M., S.; Kohlstedt, D.L.; Wang, L.; Dixon, N.A. (2008). New measurements of activation volume in olivine under anhydrous conditions. In press, Physics of the Earth and Planetary Interiors. MAC ASU
- Durinck, J., P. Cordier, H. Couvy, A. Legris and P. Raterron (2005). Influence de la pression sur les mécanismes de déformation de l'olivine. Colloque « Plasticité 2005 », La Rochelle, France. MAC NSLS
- Ehm, L. S. A., J Chen, D Locke, F Michel, D Martin, T Yu, J Parise, P Lee, et al. (2007). Studies of Local and Intermediate Range Structure in Crystalline and Amorphous Materials at High Pressure Using High-Energy X-rays. Powder Diffr. **22(108)**. X17 DAC
- Errandonea, D. (2007). Landau theory applied to phase transitions in calcium orthotungstate and isostructural compounds,. Europhys. Lett. **77(56001)**. X17 DAC
- Errandonea, D., M. Somayazulu and D. Hausermann (2002). CaWO₄: A new high-pressure and high-temperature phase. Phys. Stat. Sol. (b) **231**: R1-R3. X17 DAC
- Errandonea, D., M. Somayazulu and D. Hausermann (2003). Phase transitions and amorphization of CaWO₄ at high pressure. Phys. Stat. Sol. **235**: 162-169. X17 DAC
- Fei, Y., J. Li, K. Hirose, W. Minarik, J. Van Orman, C. Sanloup, W. van Westrenen, T. Komabayashi and K. Funakoshi (2004). A critical evaluation of pressure scales at high temperatures by in-situ x-ray diffraction measurements. Physics of the Earth and Planetary Interiors **143-144**: 515-526. Commission on High P
- Fei, Y., J. Van Orman, J. Li, W. van Westrenen, C. Sanloup, W. Minarik, K. Hirose, T. Komabayashi, M. Walter and K. Funakoshi (2004). Experimentally determined postspinel transformation boundary in Mg₂SiO₄ using MgO as an internal pressure standard and its geophysical implications. Journal of Geophysical Research **109(B02305)**, doi:10.1029/2003JB002562). Commission on High P
- Feng, Y., J. Hu, H. K. Mao, T. F. Rosenbaum and E. D. Isaacs (2004). A chemical filter technique in energy dispersive x-ray diffraction (EDXD) for observing incommensurate charge density wave (CDW) in chromium. First Annual SSAAP Symposium, Albuquerque, NM. X17 DAC
- Feng, Y. J., M. S. Somayazulu, R. Jaramillo, T. F. Rosenbaum, E. D. Isaacs, J. Z. Hu and H. K. Mao (2005). Energy Dispersive X-ray Diffraction of Charge Density Waves via Chemical Filtering. Review of Scientific Instruments **76(063913)**. X17 DAC (X17B3, X17C)
- Frank, M. R., Y. Fei and J. Hu (2004). Constraining the equation of state of fluid H₂O to 80 GPa using the melting curve, bulk modulus, and thermal expansivity of Ice. Geochimica et Cosmochimica Acta **VII, 68**: 2781-2790. X17 DAC
- Gao, L., B. Chen, J. Wang, E.E. Alp, J. Zhao, M. Lerche, W. Sturhahn, H.P. Scott, F. Huang, Y. Ding, S.V. Sinogeikin, C.C. Lundstrom, J.D. Bass, and

- J. Li (2008). Pressure-induced magnetic transition and sound velocities of Fe₃C: Implications for carbon in the Earth's inner core. Geophys. Res. Lett. **35**, L17306. Nuclear Resonant
- Gao, P., T.A. Tyson, Z. Liu, M. A. DeLeon, and C. Dubourdieu (2008). Optical Evidence for Mixed Phase Behavior in Manganites, *Physical Review B.*, submitted. U2A DAC
- Gatta, G. D. Y. L. (2006). On the elastic behaviour of zeolite mordenite: a synchrotron powder diffraction study. Phys Chem Minerals **32**: 726-732. X17 DAC
- Gilbert, B., H. Zhang, B. Chen, M. Kunz, F. Huang and J. F. Banfield (2006). The Compressibility of Zinc Sulfide Nanoparticles, . *Phys. Rev. B.* . ALS
- Gleason, A. E., S. Parry, A.R. Pawley, R. Jeanloz and S.M. Clark. (2008). P-V-T equation of state for Talc and 10A phase: implications for water transport into the Earth. Am. Min. **93**: 1043-1050. ALS
- Gleason, A. E., S. Parry, M. Kunz, W. A. Caldwell, A. R. Pawley and S. M. Clark (2006). Pressure Temperature Stability Studies of Talc and 10-Å Phase using x-ray diffraction. Am. Min. (in press). ALS
- Godwal, B. K., S. Speziale, S.M. Clark, J. Yan and R. Jeanloz (2008). Electronic Phase Transition and Amorphization in AuIn₂ at High Pressure. Phys. Rev. B. **78(094107)**. ALS
- Goncharov, A. (2007). Molecular systems under high compression,. Study of Matter at Extreme Conditions Miami Beach, FL. U2A DAC
- Goncharov, A. F. a. R. J. H. (2006). Probing hydrogen-rich molecular systems at high pressures and temperatures,. Chem. Soc. Rev. U2A DAC
- Gregoryanz, E., A. F. Goncharov, R. J. Hemley, H. K. Mao, M. Somayazulu and G. Y. Shen (2002). Raman, infrared, and x-ray evidence for new phases of nitrogen at high pressures and temperatures. Phys. Rev. B **66(224108)**. U2A DAC
- Guo, Q., H. K. Mao, J. Hu, J. Shu and R. J. Hemley (2002). The phase transitions of CoO under static pressure to 104 GPa. J. Phys.: Condens. Matter **14**: 11369-11374. X17 DAC
- Gwanmesia, G. D., J. Zhang, K. Darling, J. Kung, B. Li, L. Wang, D. Neuville and R. C. Liebermann (2006). Elasticity of polycrystalline pyrope (Mg₃Al₂Si₃O₁₂) to 9 GPa and 1000 oC. Physics of the Earth and Planetary Interiors **155**: 179-190. MAC NSLS
- Halevy, I., A. Back, I. Yaar, O. Levy, E. Auster, H. Ettetdgui, E. Caspi, O. Rivin, Z. Berant, J. Hu (2007). XRD and TDPAC study of compound HfB₂ under high-pressure. XII International Conference on Hyperfine Interactions.: 50. X17 DAC
- Halevy, I., A. Beck, E. Auster, O. Levy, H. Ettetdgui, E. Caspi, O. Rivin, I. Yaar, M. Ganor, J. Hu (2008). High pressure study of intermetallic compound Hf₁₀B₂ and TDPAC studies of radiation damage,. The 24th Conference of the Nuclear Societies in Israel, p. 232, sponsored by Nuclear Societies in Israel. X17 DAC
- Halevy, I., D. Dragoi, E. Üstündag, A. F. Yue, E. H. Arredondo, J. Hu and M. S. Somayazulu (2002). The effect of pressure on the structure of NiAl₂O₄. J.

- Phys.: Condens. Matter **14**: 10511-10516,. X17 DAC
- Halevy, I., S. Salhov, A. Broide, A. Robin, O. Yehekel, I. Yaar, A. F. Yue and J. Hu (2005). High pressure study and electronic structure of the super-alloy HfIr₃, High Pressure Science and technology. Proceeding of 20th AIRAPT, Karlsruhe. X17 DAC (X17C)
- Halevy, I., S. Salhov, A. Broide, O. Yehekel, I. Yaar, A. F. Yue and J. Hu (2005). High pressure study and electronic structure of NiAl and Ni₃Al, High Pressure Science and technology. Proceeding of 20th AIRAPT, Karlsruhe. X17 DAC (X17C)
- Halevy, I., S. Salhov, A. F. Yue, J. Hu and I. Yaar (2004). High pressure study of HfNi crystallographic and electronic structure. XIII International Conference on Hyperfine Interaction , Bonn, Germany. X17 DAC
- Halevy, I., E. Üstündag, S. Salhov, A. F. Yue , A. Broide and J. Hu (2004). High pressure study of a Zr-based bulk metallic glass and its composite, Z. Kristallogr. **219**: 166–171. X17 DAC
- Han, W., W. Wen, Y. Ding, Z. Liu, M. Maye, L. Lewis, J. Hanson, O. Gang (2007). Fe-Doped Trititanate Nanotubes: Formation, Optical and Magnetic Properties, and Catalytic Applications,. J. Phys. Chem. C **111(14339)**. U2A DAC
- Han, W., H. Yu, C. Zhi, J. Wang, Z. Liu, T. Sekiguchi, and Y. Bando (2008). Bandgap Properties of Boron Nitride Nanotubes. Nano Letter **8(2)**: 491-494. U2A DAC
- He, D., S. R. Shieh and T. S. D. Duffy (2004). Strength and equation of state of boron suboxide from radial x-ray diffraction under nonhydrostatic compression. First Annual SSAAP Symposium, Albuquerque, NM, **B 70**. X17 DAC
- He, D., Y. Zhao, T. D. Sheng, R. B. Schwartz, J. Qian, K. A. Lokshin, S. Bobev, L. L. Daemen, H. K. Mao, J. Z. Hu, J. Shu and J. Xu (2003). Bulk metallic glass gasket for high pressure, in situ x-ray diffraction. Rev. Sci. Instrum **74**: 3012-3016. X17 DAC
- He, D. T. S. D. (2006). X-ray Diffraction Study of the Static Strength of tungsten to 69 GPa.). Phys. Rev. B. **73(13416)**. X17 DAC
- He, D. W. and T. S. Duffy (2004). Equation of state and strength of boron suboxide from radial x-ray diffraction in a diamond cell under nonhydrostatic compression. Physical Review B. X17 DAC
- He, D. W. and T. S. Duffy (2006). Static strength of tungsten to 69 GPa. Physical Review B, in press. X17 DAC
- Hemamala, U. L. C., F. El-Ghoussein, A. M. Goedken, B. Chen, C. Leroux and M. B. Kruger (2004). High-pressure x-ray diffraction and Raman spectroscopy of HfV₂O₇. Phys. Rev. B **70 (214114)**. X17 DAC (X17C)
- Hemley, R., H. K. Mao and V. V. Struzhkin (2005). Synchrotron radiation and high pressure: new light on materials under extreme conditions. J. Synch. Radiation **12**: 135-154. U2A DAC (X17 DAC)
- Hemley, R. J. (2004). Infrared and Raman microspectroscopy of materials under pressure. Proceedings of Microscopy Society of America Annual Meeting (San Antonio, TX August 6, 2004). U2A DAC (X17 DAC)

- Hemley, R. J. (2004). New developments in CVD diamond. Proceedings of Diamond 2004 (Riva del Garda, Italy, September 13, 2004). X17 DAC
- Hemley, R. J. (2004). Hydrogen and water in the solar system. 2nd International Workshop on Water Dynamics (Sendai International Center, Sendai, Japan, November 11-12, 2004). X17 DAC
- Hemley, R. J. (2005). Synchrotron studies of materials at extreme conditions. Proceedings of Conference on Analytical Chemistry and Allied Spectroscopy (Orlando, FL, 2005). U2A DAC (X17 DAC)
- Hemley, R. J. (2007). Ultra high pressure phases: Part I, Spring College on Water in Physics, Chemistry, and Biology, Trieste, Italy,. U2A DAC
- Hemley, R. J. (2007). Ultra high pressure phases: Part II, Spring College on Water in Physics, Chemistry, and Biology, Trieste, Italy,. U2A DAC
- Hemley, R. J. (2007). Diamond windows on extreme conditions. Joint 21st AIRAPT and 45th EHPRG International Conference on High Pressure Science and Technology, Catania, Italy. U2A DAC
- Hemley, R. J., V. V. Struzhkin and R. E. Cohen (2007). Measuring high-pressure electronic and magnetic properties, . in Treatise on Geophysics (Elsevier, in press). U2A DAC
- Hemley, R. J., Z. Liu, E. Gregoryanz and H. K. Mao (2003). Infrared and Raman microspectroscopy of minerals under pressure. Microscro. Microanal. **9(1098)**. U2A DAC
- Hemley, R. J., Z. Liu and H. K. Mao (2003). New developments in high-pressure synchrotron Infrared spectroscopy U2A DAC
- Hemley, R. J. and H. K. Mao (2002). Overview of static high pressure science, High Pressure Phenomena (Enrico Fermi Course CXLVII). IOS Press. R. J. Hemley: pp. 3-40. U2A DAC
- Hemley, R. J. and H. K. Mao (2002). New windows on earth and planetary interiors Mineral. Mag. **66** 791-811 U2A DAC
- Hemley, R. J. and H. K. Mao (2003). New findings in static high-pressure science, Shock Compression in Condensed Matter, in press U2A DAC
- Hemley, R. J., C. Yan, J. Xu, W. Mao and H. K. Mao (2003). Frontiers of High-Pressure Research: Next Generation Large Volume Gem Anvil Devices. AGU Fall Meeting sponsored by American Geophysical Union. U2A DAC
- Hernlund, J., K. Leinenweber, D. Locke and J. A. Tyburczy (2006). A numerical model for steady-state temperature distributions in solid-medium high-pressure cell assemblies. American Mineralogist **91**: 295-305. MAC ASU
- Higo, Y., T. Inoue, T. Irifune, K. Funakoshi, B. Li (2007). Elastic wave velocities of (Mg_{0.91}Fe_{0.09})₂SiO₄ ringwoodite under P-T condition of the mantle transition region. Phys Earth. Planet Interi. (submitted). MAC NSLS
- Higo, Y. T. I., B. Li, T. Irifune, and R C Liebermann (2006). The effect of iron on the elastic properties of ringwoodite at high pressure. Phys. Earth Planet. Inter. **159**: 276-285. MAC NSLS
- Ho, S. S., C. S. Yan, Z. Liu, H. K. Mao and R. J. Hemley (2005). Prospects for large single crystal CVD diamonds. Proceedings of Diamonds at Work. U2A DAC
- Hu, J., H. Mao, J. Shu, Q. Guo and L. H (2006). Diamond Anvil Cell Radial X-ray

- Diffraction Program at the National Synchrotron Light Source. J. Phys.: Condens. Matter **18: (S1091-S1096)**. X17 DAC
- Hu, J., J. Xu, M. Somayazulu, Q. Guo, R. J. Hemley and H. K. Mao (2002). X-ray diffraction and laser heating: application of moissanite anvil cell. J. Phys.: Condens. Matter **14**: 10479-10481. X17 DAC
- Hu, J., Z. Zhong, H. Liu, Q. Guo and H. K. Mao (2003). A test of angle dispersive x-ray diffraction of high-pressure experiment at X17C. Santa Cruz, California,. X17 DAC
- Hu, J. H. M., J. Shu, Q. Guo, H. Liu (2006). Diamond Anvil Cell Radial X-ray Diffraction Program at the National Synchrotron Light Source. J. Phys.: Condens. Matter **18(S1091-S1096)**. X17 DAC
- Hu, J. Z., Q. Z. Guo, R. J. Hemley and H. K. Mao (2003). High pressure study at X17 of the NSLS with diamond cell. IUCr/COMPRES Workshop: High Pressure Structure and Reactivity: The Science of Change, Berkeley CA. X17 DAC
- Hustoft, J., K. Catalli, S-H, Shim, A. Kubo, V.B. Prakapenka and M. Kunz (2008). Equation of state of NaMgF3 postperovskite: Implication for the seismic velocity changes in the D" region., Geophysical Research Letters **35(L10309)**. ALS
- Iezzi, G., Z. Liu, and G. D. Ventura (2008). Synthetic ANaB(Na_xLi_{1-x}Mg₁)CMg₅Si₈O₂₂(OH)₂ (with x=1, 0.6, 0.2 and 0) P21/m Amphiboles at High Pressure: a Synchrotron Infrared Study. Physics and Chemistry of Minerals, submitted. U2A DAC
- Iezzi, G., Z. Liu and G. D. Ventura (2006). Synchrotron infrared spectroscopy of synthetic Na(NaMg)Mg₅Si₈O₂₂(OH)₂ up to 30 GPa: Insight on a new amphibole high pressure polymorph. American Mineralogist **91 (2-3)**: 479-482. U2A DAC (X17 DAC)
- Jackson, J. M., W. Sturhahn, G. Shen, J. Zhao, M. Y. Hu, D. Errandonea, J. D. Bass and Y. Fei (2005). A synchrotron Mössbauer spectroscopy study of (Mg,Fe)SiO₃ perovskite up to 120 GPa. Amer. Mineralogist **90**: 199-205. Nuclear Resonant
- Jacobsen, S., Z. Liu, J. Lin, E. Littlefield, G. Shen, V. Prakapenka, F. Langenhorst and R. J. Hemley (2005). High-pressure synchrotron-IR studies of hydrated transition zone and lower-mantle minerals in the laser-heated diamond cell. Eos, Trans. AGU **86(52) Fall Meet., Suppl.** U2A DAC (X17 DAC)
- Jiang, F., S. Speziale, and T. S. Duffy (2006). Single-crystal elasticity of brucite, Mg(OH)₂, to 15 GPa by Brillouin scattering. American Mineralogist **91**: 1893-1900. X17 DAC
- Jiang, F., G. D. Gwanmesia, T. I. Dyuzheva, and T. S. Duffy (2008). Elasticity of stishovite and acoustic mode softening under high pressure by Brillouin scattering. Physics of the Earth and Planetary Interiors, in press (2008). X17 DAC
- Jiang, F. J. M., S. Speziale, D. He, and T. S. Duffy (2008). Single-crystal elasticity of iaspore, AlOOH, to 12 GPa by Brillouin scattering. Physics of the Earth and Planetary Interiors, **170**: 220-228. X17 DAC

- Kaner, R. B., J. J. Gilman and S. H. Tolbert (2005). Designing Superhard Materials. Science. ALS
- Kavner, A. (2003). Elasticity and strength of hydrous ringwoodite at high pressure. Earth Planet. Sci. Lett. **214**: 645-654. X17 DAC
- Kavner, A. (2008). Garnet yield strength at high pressures and implications for upper mantle and transition zone rheology. J. Geophys. Res. **112(B12207)**. X17 DAC
- Kavner, A. (2008). Radial diffraction strength and elastic behavior of CaF₂ in low- and high-pressure phases., Phys. Rev. B: Condens. Matter **77(224102)**. X17 DAC
- Kavner, A. and T. S. D. Duffy (2003). Elasticity and rheology of platinum under high pressure and non-hydrostatic stress. Physical Review B **68(144101)**. X17 DAC
- Kiefer, B. and T. S. Duffy (2005). Finite element simulations of the laser-heated diamond anvil cell. Journal of Applied Physics **97(114902)**. CO2 laser DAC
- Kiefer, B., S. R. Shieh, T. S. Duffy and S. Sekine (2004). Elastic and mechanical properties of c-Si₃N₄ up to 68 GPa from lattice strain theory. %B First Annual SSAAP Symposium, Albuquerque, NM. X17 DAC
- Kiefer, B., S. R. Shieh, T. S. Duffy and T. Sekine (2003). The yield strength and elastic anisotropy of cubic Si₃N₄ to 45 GPa. 19th AIRAPT Conference, Bordeaux, France,. X17 DAC
- Kiefer, B., S. R. Shieh, T. S. Duffy and T. Sekine (2005). Strength, elasticity, and equation of state of nanocrystalline cubic silicon nitride (c-Si₃N₄) to 68 GPa., Physical Review B **72(014102)**. X17 DAC (X17C)
- Klug, D., J. Tse, Z. Liu and R. Hemley (2006). Infrared Absorption and first-Principles Study of Hydrogen-Bond Symmetrization in Methane Filled Ice. J. Chem. Phys., submitted. U2A DAC
- Klug, D. D., J. Tse, Z. Liu, R. Hemley, (2006). Hydrogen-bond Dynamics and Fermi Resonance in High-pressure Methane Filled Ice,). J. Chem. Phys. **125(154509)**. U2A DAC
- Klug, D. D., J. S. Tse, Z. Liu, X. Gonze and R. J. Hemley (2004). Anomalous transformations in Ice Phys. Rev. B **VII 70(17)**: 144113. U2A DAC
- Klug, D. D., M. Z. Zgierski, J. S. Tse, Z. Liu, J. R. Kincaid, K. Czarnecki and R. J. Hemley (2002). Doming modes and dynamics of model heme compounds. Proc. Nat. Acad. Sci. **99(1256)**. U2A DAC
- Koch-Mueller, M., Y. Fei, A. Hofmeister and Z. Liu (2002). High-pressure IR-spectra and the thermodynamic properties of chloritoid. Am. Mineral. **87(609)**. U2A DAC
- Koch-Müller, M., P. Dera, Y. Fei, H. Hellwig, Z. Liu, J. van Orman and R. Wirth (2005). Polymorphic phase transition in superhydrous phase B. Phys. Chem. Minerals, **32(349)**. U2A DAC (X17 DAC)
- Koch-Müller, M., P. Dera, Y. Fei, B. Reno, N. V. Sobolev, E. Hauri and R. Wysoczanski (2003). OH in synthetic and natural coesite. Am. Mineral **88**: 1436-1445. U2A DAC

- Koch-Muller, M., P. Dera, H. Hellwig, Z. Liu, J. V. Orman and Y. Fei (2003). Superhydrous phase B: A structural and spectroscopic study. Seattle Annual Meeting "The Impact of Crystal Chemistry in the Earth Sciences", Seattle, WA,. U2A DAC
- Koskie, K., N.M. Kamp, R.K. Smith, M. Kunz, J.K. Knight, and A.P. Alivisatos (2008). Structural distortions in 5-10 nm silver nanoparticles under high pressure. Physical Review B **78** .(165410 1 - 165410 10). ALS
- Kubo, A., T. S. Duffy, S. R. Shieh, G. Shen and V. B. Prakapenka (2004). Thermal pressure in the laser-heated diamond cell,. Advanced Photon Source Activity Report 2003, ANL-04/16. CO2 laser DAC
- Kulkarni, S., N. Phatak, S. Saxena, Y. Fei, J. Hu (2008). High pressure structural behavior and synthesis of Zr₂SC,. J. Phys.: Condens. Matter **20**(135211). X17 DAC
- Kung, J., B. Li and R. Liebermann (2006). Ultrasonic Observations of Elasticity Changes across Phase Transformations in MgSiO₃ Pyroxenes. Journal of Physics and Chemistry of Solids **67**: 2051-2055. MAC NSLS
- Kung, J., B. Li and T. Uchida (2005). In-situ elasticity measurement for the unquenchable high-pressure clinopyroxene phase: Implication for the upper mantle. Geophysical Research Letters **32** (1)(Art. No. L01307). MAC NSLS
- Kung, J., B. Li, T. Uchida and Y. Wang (2005). Elasticity measurements of phase transition in pyroxene and the upper mantle reflectors. EOS. Trans. Amer. Geophys. Un., **83** (47)(F977). MAC NSLS
- Kung, J., B. Li, T. Uchida, Y. Wang, D. Neuville and R. Liebermann (2004). In situ measurements of sound velocities and densities across the orthopyroxene (high-pressure clinopyroxene transition in MgSiO₃ at high-pressure. Physics of the Earth and Planetary Interiors **147**: 27-44. U2A DAC (X17 DAC)
- Kung, J., B. S. Li, D. J. Weidner, J. Z. Zhang and R. C. Liebermann (2002). Elasticity Of (Mg-0.83,Fe-0.(17))O ferropericlae at high pressure: ultrasonic measurements in conjunction with X-radiation techniques. Earth and Planetary Science Letters **203** (1): 557-566. MAC NSLS
- Kunz, M., A. A. MacDowell, W. A. Caldwell, D. Cambie, R. S. Celestre, E. E. Domning, R. M. Duarte, A. E. Gleason, J. M. Glossinger, N. Kelez, D. W. Plate, T. Yu, J. M. Zaug, H. A. Padmore, R. Jeanloz, A. P. Alivisatos and S. M. Clark (2005). A beamline for high pressure studies at the Advanced Light Source with a superconducting bending magnet as the source. J. Synch. Rad. **12**(5) 650-658 ALS
- Kunz, M. C., W.A.; Miyagi, L. ; and Wenk, H.R. (2007). In situ laser heating and radial synchrotron X-ray diffraction in a diamond anvil cell. Review of Scientific Instruments **78**(063907). ALS
- Lager, G., W. G. Marshall, Z. Liu and R. T. Downs (2005). Re-examination of the hydrogarnet structure at high pressure using neutron powder diffraction and infrared spectroscopy. Am. Mineral **90**: 639-644. U2A DAC (X17 DAC)
- Lakshatnov, D., S. V. Sinogeikin, C. Sanches-Valle, V. Prakapenka, G. Shen, E.

- Gregoryanz and J. D. Bass (2005). Aggregate Elastic Moduli and Equation of State of B2 Phase of NaCl to 73 GPa by Simultaneous Synchrotron X-ray Diffraction and Brillouin Scattering Measurements. Fall AGU meeting, San Francisco CA. Brillouin
- Lang, M., F. Zhang, J. Lian, C. Trautmann, R. Neumann, R. Ewing (2008). Irradiation-induced stabilization of zircon (ZrSiO₄) at high pressure. Earth Planet. Sci. Lett. **269**: 291-295. X17 DAC
- Lee, K. K. M. (2003). Exploring Planetary Interiors: Experiments at Extreme Conditions (UC Berkeley, Earth and Planetary Science). ALS
- Lee, K. K. M. and R. Jeanloz (2003). High-pressure alloying of potassium and iron: Radioactivity in the Earth's core? Geophys. Res. Lett. **30**. ALS
- Lee, K. K. M., B. O'Neill and R. Jeanloz (2004). Limits to resolution in composition and density in ultrahigh-pressure experiments on natural mantle-rock samples, . Phys. Earth Planet. Int. **143-144**: 241-53 ALS
- Lee, K. K. M., B. O'Neill, W. R. Panero, S.-H. Shim, L. R. Benedetti and R. Jeanloz (2004). Equations of state of the high-pressure phases of a natural peridotite and implications for the Earth's lower mantle, . Earth Planet. Sci. Lett., **223**: 381-393. ALS
- Lee, K. K. M., G. Steinle-Neumann and R. Jeanloz (2004). Ab-initio high-pressure alloying of iron and potassium: Implications for the Earth's core? Geophys. Res. Lett **31**. ALS
- Lee, K. K. M., O. Tschauner and P. D. Asimow (2006). Phase Assemblage and stability of pyroxenite at Lower-Mantle conditions. ALS
- Lee, P. L., E. Haung and S. C. Yu (2003). High pressure Raman and X-ray studies of Barite, BaSO₄,. High Pressure Research **23**: 439-450. X17 DAC
- Lee, S. K. J. L., Yong Cai, N. Hiraoka, P. J. Eng, T. Okuchi, H-K Mao, M. J. Hu, P. Chow, J. Shu, B. Li, H. Fukui, B. Lee, H. Kim, C-S Yoo (2007). Oxygen coordination transformation in MgSiO₃ melts in the Earth's interior. Science (submitted). MAC NSLS
- Lee, Y., C. Kao, S. Kim, H. Lee, D. Lee, T. Shin, J. Choi (2007). Water nanostructures confined inside the quasi-one-dimensional channels of LTL Zeolite. Chem. Mater. **19**: 6252-6257. X17 DAC
- Lee, Y., J. A. Hriljac, J. B. Parise and T. Vogt (2005). Pressure-induced stabilization of ordered paranatrolite: A new insight into the paranatrolite controversy American Mineralogist, **90** 25-257. X17 DAC
- Lee, Y., J. A. Hriljac and T. Vogt (2004). Pressure-induced migration of zeolitic water in laumontite. Phys. Chem. Minerals **31**: 421-428. X17 DAC
- Lee, Y., C. D. Martin, J. B. Parise, J. A. Hriljac and T. Vogt (2004). Formation and manipulation of confined water wires. NANO Letters **4**: 619-621. X17 DAC
- Lee, Y., T. Vogt, J. A. Hrijac, J. B. Parise, J. C. Hanson and S. J. Kim (2002). Non-framework cation migration and irreversible pressure-induced hydration in a zeolite. Nature **420**: 485-489. X17 DAC
- Lee, Y. J. H., J. Parise and T. Vogt (2006). Pressure-induced hydration in zeolite tetranatrolite. American Mineralogist **91**: 247-251. X17 DAC

- Lei, W. D. L., X Li, J Zhang, Q Zhou, J Hu, Q Cui, G Zou (2007). High-Pressure Study of Low-Compressibility Ta₂N. J. Phys.: Condens. Matter **19(425233)**. X17 DAC
- Leinenweber, K. (2007). Development of a CsCl pressure standard and a series of multi-anvil cells for in-situ high-pressure experiments, with examples of some recent results. Abstract for International Workshop on Synchrotron High-Pressure Mineral Physics and Materials Science. 6-7 December 2007, Advanced Photon Source, Argonne National Laboratory, Argonne, Illinois USA. MAC ASU
- Leinenweber, K., J. Mosenfelder, T. Diedrich, E. Soignard, T. Sharp, J. Tyburczy and Y. Wang (2006). High-pressure cells for in-situ multi-anvil experiments. High Pressure Research. **26 (3)**: 283-292. MAC ASU
- Leinenweber, K. D. (2005). COMPRES Newsletter, 42(2), 5-6, 2005. MAC ASU
- Leinenweber, K. D. a. J. A. T. (2003). COMPRES multi-anvil cell assembly development. COMPRES Newsletter, 2(2), 9-11. MAC ASU
- Leinenweber, K. S., E.; Diedrich, T.; Mosenfelder, J.; Sharp, T.G.; Tyburczy, J. (2005). Progress on the multi-anvil cell assembly development project. Poster and presentation at 4th Annual COMPRES Meeting, Mohonk Mountain House, New Paltz, NY. MAC ASU
- Leinenweber, K. S., E.; Sharp, T.G.; Tyburczy, J.A. (2007). Bridging the piston-cylinder/multi-anvil gap. AGU abstract, Fall 2007 meeting. MAC ASU
- Leinenweber, K. S., T.G.; Tyburczy, J.A. (2007). COMPRES multi-anvil cell assembly project: annual report for 2007. Presented at the COMPRES 2007 annual meeting, Lake Morey, Vermont (available online). MAC ASU
- Leinenweber, K. T., J. (2004). COMPRES Multi-anvil cell assembly development. Presentation at 4th Annual COMPRES Meeting, Grenlibakken Resort, Lake Tahoe, California. MAC ASU
- Leinenweber, K. T., J.A.; Sharp, T.; Soignard, E.; Diedrich, T.; Petuskey, W.B.; Mosenfelder, J (2005). Performance of the COMPRES multi-anvil high-pressure assemblies. EOS Transactions American Geophysical Union, Fall 2005. MAC ASU
- Leinenweber, K. T., J.; Sharp. T.; Soignard, E.; Diedrich, T.; Petuskey, W.B.; Wang, Y.; Mosenfelder, J. (2008). Development of a series of cell assemblies for reproducible multi-anvil experiments (the COMPRES assemblies). In preparation. MAC ASU
- Leinenweber, K. T., J.A.; Sharp, T. (2008). Multi-anvil Cell Assembly Initiative: New Developments and Production. Presented at the COMPRES annual meeting, Colorado Springs, 2008. MAC ASU
- Levitas, V., J. Hashemi and Y. Z. Ma (2004). Strain-induced disorder and phase transformation in hexagonal boron nitride under quasi-homogeneous pressure: in-situ X-ray study in a rotational diamond anvil cell, . Europhysics Letters **68**: 550-556 X17 DAC (X17B3, X17C)
- Levitas, V. I., Y. Ma and J. Hashemi (2005). Transformation-induced plasticity and cascading structural changes in hexagonal boron nitride under high pressure and shear. Appl. Phys. Lett. **86(071912 2005)**. X17 DAC (X17B3, X17C).

- Levitas, V. I., Y. Z. Ma and J. Hashem (2005). Strain-induced phase transformations under compression and shear in a rotational diamond anvil cell: in-situ x-ray diffraction study and modeling. Proceedings of "Plasticity'05", Neat Press, Fulton, Maryland,. X17 DAC (X17B3, X17C)
- Levitas, V. Y. Z. M., and J Hashemi, M Holtz and N Guven (2006). Strain-induced disorder, phase transformations and TRIP in hexagonal boron nitride under compression and shear in a rotational diamond anvil cell: in-situ X-ray diffraction study and modeling. J. Chem. Phys. **25(044507)**: 1-14. X17 DAC
- Li, B. (2002). Ultrasonic velocity measurements in conjunction with synchrotron X-radiation at high pressure and high temperature: A great tool for probing the Earth's interior. Proceedings of Rigi Workshop on Crystal Physics, Switzerland. MAC NSLS
- Li, B. (2003). Compressional and shear wave velocity of Ringwoodite gamma-Mg₂SiO₄ to 12 GPa. American Mineralogist **88**: 1312-1317. MAC NSLS
- Li, B. (2005). Pressure Calibration to 20 GPa by Simultaneous Use of Ultrasonic and X-ray Techniques. Journal of Applied Physics **98 (1) (Art. No. 013521)**). MAC NSLS
- Li, B. (2006). Elasticity of Ringwoodite at high P and T. Geophys. Res. Lett. In press. MAC NSLS
- Li, B., and R.C. Liebermann (2007). Indoor seismology by probing the Earth's interior using sound wave velocity measurements at high pressure and high temperatures. Proc. National Acad Sci. **104(22)(9145-9150)**. MAC NSLS
- Li, B., K. Chen, J. Kung, R. C. Liebermann and D. J. Weidner (2002). Ultrasonic velocity measurement using transfer function method J. of Physics: Condensed Matter **14** 11337-11342, . MAC NSLS
- Li, B. and J. Kung (2003). Measurements of Melt Properties at High P and T in Multi-anvil Apparatus Using Ultrasonics and X-radiation. Canadian Geophysical Union, Banff, Canada. MAC NSLS
- Li, B., J. Kung and R. C. Liebermann (2004). Modern techniques in measuring elasticity of earth materials at high pressure and high temperature using ultrasonic interferometry in conjunction with synchrotron X-radiation in multi-anvil apparatus,. Physics of the Earth and Planetary Interiors. **143-144**: (special volume for HPMS meeting, Verbania, Italy, 2003) 559-574. MAC NSLS
- Li, B., J. Kung, R. C. Liebermann, M. T. Vaughan, D. J. Weidner and T. Uchida (2005). Advancement in acoustic velocity measurement in conjunction with synchrotron radiation at high pressure and temperature. EOS. Trans. Amer. Geophys. Un. **83 (19)(S333)**. MAC NSLS
- Li, B., J. Kung, T. Uchida and Y. Wang (2005). Pressure calibration to 20 GPa by simultaneous use of ultrasonic and x-ray techniques. Journal of Applied Physics **98(013521)**. Commission on High P
- Li, B., J. Kung, Y. Wang and T. Uchida (2005). Simultaneous equation of state, pressure calibration and sound velocity measurements to lower mantle pressures using multi-anvil apparatus. Frontiers in High Pressure

- Research: Geophysical Applications. Y. W. J. Chen, T. Duffy, G. Shen, L. Dobrzinetskaya, Elsevier, New York: pp.49-66. MAC NSLS
- Li, B. and J. Zhang (2005). Pressure and temperature dependence of elastic wave velocity of MgSiO₃ perovskite and the composition of the lower mantle Physics of the Earth and Planetary Interiors, **151 (1-2)**: 143-154
MAC NSLS
- Li, B. K. W., and J. Kung (2006). Elasticity of MgO to 11 GPa with an independent absolute pressure scale: Implications for pressure calibration. J. Geophys. Res. **111(B11206)**. MAC NSLS
- Li, B. S., K. Chen, J. Kung, R. C. Liebermann and D. J. Weidner (2002). Sound velocity measurement using transfer function method. Journal of Physics-Condensed Matter **14 (44)**: 11337-11342. MAC NSLS
- Li, J., W. Sturhahn, J.M. Jackson, V.V. Struzhkin, J.F. Lin, J. Zhao, H.K. Mao, and G. Shen (2006). Pressure effect on the electronic structure of iron in (Mg,Fe)(Si,Al)O₃ perovskite: a combined synchrotron Mössbauer and X-ray emission spectroscopy study up to 100 GPa. Phys. Chem. Minerals **33**, 575. Nuclear Resonant
- Li, L. (2003). Rheology of olivine at mantle pressure. Ph.D. Thesis. Geosciences. Stony Brook, Stony Brook University. MAC NSLS
- Li, L., Addad, A., Weidner, D., Long, H. and Chen, J. (2007). High pressure deformation in two-phase aggregates. Tectonophysics **439(1-4)**: 107-117. MAC NSLS
- Li, L., Weidner, D.J. (2007). Energy dissipation of materials at high pressure and high temperature . Review of Scientific Instruments **78(5)(053902)**. MAC NSLS
- Li, L., D Weidner (2008). Effect of Phase Transitions on Compressional-Wave Velocites in the Earth's Mantle. Nature **454(984)**. MAC NSLS
- Li, L., P. Raterron, D. Weidner and J. H. Chen (2003). Olivine flow mechanisms at 8 GPa. Physics of the Earth and Planetary Interiors **138 (2)(July 16, 2003)**: 113-129. MAC NSLS
- Li, L., P. Raterron, D. J. Weidner and J. Chen (2003). Olivine flow mechanisms at 8 GPa. Phys. Earth Planet. Interiors **138**: 113-119. U2A DAC
- Li, L., D. Weidner, P. Raterron, J. Chen, M. Vaughan, S. Mei and W. Durham (2006). Deformation of olivine at mantle pressure using the D-DIA. European Journal of Mineralogy **18(1)**: 7-19. MAC NSLS
- Li, L., D. J. Weidner, J. Chen, M. T. Vaughan and M. Davis (2004). X-ray strain analysis at high pressure: Effect of plastic deformation in MgO. Journal of Applied Physics **95(12)**: 8357-8365 MAC NSLS
- Li, L., D. J. Weidner, J. Chen, M. T. Vaughan, M. Davis and W. B. Durham (2004). X-ray Stress Analysis in Deforming Materials. Physics of the Earth and Plantary Interiors. MAC NSLS
- Li, L., D. J. Weidner, P. Raterron, J. Chen and M. T. Vaughan (2004). Stress measurements of deforming olivine at high pressure. Physics of the Earth and Planetary Interiors **143-44**: 357-367. MAC NSLS
- Li, L. L., H., Weidner, D.J. and Raterron, P. (2006). Plastic flow of pyrope at mantle pressure and temperature. American Mineralogist **91**: 517-525.

MAC NSLS

- Liang, Q., C. S. Yan, Y. Meng, J. Lai, S. Krasnicki, T. Yu, H. Shu, H. K. Mao, and R. J. Hemley (2008). Ultratough boron-doped CVD single-crystal diamond. Adv. Mat., submitted. U2A DAC
- Liang, Q., C. S. Yan, Y. Meng, J. Lai, S. Krasnicki, H. K. Mao, and R. J. Hemley (2008). Recent advances in high-growth rate single-crystal CVD diamond. Diamond Rel. Mater., submitted. U2A DAC
- Lin, C. D. C. (2007). Raman Spectroscopy Study of Zn_{1-x}Mn_xSe Thin Films Under High-Pressure. J. Appl. Phys. **101(103535)**. X17 DAC
- Lin, J.-F., S D. Jacobsen, W. Sturhahn, J.M. Jackson, J. Zhao, and C.-S. Yoo (2006). Sound velocities of ferropericlase in the Earth's lower mantle. Geophys. Res. Lett. **33, L22304**. Nuclear Resonant
- Lin, J.-F., S D. Jacobsen, W. Sturhahn, J.M. Jackson, J. Zhao, and C.-S. Yoo (2007). Correction to Sound velocities of ferropericlase in the Earth's lower mantle. Geophys. Res. Lett. **34, L09301**. Nuclear Resonant
- Lin, J.-F., H.-R. Wenk, M. Voltolini, J. Shu, S. Speziale, and T. S. Duffy (2008). Texture and strength of lower mantle ferropericlase across the spin transition. Proc. National Acad. Sci., submitted (2008). X17 DAC
- Lin, J. F., Y. Fei, W. Sturhahn, J. Zhao, H. K. Mao and R. J. Hemley (2004). Magnetic transition and sound velocities of Fe₃S at high pressure: implications for Earth and planetary cores. Earth Planet. Sci. Letters **226: 33-40**. Nuclear Resonant
- Lin, J. F., A. G. Gavriliuk, V. Struzhkin, S. D. Jacobsen, W. Sturhahn, M. Y. Hu, P. Chow and C. S. Yoo (2006). Pressure-induced electronic spin transition of iron in magnesiowustite-(Mg,Fe)O. Phys. Rev. B **73(113107)**. Nuclear Resonant
- Lin, J. F., J. Shu, H. K. Mao, R. J. Hemley and G. Shen (2003). Amorphorous boron gasket in diamond anvil cell research,. Rev. Sci. Instrum. **74: 4732-4736**. X17 DAC
- Lin, J. F., V. V. Struzhkin, S. D. Jacobsen, M. Y. Hu, P. Chow, J. Kung, H. Z. Liu, H. K. Mao and R. J. Hemley (2005). Spin transition of iron in magnesiowustite in the Earth's lower mantle. Nature **436: 377-380**. Nuclear Resonant
- Lin, J. F., W. Sturhahn, J. Zhao, G. Shen, H. K. Mao and R. J. Hemley (2004). Absolute temperature measurement in a laser-heated diamond anvil cell. GRL **31(L14611)**. Nuclear Resonant
- Lin, J. F., W. Sturhahn, J. Y. Zhao, G. Y. Shen, H. K. Mao and R. J. Hemley (2005). Sound velocities of hot dense iron: Birch's law revisited. Science **308: 1892-1894**. Nuclear Resonant
- Lipinska-Kalita, K. E., B. Chen, M. B. Kruger, Y. Ohki, J. Murowchick and E. P. Gogol (2003). High-pressure x-ray diffraction studies of the nanostructured transparent vitroceraic medium K₂O-SiO₂-Ga₂O₃. Phys. Rev. B. X17 DAC
- Lipinska-Kalita, K. E., Y. Ding, Y. Song, J. Lin, M. Somayazulu, P. Dera, J. Yarger, H. K. Mao and R. J. Hemley (2004). Structural investigations of LiBeH₃ and Li₂BeH₄: synchrotron radiation based x-ray diffraction and

- high-pressure Raman spectroscopy. First Annual SSAAP Symposium, Albuquerque, NM. X17 DAC
- Littlefield, F., S. Jacobsen, Z. Liu and R. Hemley (2005). Effects of water on the behavior of MgSiO₃-clinoenstatite at high pressure. Eos, Trans. AGU 86(52) Fall Meet., Suppl. U2A DAC (X17 DAC)
- Liu, H., H.-R. Wenk, and T. S. Duffy (2006). Rheology and elasticity studies at ultra-high pressures, preface to special issue. Journal of Physics: Condensed Matter, **18(25), June 28, 2006.** X17 DAC
- Liu, H., W. A. Caldwell, L. R. Benedetti, W. Panero and R. Jeanloz (2003). Static compression of α -Fe₂O₃: Linear incompressibility of lattice parameters and high pressure transformations. Phys. Chem. Min **30**: 582-588. ALS
- Liu, H., J. Hu, J. Shu, D. Häusermann and H. Mao (2004). Lack of critical pressure for weakening of size-induced stiffness in 3C-SiC nanocrystals under hydrostatic compression. Applied Phys. Letters. X17 DAC
- Liu, H., J. Hu, J. Xu, Z. Liu, J. Shu, H. K. Mao and J. Chen (2004). Phase transition and compression behavior of gibbsite under high-pressure. Phys. Chem. Minerals **31**: 240-246. U2A DAC
- Liu, H., C. Jin, J. Chen and J. Hu (2004). Anomalous dynamical Charge Change behavior of nanocrystalline 3C-SiC upon compression. Journal of the American Ceramic Society **87**: 2291-2293. X17 DAC
- Liu, H., C. Jin and Y. Zhao (2002). Pressure induced structural transitions in nanocrystalline grained selenium. Physica B **315**: 210-214. X17 DAC
- Liu, H., J. Tse, J. Hu, Z. Liu, L. Wang, J. Chen, D. Weidner, Y Meng, D. Häusermann and H. Mao (2005). Structural Refinement of the High-Pressure Phase of Aluminum Trihydroxide: In-Situ High-Pressure Angle Dispersive Synchrotron X-ray Diffraction and Theoretical Studies. J. Phys. Chem. B **109**: 8857. MAC NSLS
- Liu, H., J. S. Tse, J. Hu, Z. Liu, L. Wang, J. Chen, D. J. Weidner, Y. Meng, D. Häusermann and H. K. Mao (2005). Structural refinement of the high-pressure phase of aluminum trihydroxide: in-situ high-pressure angle dispersive synchrotron X-ray diffraction and theoretical studies. J. Phys. Chem. B **109**: 8857-8860. U2A DAC (X17 DAC)
- Liu, H. Z., J. Chen, J. Hu, C. D. Martin, D. J. Weidner, D. Häusermann and H.-K. Mao (2005). Octahedral tilting evolution and transition in orthorhombic NaMgF₃ perovskite under pressure. Geophysical Research Letters **32(L04304)**. X17 DAC (X17C)
- Liu, H.-Z., J. Chen, J. Hu, C. D. Martin, D. J. Weidner, D. Häusermann and H. Mao, JK (2005). Octahedral tilting evolution and phase transition in orthorhombic NaMgF₃ perovskite under pressure, . Geophys. Res. Lett., **32(L04304)**. MAC NSLS
- Liu, Q., Liu. W, Whitaker. M.L., Wang. Li, Li. Baosheng (2008). Compressional and shear wave velocities of Fe₂SiO₄ spinel at high pressure and high temperature. High Pressure Research. MAC NSLS
- Liu, W., B. Li, L. Wang, J. Zhang, and Y. Zhao (2007). Elasticity of β -phase zirconium. Phys Rev. B **76(144107)**. MAC NSLS
- Liu, W., B. Li, Y. Wang (2007). Elasticity of Wadsleyite at 12 GPa1073K. Phys

- Earth Planet Interi., (submitted). MAC NSLS
- Liu, W., Kung, J. , Wang, L. ,Li, B. (2008). Thermal Equation of State of CaGeO₃ Perovskite. Am. Mineral. **93(745)**. MAC NSLS
- Liu, W., B. Li, L Wang, J Zhang, Y Zhao, (2008). Simultaneous Ultrasonic and Synchrotron X-ray Studies on Pressure Induced - Phase Transition in Zirconium. J. Appl. Phys. **104(7)(076102)**. MAC NSLS
- Liu, W., B Li (2008). Elasticity of amorphous zirconium tungstate at high pressure. Appl. Phys. Lett. **93(191904)**. MAC NSLS
- Liu, W., J. Kung and B. Li (2005). Thermoelasticity of San Carlos Olivine from Simultaneous Ultrasonic and X-ray Studies to 8.2 GPa 1073K. AGU, 2005, Fall Meeting. MAC NSLS
- Liu, W., B. Li and J. Kung (2005). Elasticity of San Carlos olivine at 8 GPa and 1073 K. . Geophysical Research Letter **32(L16301, doi:10.1029/2005GL023453)**. MAC NSLS
- Liu, W. a. B. L. (2006). Thermoelasticity of olivine to 8 GPa 1073K. Phys. Earth. Planet. Inter. **157**: 188-195. MAC NSLS
- Liu, W. a. B. L. (2007). Compressional and shear wave velocities of CaGeO₃ to 10 GPa. Phy Rev B. **75(024107)**. MAC NSLS
- Liu, W. J. K., L. Wang, B. Li (2007). Thermoelasticity of CaGeO₃ to 10 GPa 1273K. Am. Min., (submitted). MAC NSLS
- Liu, Z. (2007). Synchrotron Far-infrared Spectroscopy and ab initio Study of Phonon Density of States in Ice VII at High Pressure,. 2007 Stewardship Science Academic Alliances Program Symposium (Washington, DC, February 5-7, 2007). U2A DAC
- Liu, Z., R.J. Hemley (2007). Synchrotron Infrared Spectroscopy under Extreme Conditions (invited). 4th International Workshop on Infrared Microscopy and Spectroscopy with Accelerator Based Sources). Awaji-Island, Hyogo, Japan. U2A DAC
- Liu, Z., R. J. Hemley, J. Xu and H. K. Mao (2003). Moissanite: A complementary window for Infrared studies at high pressure,. J Rev. Sci. Instrum., in press,. U2A DAC
- Liu, Z., J. Hu, H. Yang, H. K. Mao and R. J. Hemley (2002). High-pressure synchrotron x-ray diffraction and infrared microspectroscopy: applications to dense hydrous phases. J. Phys: Condens. Matter **14**: 10641-10646. U2A DAC (X17 DAC)
- Liu, Z., G. A. Lager, R. J. Hemley and N. L. Ross (2003). Synchrotron Infrared Spectroscopic Study of OH-chondrodite and OH-clinohumite at High Pressure Am. Mineral **88** 1412-1415 U2A DAC
- Liu, Z., J. Xu, H. P. Scott, Q. Williams, H. K. Mao and R. J. Hemley (2004). Moissanite (SiC) as windows and anvils for high-pressure infrared spectroscopy. Rev. Sci. Instrum. **75**: 5026. U2A DAC
- Liyanage, C. (2007). High pressure studies of nanocrystals and negative thermal expansion materials, Ph.D. Thesis. University of Missouri, Kansas City (2007). X17 DAC
- Long, H., L. Li, J. Chen, K. Leinenweber, L. Wang, Z. Liu, M. Vaughan, Y. Yang and D. Weidner (2004). Investigation on cell assemblies for mantle

- rheology. EOS TRans. AGU, Fall 2004. MAC ASU
- Lu, J., G. Rozgonyi, A. Schönecker, A. Gutjahr and Z. Liu (2005). Impact of oxygen on carbon precipitation in polycrystalline ribbon silicon. J. Appl. Phys. **97(033509)**. U2A DAC (X17 DAC)
- Lucas, M. S. (2008). Cluster Expansion Applied to Inelastic Scattering Experiments, Ph.D. Thesis. California Institute of Technology (2008). X17 DAC
- Lufaso, M. W. G., S Mugavero, Y Lee, T Vogt, H zur Loye (2006). Compression mechanisms of symmetric and Jahn-Teller distorted octahedra in double perovskites: A_2CuWO_6 ($A = \frac{1}{4} Sr, Ba$), Sr_2CoMoO_6 , and La_2LiRuO_6 . J. Solid State Chem. **179**: 3571-3576. X17 DAC
- Lufaso, M. W. R. B. M., Y. Lee, T. Vogt and H. Loye (2006). Pressure induced octahedral tilting distortion in Ba_2YTaO_6 . Chem. Commun **168**: 168-170. X17 DAC
- Lundin, S., K. Catalli, J. Santillan, S-H, Shim, V.B. Prakapenka, M. Kunz and Y. Meng (2008). Effect of Fe on the equation of state of mantle silicate perovskite over 1 Mbar. Physics of the Earth and Planetary Interiors **168** . 97-102. ALS
- Ma, Y., Aksoy, R. (2007). Compression of $CdCu_3Ti_4O_{12}$ Perovskite to 55 GPa. Solid State Commun. **142**: 376-379. X17 DAC
- Ma, Y., H. Chen, X. Li, L. Gao, Q. Cui, G. Zou (2007). Raman and x-ray investigation of pyrope garnet ($Mg_{0.76}Fe_{0.14}Ca_{0.10}$) $_3A_{12}Si_3O_{12}$. Chin. Phys. Lett. **24(1180)**. X17 DAC
- Ma, Y., J. Liu, C. Gao, W. Mei, A. White and J. Rasty (2006). High-pressure X-ray diffraction study of the giant dielectric constant material $CaCu_3Ti_4O_{12}$: evidence of stiff grain surface. Appl. Phys. Lett. **88:(191903)**. X17 DAC
- Ma, Y., C. T. Prewitt, G. Zou, H. K. Mao and R. J. Hemley (2003). High-pressure high-temperature x-ray diffraction of B-boron to 30 GPa,. Phys. Rev. B **67(174116)**. X17 DAC
- Ma, Y., E. Selvi, V. Levitas and H. J (2006). Effect of Shear Strain on the α - β Phase Transition of Iron: a New Approach in the Rotational Diamond Anvil Cell. . J. Phys.: Condens. Matter. **18: (1075)**. X17 DAC
- Ma, Y., M. Somayazulu, G. Shen, H. K. Mao, J. Shu and R. J. Hemley (2004). In situ X-ray diffraction studies of iron to Earth-core conditions. Physics of the Earth and Planetary Interiors. X17 DAC
- Ma, Y. Q. C., L Shen, Z He (2007). X-ray Diffraction Study of Nanocrystalline Tungsten Nitride and Tungsten to 31 GPa. J. Appl. Phys. **102(013525)**. X17 DAC
- Ma, Y. V. I. L., and J Hashemi (2006). X-ray diffraction measurements in a rotational diamond anvil cell. J. Phys. Chem. Solids **67(2083-2090)**. X17 DAC
- Malone, R., D. Dolan, R. Hacking, and I. McKenna (2008). IR Spectrometer Using 90-degree Off-axis Parabolic Mirrors. SPIE Optics & Photonics **7068(sponsored by SPIE)**. U2A DAC
- Manoun, B., H. Yang, S. Saxena, A. Ganguly, M. Barsoum, B. El Bali, Z. Liu, M. Lachkar (2007). Infrared Spectrum and Compressibility of Ti_3GeC_2 to 51

- GPa. J. Alloys Comp. **433**: 265-268. U2A DAC
- Mao, W., H.-k. Mao, W. Sturhahn, J. Zhao, V.B. Prakapenka, Y. Meng, J. Shu, Y. Fei, and R.J. Hemley (2006). Iron-Rich Post-Perovskite and the Origin of Ultralow-Velocity Zones. Science **312**, **564**. Nuclear Resonant
- Mao, W. and H. Mao (2005). Hydrogen storage in molecular compounds. Acta Cryst. **A61**, **C63**. Neutron Studies
- Mao, W., J. Shu, J. Hu, R. Hemley and H. K. Mao (2002). Displacive transition in magnesiowüstite J. Phys.: Condens. Matter **14** 11349-11354 X17 DAC
- Mao, W. L., V.V. Struzhkin, A.Q.R. Baron, S. Tsutsui, C.E. Tommaseo, H.-R. Wenk, M.Y. Hu, P. Chow, W. Sturhahn, J. Shu, R.J. Hemley, D.L. Heinz, and H.-K. Mao (2008). Experimental determination of the elasticity of iron at high pressure. J. Geophys. Res. **113**, **B09213**. Nuclear Resonant
- Mao, W. L. and H. K. Mao (2004). Hydrogen storage in molecular hydrides. Proc. Nat. Aca. Sci., **101**: 708–710. X17 DAC
- Mao, W. L. and H. K. Mao (2004). Hydrogen storage in molecular compounds. Proc. Nat. Acad. Sci. **101**: 708-710. X17 DAC
- Mao, W. L., H. K. Mao, A. F. Goncharov, V. V. Struzhkin, Q. Guo, J. Hu, J. Shu, R. J. Hemley, M. Somayazulu and Y. Zhao (2002). Hydrogen clusters in clathrate hydrate. Science **297**: 2247-2249. X17 DAC
- Mao, W. L., H. K. Mao, C. S. Yan, J. Shu, J. Hu and R. J. Hemley (2003). Generation of ultrahigh pressure using single-crystal, chemical-vapor-deposition diamond anvils. Appl. Phys. Lett **83**: 5190-5192. X17 DAC
- Mao, W. L., W. Sturhahn, D. L. Heinz, H. K. Mao, J. F. Shu and R. J. Hemley (2004). Nuclear resonant x-ray scattering of iron hydride at high pressure. Geophysic. Res. Letters **31(L15618)**. Nuclear Resonant
- Mao, Z., S. D. Jacobsen, F. Jiang, J. R. Smyth, C. M. Holl, and T. S. Duffy (2008). Elasticity of hydrous wadsleyite to 12 GPa: Implications for Earth's transition zone. Geophysical Research Letters, in press (2008). X17 DAC
- Mao, Z., S. Jacobsen, F. Jiang, J. Smyth, C. Holl, D. Frost, T. Duffy (2008). Single-crystal elasticity of wadsleyites, β -Mg₂SiO₄, containing 0.37-1.66 wt.% H₂O., Earth Planet Sci. Lett. **268**: 540-549. X17 DAC
- Mao, Z. F. J., and T. S. Duffy (2007). Single-crystal elasticity of zoisite, Ca₂Al₃Si₃O₁₂(OH), by Brillouin scattering., American Mineralogist **92**: 570-576. X17 DAC
- Matas, J., J. D. Bass, Y. Ricard and E. Mattern (2005). Lower mantle structure and composition: insights from generalized inversions of radial seismic profiles. Fall AGU meeting, San Francisco CA. Brillouin
- Mei, S., L. Li, W. Durham, Y. Wang, T. Uchida, I. Getting, M. Vaughan, D. Weidner and B. P. (2002). Preliminary deformation results to 12 GPa pressure using the Deformation-DIA. MAC NSLS
- Meng, Y., C. Yan, J. Lai, S. Krasnicki, H. Shu, T. Yu, Q. Liang, H.K Mao, and R. J. Hemley (2008). Enhanced optical properties of chemical vapor deposited single crystal diamond by low-pressure/high-temperature annealing. Proc. Nat. Acad. Sci. **105(46)**: 17620-17625. U2A DAC
- Meng, Y., H. K. Mao, P. J. Eng, T. P. Trainor, M. Newville, M. Y. Hu, C. C. Kao, J. Shu, D. Häusermann and R. J. Hemley (2004). The formation of sp³

- bonding in compressed BN Nature Materials **3,(111,)**. X17 DAC (X17C)
- Meng, Y., Z. Wu, J. Shu and H. K. Mao (2004). Equation of state of hexagonal wurtzite boron nitride. in prep. X17 DAC
- Merkel, S., A. P. Jephcoat, J. Shu, H. K. Mao, a. P. Gillet and R. J. Hemley (2002). Equation of state, elasticity, and shear strength of pyrite under high pressure. Phys. Chem. Minerals **29**: 1-9. X17 DAC
- Monteiro, P. J. M., A.P. Kirchheim, S. Chae, P. Fischer, A.A. MacDowell, E. Schaible, S.M. Clark, and M.A. Marcus (2007). Cement and Concrete Research Using X-rays at the Advanced Light Source in Berkeley, in Proceedings of the 3rd International Symposium "Sustainability in Cement and Concrete, A. Yinobal, Vol 1-2 (Turkish Cement Manufacturers', Istanbul, 2007). [Proceedings of the 3rd International Symposium Sustainability in Cement and Concrete, (Istanbul , Turkey, May 21-23 2007)]. ALS
- Montgomery, W. and R. Jeanloz (2005). Life on extrasolar planets: the persistence and stability of cyanuric acid in protoplanetary conditions. Eos, Trans. AGU **86(52) Fall Meet., Suppl.** U2A DAC
- Mosenfelder, J., K. Leinenweber and Y. Wang (2005). A new multi-anvil assembly for beamline experiments up to 15 GPa: application to in situ measurement of the pyroxene-ilmenite transition in ZnSiO₃. . Fall Meet. Suppl., 86(52). MAC ASU
- Muthu, D., B. Chen, B. Cook, M. Kruger (2008). Effects of sample preparation on the mechanical properties of AlMgB₁₄., High Pressure Res. **28**: 63-68. X17 DAC
- Muthu, D. V. S., A. E. Midgley, E. A. Petruska, A. K. Sood, Y. Bando, D. Golberg, and M. B. Kruger (2008). High-pressure effects on boron nitride multi-walled nanotubes: An X-ray diffraction study. Chemical Physics Letters, in press (2008). X17 DAC
- Muthu, D. V. S., B. Chen, B. A. Cook and M. B. Kruger (2007). Effects of sample preparation on the mechanical properties of AlMgB₁₄. High Pressure Research, In Press **28**: 63-68. ALS
- Nakano, S., R. J. Hemley, E. A. Gregoryanz, A. F. a. Goncharov and H. K. Mao (2002). Pressure-induced transformations of molecular boron hydride. J. Phys: Condens. Matter **14**,: 10453-10456,. U2A DAC
- Nakano, S., R. J. Hemley, O. Tschauner and H. K. Mao (2001). High-pressure/high-temperature transformations of boron hydride. Ultra-High Pressure Research --Novel Process for New Materials. T. S. M. Akaishi, K. Takemura, T. Taniguchi, T. Kobayashi, K. Tajima and N. Aida, Nat. Inst. Res. Inorg. Materials, Tsukuba, Japan: 49-50. U2A DAC
- Nishihara, Y., D. Tiner, T Kawazoe, Y Xu, Z Jing, K Matsukage, S Karato (2008). Plastic Deformation of Wadsleyite and Olivine at High-Pressure and High-Temperature using a Rotational Drickamer Apparatus (RDA). Phys. Earth Planet. Interiors **170**: 156-169. MAC NSLS
- Nishihara, Y., D. Tinker, Y. Xu, Z. Jing, K. N. Matsukage and S. Karato (2005). Plastic deformation of wadsleyite and oliivne under the deep mantle conditions using a rotational Drickamer apparatus (RDA): Implications for

- the rheological contrast at the 410 km discontinuity. Journal of Geophysical Research, submitted. MAC NSLS
- Oganov, A. R., J. Chen, C. Gatti, Y. Ma, Y. Ma, C.W. Glass, Z. Liu, T. Yu (2008). Ionic High-Pressure form of Elemental Boron. Nature, submitted. U2A DAC
- Panero, W. R., L. R. Benedetti and R. Jeanloz (2003). Transport of water into the lower mantle: Role of stishovite. J. of Geophysical Research **108**. ALS
- Pantea, C., G. A. Voronin, T. W. Zerda, L. Wang and Y. Zhao (2005). Kinetics of SiC formation during high P-T reaction between diamond and silicon. . Diamond and Related Materials, **14** 1611-1615. . MAC NSLS
- Papandrew, A. B., A. F. Yue, B. Fultz, I. Halevy, W. Sturhahn, T. S. Toellner, E. E. Alp and H. K. Mao (2004). Vibrational modes in nanocrystalline iron under high pressure. PRB **69(144301)**. Nuclear Resonant
- Papandrew, A. M. L., R Stevens, I Halevy, B Fultz, M Hu, P Chow, R Cohen, M Somayazulu (2006). Absence of Magnetism in Hcp Iron-Nickel at 11K. Phys. Rev. Lett. **97(087202)**. X17 DAC
- Park, S., Y. Lee, A. Moodenbaugh and T. Vogt (2003). Synthesis and high-pressure behavior of Na_{0.3}CoO₂·1.3H₂O and related phases. Phys. Rev. B **68(180505R)**. X17 DAC
- Park, S. Y. L., M Elcombe, T Vogt (2006). Synthesis and Structure of the Bilayer Hydrate Na_{0.3}NiO₂·1.3D₂O. Inorg. Chem. **45**: 3490-3492. X17 DAC
- Parry, S. A., A. R. Pawley and S. M. Clark (2007). An infrared spectroscopic study of 10-Å phase to 10 GPa, and comparison to talc. Am. Min. **92**: 525 - 531. ALS
- Patterson, J. R., C. M. Arcane, D. D. Jackson, V. Malba, S. T. Weir, P. A. Baker and Y. K. Vohra (2004). Pressure Induced Metallization of Mott Insulator MnO. Phys. Rev. B **69 220101 (R)**. X17 DAC
- Patterson, J. R., A. Kudryavtsev and Y. K. Vohra (2002). X-ray diffraction and nanoindentation studies of nano-crystalline graphite at high pressures. Applied Physics Letters **81(12)**: 2073-2075. X17 DAC
- Patterson, R., K. S. Cheng and J. Akella (2004). Static high-pressure structural studies on Dy to 119 GPa. Journal of Applied Physics **95**: 5443-5446. X17 DAC
- Petruska, E. (2008). High-pressure studies of nanocrystalline silver, nanocrystalline silicon carbide, and bulk zirconium pyrophosphate, M.S. Thesis. U. Missouri - Kansas City (2008). X17 DAC
- Phatak, N., S. Kulkarni, V. Drozd, S. Saxena, L. Deng, Y. Fei, J. Hu, W. Luo, R. Ahuja (2008). Synthesis and compressive behavior of Cr₂GeC up to 48 GPa. J. Alloys Compd. **463**: 220-225. X17 DAC
- Pravica, M., B. Yulga, Z. Liu, O. Tschauner (2007). Infrared Study of 1,3,5-triamino-2,4,6-trinitrobenzene Under High Pressure. Phys. Rev. B **76(064102)**. U2A DAC
- Provis, J. (2006). Modelling the Formation of Geopolymers., University of Melbourne, Melbourne. X17 DAC
- Provis, J., J. van Deventer (2007). Geopolymerisation Kinetics. 1. In situ Energy-Dispersive X-ray Diffractometry. Chem. Eng. Sci. **62**: 2309-2317. X17

DAC

- Provis, J., J. van Deventer (2007). Direct Measurement of the Kinetics of Geopolymerisation by in-situ Energy Dispersive X-ray Diffractometry. J. Mater. Sci. **42**: 2974-2981. X17 DAC
- Qiu, W., P. A. Baker, N. Velisavljevic, Y. K. Vohra and S. T. Weir (2006). Calibration of an isotopically enriched carbon-13 layer pressure sensor to 156 GPa in a diamond anvil cell J. Appl. Phys., **99**, (064906,). X17 DAC
- Qiu, W., N. Velisavljevic, P. A. Baker, Y. K. Vohra and S. I. T. Weir (2004). Isotopically Pure ¹³C Layer as a Stress Sensor in a Diamond Anvil Cell. Applied Physics Letters **84**(5308). X17 DAC
- Qiu, W., Y. K. Vohra, G. B. Thompson and S. Shi (2004). Crystal Structure and Compressibility of FePt Nanoparticles under High Pressures and High Temperatures,. High Pressure Research **24**. X17 DAC
- Rabier, J., P. O. Renault, M. F. Denanot, J. L. Demenet, J. Chen, H. Couvy, . and L. Wang (2007). Plastic Deformation of silicon between 20°C and 425°C. Phys. Status Solidi C **4**(8): 3110-3114. MAC NSLS
- Raterron, P. (2004). Mesures rhéologiques In situ en presse gros volume. Forum du Réseau Technologique des Hautes Pressions (MRCT-CNRS). MAC NSLS
- Raterron, P. (2004). Rhéologie expérimentale en conditions extrêmes. Ecole thématique du CNRS «Expérimentation en Sciences de la Terre » Banyuls-sur-mer. MAC NSLS
- Raterron, P., Chen, J., Li, L., Weidner, D. and Cordier, P. (2007). Pressure-induced slip-system transition in forsterite: Single-crystal rheological properties at mantle pressure and temperature. American Mineralogist **92**: 1436-1445. MAC NSLS
- Raterron, P., J. H. Chen and D. J. Weidner (2002). A process for low-temperature olivine-spinel transition under quasi-hydrostatic stress Geophysical Research Letters **29** (10). MAC NSLS
- Raterron, P., D. J. Weidner and L. Li (2005). Rhéologie des matériaux en conditions extrêmes de pression et de température, in « Etude In situ en Cellules Gros Volume », Publication du 4ième Forum « Technologie des hautes pressions » (CNRS/MRCT), Messigny, France. MAC NSLS
- Raterron, P., Y. Wu., D. J. Weidner and J. Chen (2004). Low temperature olivine rheology at high pressure. . Phys. Earth Planet. Int. **145** (1-4): 149-159. MAC NSLS
- Reid, R. F., Jacobsen, S.D.; Watson, H.C.; Liu, Z.; Lin, J.; Langenhorst, F.; Demouchy, S.; Smith, J.R.; Fei, Y.; Hemley, R. J.; Mao, H. (2006). Synthesis and High-pressure Synchrotron Infrared Studies of OH-Bearing Silicate Perovskite in the Laser-heated Diamond Cell. Eos Trans. AGU Fall Meet., Suppl., **87**. U2A DAC
- Salleo, A., S. T. Taylor, M. C. Martin, W. R. Panero, R. Jeanloz, T. Sands and F. Y. Genin (2003). Laser-driven formation of high-pressure phase in amorphous silica. Nature Materials **2**(12) 796-800 ALS
- Sanchez-Valle, C., H. Hellwig, J. Li, J. Wang, Z. Liu and J. Bass (2005). High-pressure vibrational study of dense hydrous magnesium silicate 10Å

- Phase. Eos, Trans. AGU **86(52) Fall Meet., Suppl.** U2A DAC (X17 DAC)
- Sanloup, C., R. Hemley and H. Mao (2002). Evidence for xenon silicates at high pressure and temperature. Geophys. Res. Lett. **29**: 1029. X17 DAC
- Sanloup, C., H. K. Mao and R. Hemley (2002). High pressure transformations of xenon hydrates. Proc. Natl. Acad. Sci. **99**: 25–28. X17 DAC
- Schneider, B., W Liu, B Li, (2008). Searching for post-perovskite transition in CaSnO₃ at high pressure: an ultrasonic velocity study to 18 GPa. High Pressure Res. **28**: 397-404. MAC NSLS
- Scott, H., Z. Liu, R.J. Hemley, Q. Williams (2007). High-pressure Infrared Spectra of Talc and Lawsonite, (2007). Am. Mineral. **92**: 1814-1820. U2A DAC
- Scott, H. P., Z. Liu, R. J. Hemley and Q. Williams (2003). High Pressure Far Infrared Spectra of Talc and Lawsonite. Second COMPRES annual meeting, Santa Cruz. U2A DAC
- Seagle, C. T., W. Zhang, D.L. Heinz, and Z. Liu (2008). Far Infrared Dielectric and Vibrational Properties of non-Stoichiometric Wüstite at High Pressure. Physical Review B, submitted. U2A DAC
- Seagle, C. T., D. Heinz, Z. Liu, and R. J. Hemley (2008). Infrared Reflectivity of Iron at High Pressure: An Evaluation of the Greybody Assumption. Applied Optics, submitted. U2A DAC
- Selvi, E. (2007). Pressure and shear effects on mechanical properties of materials, Ph.D. Thesis. Texas Tech University, Lubbock. X17 DAC
- Selvi, E., R. Aksoy, R. Knudson, Y. Ma (2008). High-pressure x-ray diffraction study of tungsten diselenide, . J. Phys. Chem. Solids **69**: 2311-2314. X17 DAC
- Selvi, E. Y. M., R Aksoy, A Ertas, A White and Jagdev-Singh Sandhu (2006). High pressure x-ray diffraction study of tungsten disulfide. J. Phys. Chem. Solids **67**: 2183-2186. X17 DAC
- Sen, S. S. G., B Aitken, C Leshar (2006). Observation of a Pressure-Induced First-Order Polyamorphic Transition in a Chalcogenide Glass at Ambient Temperature. Phys. Rev. Lett. **97(025504)**. X17 DAC
- Shen, G., V. B. Prakapenka, P. J. Eng, M. L. Rivers and S. R. Sutton (2005). Facilities for high-pressure research with the diamond cell at GSECARS. Journal of Synchrotron Radiation **12**: 642-649. CO₂ laser DAC
- Shen, G., W. Sturhahn, E. E. Alp, J. Zhao, T. S. Toellner, V. B. Prakapenka , Y. Meng and H. K. Mao (2004). Phonon density of states in iron at high pressures and high temperatures. PCM **31**: 353-359. Nuclear Resonant
- Shen, L. H. X. F. L., Y. M. Ma, K. F. Yang, W. W. Lei, Q. L. Cui and G. T. Zou (2006). Pressure-induced structural transition in AlN nanowires, Applied Physics Letter, 89,141903 (2006). Applied Physics Letters **89(141903)**. X17 DAC
- Shieh, S., T. S. Duffy and E. Ohtani (2003). Elasticity, equation of state, and strength of phase D at high pressures, in preparation,. X17 DAC
- Shieh, S., T. S. Duffy and G. Shen (2003). Elasticity and strength of calcium silicate perovskite at lower mantle pressures. Phys. Earth Planet. Interiors, in press,. X17 DAC
- Shieh, S. R., T.S. Duffy, Z. Liu, and E. Ohtani (2008). High-Pressure Infrared

- Spectroscopy of the Dense Hydrous Magnesium Silicates Phase D and Phase E., Physics of the Earth and Planetary Interiors, submitted. U2A DAC
- Shieh, S. R. and T. S. Duffy (2002). Raman spectroscopy of $\text{Co}(\text{OH})_2$ to 30 GPa: Implications for amorphization and structural frustration. Phys. Rev. B **66**: 134301. X17 DAC
- Shieh, S. R. and T. S. Duffy (2002). Strength and elasticity of SiO_2 across the stishovite– CaCl_2 -type structural phase boundary. Phys. Rev. Lett. **89(25507(4))**. X17 DAC
- Shieh, S. R. and T. S. Duffy (2003). High-Pressure Studies of Hydrogen- and Carbon-Bearing Minerals., Fall Meet. Suppl., **84(46)**. X17 DAC
- Shieh, S. R., T. S. Duffy and B. Li (2002). Strength and elasticity of SiO_2 across the stishovite - CaCl_2 phase boundary. Physics Rev. Lett. **89 (25)(art. no. 255507)**. MAC NSLS
- Shieh, S. R., T. S. Duffy and G. Shen (2005). X-ray diffraction study of phase stability in SiO_2 at deep lower mantle conditions. Earth and Planetary Science Letters **235**: 273-282. CO_2 laser DAC
- Shim, S.-H., K. Catalli, J. Hustoft, A. Kubo, V.B. Prakapenka, W.A. Caldwell and M. Kunz (2008). Crystal structure and thermoelastic properties of $(\text{Mg}_{0.91}\text{Fe}_{0.09})\text{SiO}_3$ postperovskite up to 135 GPa and 2,700 K. PNAS **105**: 7382-7386. ALS
- Shim, S.-H. (2008). The postperovskite transition. Applied Physics Letters **36(10)**: 569-599. ALS
- Shim, S.-H., T. S. Duffy, R. Jeanloz and G. Shen (2004). Stability and structure of MgSiO_3 perovskite to the core–mantle boundary, . Geophys. Res. Lett **31**. ALS
- Shim, S.-H., T. S. Duffy, R. Jeanloz, C.-S. Yoo and V. Iota (2004). Raman spectroscopy and x-ray diffraction of phase transitions in Cr_2O_3 to 61 GPa. Phys. Rev. B **69**. ALS
- Sinelnikov, Y. D., G. Chen and R. C. Liebermann (2004). Dual Mode Ultrasonic Interferometry in Multi-anvil High Pressure Apparatus using Single-crystal Olivine as the Pressure Standard. International Journal of High Pressure Research **24**: 183-191. MAC NSLS
- Sinogeiken, S., D. Lakshtanov, C. Sanches-Valle, V. Prakapenka, G. Shen, E. Gregoryanz and J. Bass (2005). Elastic moduli and equation of state of NaCl to 30 GPa by simultaneous x-ray density and Brillouin sound velocity measurements. Brillouin
- Sinogeiken, S., D. Lakshtanov, C. Sanches-Valle, V. Prakapenka, G. Shen, E. Gregoryanz and J. Bass (2005). Elastic moduli and equation of state of NaCl to 30 GPa by simultaneous x-ray density and Brillouin sound velocity measurements. . Commission on High P
- Sinogeikin, S., J. D. Bass, v. Prakapenka, D. L. Lakshtanov, G. Shen, C. Sanches-Valle and M. Rivers (2006). A Brillouin spectrometer interfaced with synchrotron X-radiation for simultaneous x-ray density and acoustic velocity measurements. Rev. Sci. Instr. Brillouin
- Sitepu, H. and H. Brokmeier (2005). Use of neutron diffraction for describing

- texture of isostatically-pressed molybdate powders. Solid State Phenomena **497**: 83-88. Neutron Studies
- Sitepu, H., H. Brokmeier, D. Chateigner and J. Wright (2005). Crystallographic phase composition and structural analysis of Ti-Ni-Fe shape memory alloy by synchrotron diffraction. Solid State Phenomena **105**: 139-144. Neutron Studies
- Sitepu, H., M. G. Kopylova, D. H. Quirt, J. N. Cutler and T. G. Kotzer (2005). Synchrotron micro-X-ray fluorescence maps of natural diamonds: First steps in identification of mineral inclusions in-situ. American Mineralogist **90**: 1740-1747. Neutron Studies
- Sitepu, H., B. H. O'Connor and D. Y. Li. (2005). Comparative evaluation of the March and generalized spherical harmonic preferred orientation models using X-ray diffraction data for molybdate and calcite powders. . Journal of Applied Crystallography **38**: 158-167. Neutron Studies
- Sitepu, H., J. Wright, T. Hansen, D. Chateigner, H.-G. Brokmeier, C. Ritter and T. Ohba (2005). Combined synchrotron and neutron structural refinement of R-phase in Ti_{50.75}Ni_{47.75}Fe_{1.50} shape memory alloy. Mat. Science Forum **497**: 255-260. Neutron Studies
- Slebodnick, C., J. Zhao, R. Angel, B. E. Hanson, Y. Song, Z. Liu and R. J. Hemley (2004). High pressure study of Ru₃(CO)₁₂ by x-ray diffraction, Raman and infrared spectroscopy. Inorg. Chem. **43**: 5245-5252. U2A DAC
- Smedley, J., I. Ben-Zvi, A. Burrill, X. Chang, J. Grimes, T. Rao, Z. Segalov, Q. Wu (2006). Electron Amplification in Diamond,. 2006 Workshop on Advanced Accelerator Concepts (AAC06) **887(sponsored by Argonne National Laboratory)**: 672-674. U2A DAC
- Smedley, J., I Ben-Zvi, J. Bohon, X. Chang, R. Grover, A. Isakovic, K. Evans-Lutterodt, T. Rao, Q. Wu, (2008). Diamond Amplified Photocathodes, in Diamond Electronics-Fundamentals to Applications II, 2007 MRS Fall Meeting, 1039, P09-02, sponsored by MRS. U2A DAC
- Solozhenko, V., E. Solozhenko, P. Zinin, L. Ming, J. Chen and J. Parise (2003). Equation of state and phase stability of turbostratic carbon nitride. Journal of Physics and Chemistry of Solids **64(8)**: 1265-1270. MAC NSLS
- Solozhenko, V. L., O. O. Kurakevych, E. G. Solozhenko, J. Chen and P. J. B. (2006). Equation of State of Graphite-Like BC. Solid State Communications **137(5)**: 268-271. MAC NSLS
- Somayazulu, M., J. Shu, C. Zha, A. Goncharov, O. Tschauner, H. Mao, R. Hemley (2008). In situ high-pressure x-ray diffraction study of H₂O Ice VII. J. Chem. Phys. **128(064510)**. X17 DAC
- Somayazulu, M., A. Madduri, A. F. Goncharov, O. Tschauner, P. F. McMillan, H. K. Mao and R. J. Hemley (2001). Novel broken symmetry phase from N₂O at high pressure and high temperatures. Phys. Rev. Lett. **87(135504-1)**. U2A DAC
- Sondergeld, P. M. C., B. Li, J. Schreuer (2006). Discontinuous evolution of single crystal elastic constants as a function of pressure through C2/c <-> P21/c phase transition in spodumene, LiAlSi₂O₆. J. Geophys. Res.

- 111(B07202).** MAC NSLS
- Song, Y., R. J. Hemley, H. K. Mao, Z. Liu and D. Herschbach (2003). New Phases of N₂O₄ at High Pressures and High Temperatures. . Chem. Phys. Lett. **382**: 686-692. U2A DAC
- Song, Y., R. J. Hemley, H. K. Mao, Z. Liu, M. Somayazulu and D. R. Herschbach (2002). High-pressure stability, transformations, and vibrational dynamics of nitrosonium nitrate from synchrotron infrared and Raman spectroscopy. J. Chem. Phys. **119**: 2232-2240. U2A DAC
- Song, Y., Z. Liu, R. J. Hemley, H. K. Mao and D. R. Herschbach (2005). High-pressure vibrational spectroscopy of sulfur dioxide. J. Chem. Phys. **122(174511)**. U2A DAC (X17 DAC)
- Song, Y., R. J. Hemley, H. K. Mao and D. R. Herschbach (2005). Nitrogen-containing molecular systems at high pressures and temperatures. in Chemistry under Extreme Conditions e. R. Manaa), Elsevier Science, : 189-222 U2A DAC
- Song, Y., M. Somayazulu, H. K. Mao, R. J. Hemley and D. R. Herschbach (2003). High-pressure structure and equation of state study of nitrosonium nitrate from synchrotron x-ray diffraction. J. Chem. Phys. **118**: 8350-8356. X17 DAC
- Speziale, S., R. Jeanloz, S.M. Clark, S. Meenakshi, V. Vijayakumar, A.K. Verma, R.S. Rao and B.K. Godwal (2008). Axial ratio anomalies and Electronic Topological Transitions in Cd_{0.80}Hg_{0.20} at High Pressures. J. Physics and Chemistry of Solids **69**: 2325-2331. ALS
- Speziale, S., S. M. Clark, R. Jeanloz, S. Meenakshi, V. Vijayakumar, A. K. Verma, R. S. Rao and B. K. Godwal (2006). High pressure investigation of Cd₈₀Hg₂₀ alloy. Phys. Rev. Lett. . ALS
- Speziale, S., R. Jeanloz, A. A. Milner, M. P. Pasternak and J. M. Zaug (2006). Vibrational spectroscopy of Fe(OH)₂ at high pressure: Behavior of the O–H bond. Phys. Rev. B. ALS
- Speziale, S., V. E. Lee, S. M. Clark, M. P. Pasternak and R. Jeanloz (2006). Mechanical effects of Fe spin transition in (MgFe)O and implication for the seismological properties of the Earth's lower mantle Journal of Geophysical Research. ALS
- Speziale, S., I. Lonardelli, L. Miyagi, J. Pehl, C. Tommaseo and W. H-R. (2006). Deformation experiments in the diamond-anvil cell: Texture in Copper to 30 GPa. J. Phys. Cond. Matt. **18**: S1007-S1020. ALS
- Speziale, S., A. A. Milner, V. E. Lee, S. M. Clark, M. P. Pasternak and R. Jeanloz (2005). Spin Transition in Earth's Mantle. Proceedings of the National Academy of Sciences **102(50)**: 17918-17922. ALS
- Speziale, S., C.-S. Zha, T. S. Duffy, R. J. Hemley and H.-k. Mao (2001). Quasi-hydrostatic compression of magnesium oxide to 52 GPa: Implications for the pressure-volume-temperature equation of state. Journal of Geophysical Research **106**: 515-528. Commission on High P
- Speziale, S. L., V.E.; Clark, S.M.; Lin, J.F.; Pasternak, M.P.; and Jeanloz, R. (2007). Effects of Fe spin transition on the elasticity of (Mg, Fe)O magnesiowustites and implications for the seismological properties of the

- Earth's lower mantle. J. Geophys. Res. **112(B10212)**. ALS
- Speziale, S. S. S., T Duffy (2006). High-Pressure Elasticity of Calcium Oxide: A Comparison Between Brillouin Scattering and radial X-ray Diffraction. J. Geophys. Res. **111: B02203**. X17 DAC
- Struzhkin, V., A. Goncharov, R. Caracas, H. Mao and R. Hemley (2008). Synchrotron Infrared Spectroscopy of the Pressure-Induced Insulator-Metal Transitions in Glassy As₂S₃ and As₂Se₃. Phys. Rev. B: Condens. Matter **77(165133)**. U2A DAC
- Struzhkin, V. V., H. K. Mao, W. L. Mao, R. J. Hemley, W. Sturhahn, E. E. Alp, C. L'Abbe, M. Y. Hu and D. Errandonea (2004). Phonon density of states and elastic properties of Fe-based materials under compression. Hyperfine Int. **153: 3-15**. Nuclear Resonant
- Sturhahn, W., J. M. Jackson and J. F. Lin (2005). The spin state of iron in minerals of Earth's lower mantle. Geophys. Res. Lett. **32(L12307)**. Nuclear Resonant
- Thomas, S. M., S.D. Jacobsen, C.M. Holl, C.R. Bina, Z. Liu, Y. Ye, J.R. Smyth, and D.J. Frost (2008). Structure and Compressibility of Iron- and Aluminum-bearing Phase D. Eos Trans. AGU Fall Meeting. U2A DAC
- Tommaseo, C. E., S. Merkel, S. Speziale, J. Devine and H.-R. Wenk (2006). Texture development and edeformation mechanisms in magnesiowustite at high pressure. Physics and chemistry of minerals **33: 84-97** ALS
- Tronche, E. J. W., W van; Kan, M. van; Vries, J. de; Li, J.; Chen, B.; Gao, L.; Wang, Y.; Sanehira, T.; Leinenweber, K. (2008). Equation of State of Ilmenite at lunar pressures and temperatures. Abstract submitted to EMPG (Experimental Mineralogy Petrology and Geochemistry) XII, Sept. 2008. MAC ASU
- Tschauner, O., P.D. Asimow, N. Kostandova, T.J. Ahrens, S. Sinogeikin, C. Ma, Z. Liu, S. Fakra, and N. Tamura (2008). Ultrafast Growth of Wadsleyite in Shocked Melts - Implications for Accretion Rates in the Solar Nebula. Proc. Nat. Acad. Sci., submitted. U2A DAC
- Tse, J., Y. Song, Z. Liu, (2007). Effects of Temperature and Pressure on ZDDP,. Tribol. Letts. **28: 45-49**. U2A DAC
- Tse, J., D. Klug, S. Desgreniers, J. Smith, R. R. Flacau, Z. Liu, J. Hu, N. Chen, D. Jiang (2007). Structural Phase Transition in CaH₂ at High Pressures. Phys. Rev. B **75: 134108**. U2A DAC
- Tse, J. D. K., S Desgreniers, J Smith, R R. Flacau, Z Liu, J Hu, N Chen, D Jiang. (2007). Structural Phase Transition in CaH₂ at High Pressures. Phys. Rev. B. **75(134108)**. X17 DAC
- Tsuchiya, T. (2003). First-principles prediction of the P-V-T equation of state of gold and the 660-km discontinuity in Earth's mantle. Journal of Geophysical Research **108(2462)**. Commission on High P
- Velisavljevic, N., G. N. Chesnut, Y. K. Vohra, S. T. Weir, V. Malba and J. Akella (2002). Structural and electrical properties of beryllium metal to 66 GPa studies using designer diamond anvils. Phys. Rev. B **65: 172107**. X17 DAC
- Velisavljevic, N., J. Griffith and Y. Vohra (2004). Electrical and structural studies

- on neodymium metal to 150 GPa using designer diamond anvils. *Bull. Am. Phys. Soc.* X17 DAC
- Velisavljevic, N., K. M. MacMinn, Y. K. Vohra and S. T. Weir (2004). Electrical Measurements on Praseodymium Metal to 179 GPa Using Designer Diamond Anvils. *Applied Physics Letters* **84**: 927. X17 DAC
- Velisavljevic, N. and Y. K. Vohra (2003). Bioceramic Hydroxyapatite at High Pressures. *Appl. Phys. Lett.* **82(4271)**. X17 DAC
- Velisavljevic, N. and Y. K. Vohra (2004). Distortion of Alpha-Uranium Structure in Praseodymium Metal to 311 GPa. *High Pressure Research* **24**: 295-302. X17 DAC
- Vogt, T., J. A. Hriljac, N. C. Hyatt and P. Woodward (2003). Pressure-induced intermediate-to-low spin state transition in LaCoO₃. *Phys. Rev. B* **67**: 140401R. X17 DAC (X17C)
- Vohra, Y., W. Qiu, A. Kondratyev, N. Velisavljevic and P. Baker (2004). Isotopically enriched C-13 diamond anvil as a stress sensor in high pressure experiments. *Bull. Am. Phys. Soc.* X17 DAC
- Vohra, Y. K., K. M. Hope, J. R. J. R. Patterson and J. Akella (2004). Crystallographic Anisotropy in Compression of Uranium Metal to 100 GPa. *Mater. Res. Soc. Symp. Proc.* 802, p. DD 1.7.1. X17 DAC
- Voronin, G., C. Pantea, T. Zerda, L. Wang and Y. Zhao (2005). Thermal Equation-of-State of Osmium: A Synchrotron X-ray Diffraction Study. *Physics and chemistry of Solids* **66(5)**: 705-710. MAC NSLS
- Voronin, G. A., C. Pantea, T. W. Zerda, L. Wang and Y. Zhao (2003). In situ X-ray diffraction study of silicon at pressures up to 15.5 GPa and temperatures up to 1073 K. *Physical Review B* **68**: 020102-1 – 020102-4. MAC NSLS
- Voronin, G. A., C. Pantea, T. W. Zerda, L. Wang and Y. Zhao (2005). Thermal equation of state of diamond. *Physical Review B*. MAC NSLS
- Voronin, G. A., C. Pantea, T. W. Zerda, J. Zhang, L. Wang and Y. Zhao (2003). In situ X-ray diffraction study of germanium at pressures up to 11 GPa and temperatures up to 950 K. *Journal of Physics and Chemistry of Solids* **64**: 2113-2119. MAC NSLS
- Walker, D. (2005). Core-mantle chemical issues *Canadian Mineralogist* **43**: 1553-1564 ALS
- Walker, D., S. M. Clark, L. M. D. Cranswick, M. C. Johnson and R. L. Jones (2002). O₂ volumes at high pressure from KClO₄ decomposition: D" as a siderophile element pump instead of a lid on the core. *Geochemistry Geophysics Geosystems* **Volume 3(Number 11)**. ALS
- Walker, D., P. K. Verma, L. M. D. Cranswick, S. M. Clark, R. L. Jones and S. Buhre (2004). Halite-Sylvite Thermoelasticity. *Am. Min.* **89** 204-210. ALS
- Walker, D., P. K. Verma, L. M. D. Cranswick, S. M. Clark, R. L. Jones and S. Buhre (2005). Halite-Sylvite Thermoconsolution. *Am. Min.* **90**: 229-239. ALS
- Walter, M., R. Tronnes, L. Armstrong, O. Lord, W. A. Caldwell and S. Clark (2006). Subsidius phase relations and perovskite compressibility in the system MgO-AlO_{1.5}-SiO₂ with implications for Earth's lower mantle. *Earth*

- and Planetary Science Letters. ALS
- Walter, M. J., G.P. Bulanova, L.S. Armstrong, S. Keshav, J.D. Blundy, G. Gudfinnsson, O.T. Lord, A.R. Lennie, S.M. Clark, C.B. Smith and L. Gobbo (2008). Primary carbonatite melt from deeply subducted oceanic crust. Nature **454**: 622-625. ALS
- Wang, J., D. He, and T. S. Duffy (2008). Stress state of diamond and gold under nonhydrostatic compression to 360 GPa, submitted (2008). X17 DAC
- Wang, L., N. Moon, Y. Zhang, W. R. Dunham and E. J. Essene (2005). Fe-Mg order-disorder in magnesian orthopyroxenes. Geochimica et Cosmochimica Acta. **In press**. MAC NSLS
- Wang, Y., J Zhang, Y Zhao (2007). Strength Weakening by Nanocrystals in Ceramic Materials. Nano Lett. **7**: 3196-3199. MAC NSLS
- Wang, Y., Y Zhao, J Zhang, h Xu, L Wang, S Luo, L Daemen (2008). In situ Phase Transition Study of Nano- and Coarse-Grained TiO₂ Under High Pressure/Temperature Conditions. J. Phys.: Condens. Matter **20(125224)**. MAC NSLS
- Wang, Y. B., W. B. Durham, I. C. Getting and D. J. Weidner (2003). The deformation-DIA: A new apparatus for high temperature triaxial deformation to pressures up to 15 GPa. Review of Scientific Instruments **74 (6)** 3002-3011 MAC NSLS
- Wang, Y. Y. Z., Jianzhong Zhang, Hongwu Xu, and Liping Wang (2007). An Inverse Hall-Petch Effect in Nano-crystalline Titanium Dioxide under High Pressure. in preparation. MAC NSLS
- Wang, Y. Y. Z., Jianzhong Zhang, Hongwu Xu, and Liping Wang (2007). In situ Phase Transition Study in Nano-crystalline/Bulk TiO₂ under High Pressure-Temperature Conditions. Submitted (2007). MAC NSLS
- Weidner, D. J., L. Li, M. Davis and J. Chen (2004). Effect of Plasticity on Elastic Modulus Measurements. Geophysical Review Letter **31(6)(19090)**. MAC NSLS
- Weidner, D. J., L. Li, W. a. Durham and J. Chen (2005). High-Temperature Plasticity Measurements Using Synchrotron X-Rays. Advances In High-Pressure Techniques For Geophysical Applications. Y. W. J. Chen, T.S. Duffy, G. Shen and L.P. Dobrzhinetskaya, eds., Elsevier Science: 123-135. MAC NSLS
- Weidner, D. J. a. L., L. (2006). Measurement of stress using synchrotron x-rays. Journal of Physics-Condensed Matter **18(25)**: S1061-S1067. MAC NSLS
- Weidner, D. J. a. L., L. (2007). Method for the study of high P/T deformation and rheology. Treatise on Geophysics. Mineral Physics:Theory and Practice. G. Schubert, Elsevier. MAC NSLS
- Weinberger, M. (2008). In situ studies of ultra-incompressible, superhard materials under high stress conditions, Ph.D. Thesis. University of California, Los Angeles, CA (2008). X17 DAC
- Weinberger, M., S. Tolbert, A. Kavner (2008). Osmium metal studied under high pressure and nonhydrostatic stress,. Phys. Rev. Lett., [premier] **100(045506)**. X17 DAC
- Weinberger, M. B. R. W. C., J. B. Levine, N. Conil, A. Shahar, R. B. Kaner, S. H.

- Tolbert, and A. Kavner (2007). Strength of Osmium diboride under high pressure and nonhydrostatic stress. Physical Review B, submitted, 2007. X17 DAC
- Wenk, H.-R., I. Lonardelli, S. Merkel, L. Miyagi, J. Pehl, S. Speziale and C. E. Tommaseo (2006). Diamond anvil deformation experiments in radial diffraction geometry. J. Phys. Cond. Matter. ALS
- Whitaker, M. (2008). Combined in situ synchrotron X-ray diffraction and ultrasonic interferometry study of E-FeSi at high pressure. High Pressure Research. MAC NSLS
- Winterrose, M. L., M. S. Lucas, A. F. Yue, I. Halevy, J. Hu, M. Lerche, B. Fultz (2008). Pressure-Induced Electronic Transition and Invar Behavior in Pd3Fe. Physical Rev. Lett., submitted (2008). X17 DAC
- Woody, K. (2004). Elastic Properties of MgO at High Pressure and Calibration of Pressure Scale., M.S. Thesis. Geosciences. Stony Brook, Stony Brook University. MAC NSLS
- Woody, K. and B. Li (2005). Elasticity of MgO to 11 GPa under direct pressure measurement: Insights on pressure scale. Phys. Earth. Planet Inter. MAC NSLS
- Xie, X., M. Minitti, M. Chen, H. Mao, D. Wang, J. Shu and F. Y. (2002). Natural high-pressure polymorph of merrillite in the shock veins of the Suizhou meteorite. Geochim. Cosmochim. Acta. **66**: 2439-2444. X17 DAC
- Xu, H. Z., JZ; Zhao, YS; Guthrie, GD; Hickmott, DD; Navrotsky, A. (2007). Compressibility and pressure-induced amorphization of guest-free melanophlogite: An in situ synchrotron X-ray diffraction study.. Am. Mineral **92**: 166-173. MAC NSLS
- Xu, J., H. K. Mao and R. J. Hemley (2002). The gem anvil cell: high-pressure behaviour of diamond and related materials,. J. Phys.: Condens. Matter **14**: 11549-11552. U2A DAC
- Xu, J., H. K. Mao, R. J. Hemley and E. Hines (2002). The moissanite anvil cell: a new tool for high-pressure research. J. Phys.: Condens. Matter **14**: 11543-11548. U2A DAC
- Xu, Y., Y. Nishihara and S. Karato (2005). Development of a rotational Drickamer apparatus for large-strain deformation experiments under deep Earth conditions, in Frontiers in High-Pressure Research: Applications to Geophysics Elsevier, Amsterdam. MAC NSLS
- Xu, Y. Q., D. J. Weidner, J. H. Chen, M. T. Vaughan, Y. B. Wang and T. Uchida (2003). Flow-law for ringwoodite at subduction zone conditions. Physics of the Earth and Planetary Interiors **136 (1-2)**: 3-9. MAC NSLS
- Yan, J. A., P.D.; Angel, R.; Ross, N.L.; Rivers, M.; Parise, J.B.; and Clark, S.M. (2007). The Development of an Automated Data Analysis System for powder diffraction data collected using an area detector. High Press. Res. **28**: 293-298. ALS
- Yang, H., C. Prewitt and Z. Liu (2002). Crystal structures and infrared spectra of two Fe-bearing hydrous magnesium silicates synthesized at high temperature and pressure J. Mineralogical and Petrological Sci. **97(137)**. U2A DAC

- Yang, J. S., W. L. Bai, H. Rong, Z. M. Zhang, Z. Q. Xu, Q. S. Fang, B. G. Yang, T. F. Li, Y. F. Ren, S. Y. Chen, J. Z. Hu, J. F. Shu and H. K. Mao (2005). Discovery of Fe₂P alloy in garnet peridotite from the Chinese Continental Scientific Drilling project (CCSD) Main hole. Acta Petrologica Sinica **21(2)**: 271-276. X17 DAC (X17C)
- Yang, K., Q. Cui, Y. Hou, B. Liu, Q. Zhou, J. Hu, H. Mao, G. Zou (2007). Pressure-induced crystallization and phase transformation of amorphous selenium: Raman spectroscopy and x-ray diffraction studies,. J. Phys.: Condens. Matter **19(425220)**. X17 DAC
- Yulga, B., M. Pravica, Z. Liu, O. Tschauner and M. Nicol (2007). An Infrared Study of Secondary Explosives under High Pressure,. Bull. Am. Phys. Soc. (APS March Meeting) (Denver, CO, March 5-9, 2007). U2A DAC
- Zaug, J. M., A.K. Soper and S.M. Clark (2008). The pressure-dependent structures of amorphous red phosphorus and the origin of the first sharp diffraction peak. Nature Materials. ALS
- Zaziski, D., S. Prilliman, E. C. Scher, M. Casula, J. Wicjham, S. M. Clark and A. P. Alivisatos (2004). Critical size for fracture during solid-solid phase transformations. NANO Letters **4(5)**: 943-946. ALS
- Zhang, F., J. Sang, U. Becker, J. Lian, J. Hu, S. Saxena, R. Ewing (2007). Pressure-induced splitting and buckling of Cu-O chains in the one-dimensional structure of SrCuO₂. J. Am. Chem. Soc. [Premier] **129**: 13923-13926. X17 DAC
- Zhang, F., J. Lian, U. Becker, R. Ewing, L. Wang, J. Hu, S. Saxena (2007). Structural changes of layered perovskite La₂Ti₂O₇ at high pressures,. J. Solid State Chem. **180(576)**. X17 DAC
- Zhang, F., J. Lian, U. Becker, L. Wang, J. Hu, S. Saxena, R. Ewing (2007). Structural Distortions and Phase Transformations in Sm₂Zr₂O₇ Pyrochlore at High Pressures. Chem. Phys. Lett. **441**: 216-220. X17 DAC
- Zhang, F., J. Lian, U. Becker, R. Ewing, J. Hu, S. Saxena (2007). High-pressure structural changes in the Gd₂Zr₂O₇ pyrochlore. Phys. Rev. B **76(21)(214104)**. X17 DAC
- Zhang, F., J. Wang, J. Lian, M. Lang, U. Becker, R. Ewing (2008). Phase stability and pressure dependence of defect formation in Gd₂Ti₂O₇ and Gd₂Zr₂O₇ pyrochlore. Phys. Rev. Lett., [premier] **100(045503)**. X17 DAC
- Zhang, F., M. Lang, R Ewing, J Lian, Z Wang, J Hu, L Boatner (2008). Pressure-Induced Zircon-Type to Scheelite-Type Phase Transition in Orthophosphates YbPO₄ and LuPO₄, . J. Solid State Chem. **181(2633)**. X17 DAC
- Zhang, F., M. Lang, J. Wang, U. Becker, R. Ewing (2008). Structural behaviors of cubic Gd₂O₃ at high pressures. Phys. Rev. B **78(064114)**. X17 DAC
- Zhang, F., M. Lang, U. Becker, R. Ewing, J. Lian, (2008). High pressure phase transitions and compressibilities of Er₂Zr₂O₇ and Ho₂Zr₂O₇. Appl. Phys. Lett., [premier] **92(011909)**. X17 DAC
- Zhang, F. X., V. Pointeau, L.C. Shuller, D.M. Reaman, M. Lang, Z. Liu, J. Hu, W.R. Panero, U. Becker, and R. C. Ewing (2008). Structural Transitions

- and Electron Transfer in Coffinite, USiO_4 , at high pressure. J. Am. Chem. Soc., submitted. U2A DAC
- Zhang, F. X. J. L., U. Becker, L.M. Wang, R. Ewing, A.L. Boatner, S. Saxena, J.Z. Hu (2006). Phase decomposition and phase transitions of $\text{Cd}_2\text{Nb}_2\text{O}_7$ with pyrochlore structure at high pressures. Phys. Rev. B **74(174116)**. X17 DAC
- Zhang, H., B. Chen, B. Gilbert and J. F. Banfield (2006). Kinetically controlled formation of a novel nanoparticulate ZnS with mixed cubic and hexagonal stacking J. Mater. Chem. **16** 249-254 U2A DAC
- Zhang, J., Y Zhao, P Rigg, R Hoxson, G Gray III (2007). Impurity Effects on the Phase Transformations and Equations of State of Zirconium Metals. J. Phys. Chem. Solids **68(12)**. 2297-2302. MAC NSLS
- Zhang, J., Y Zhao, R Hixson, G Gray III (2008). Thermal Equations of State for Titanium Obtained by High Pressure-Temperature Diffraction Studies. Phys. Rev. B: Condens. Matter, **78(054119)**. MAC NSLS
- Zhang, J., Y Zhao, R Hixson, G Gray III, L Wang, W Utsumi, S Hiroyuki, H Takanori (2008). Experimental Constraints on the Phase Diagram of Titanium Metal. J. Phys. Chem. Solids **69(10)**: 2559-2563. MAC NSLS
- Zhang, J., B. Li, Y. Zhao, D. J. Weidner and A. Navrotsky (2005). Can oxygen vacancies cause elastic softening in orthorhombic perovskite?, . Phys. Rev. Lett. MAC NSLS
- Zhang, J. and Y. Zhao (2004). Formation of Zirconium Metallic Glass. Nature **430**: 332. MAC NSLS
- Zhang, J., Y. Zhao, C. Pantea, J. Qian, L. L. Daemen, P. A. Rigg, R. S. Hixson, C. W. Greeff, G. T. Gray III, Y. Yang, L. Wang, Y. Wang and T. Uchida (2005). Experimental constraints on the phase diagram of elemental zirconium. . Journal of Physics and Chemistry of Solids **66**: 1213-1219. MAC NSLS
- Zhang, J., Y. Zhao, H. Xu, M. V. Zelinskas, L. Wang, Y. Wang and T. Uchida (2005). Pressure-induced amorphization and phase transformations in b-LiAlSiO_4 . Chemistry of Materials **17**: 2817-2824. MAC NSLS
- Zhang, J. Z., YS; Xu, HW; Li, BS; Weidner, DJ; Navrotsky, A (2007). Elastic properties of yttrium-doped BaCeO_3 perovskite. APPLIED PHYSICS LETTERS **v.90(no.16)**: p.161903. MAC NSLS
- Zhang, J. Z., L. P. Wang, D. J. Weidner, T. Uchida and J. A. . Xu (2002). The strength of moissanite, American Mineralogist. **87 (7)**: 1005-1008. MAC NSLS
- Zhang, J. Z. Y., and Polasz B. (2007). A comparative study of compressibility between nanocrystalline and bulk nickel. Applied Physics Letters **90(043112-1-3)**. MAC NSLS
- Zhang, Z., J. Yang, H. Rong, J. Hu, J. Su, H. Mao (2007). Discovery of diamond in eclogite from Chinese Continental Scientific Drilling Project Main Hole (CCSD-MH) in Sulu UHPM Belt,. Acta Petrol. Sin. **23**: 3201-3206. X17 DAC
- Zhao, J., G. Shen, W. Sturhahn and E. E. Alp (2004). Highly efficient gaseous sample loading technique for diamond anvil cells. Rev. Sci. Instrum. **75**:

- 5149-5151. Nuclear Resonant
- Zhao, J., W. Sturhahn, J. F. Lin, G. Shen, E. E. Alp and H. K. Mao (2004). Nuclear resonant scattering at high pressure and high temperature. High Press. Res. **24**: 447-457. Nuclear Resonant
- Zhao, Y., J Zhang, D Brown, D Korzekwa, R Hixson, (2007). Equations of State and Phase Transformation of Depleted Uranium DU-238 by High Pressure-Temperature Diffraction Studies. Phys. Rev. B: Condens. Matter. **75,(174104)**. MAC NSLS
- Zhao, Y., Zhang, Z. (2008). Enhancement of Yield Strength in Zirconium Metal Through High-Pressure Induced Structural Phase Transition. Appl. Phys. Lett. **91(201907)**. MAC NSLS
- Zhao, Y., J. Zhang, C. Pantea, J. Qian, Daemen L.L., P. A. Rigg, R. S. Hixson, C. W. Greeff, G. T. Gray III, Y. Yang, L. Wang, Y. Wang and T. Uchida (2005). Thermal equations of state of alpha, beta, and omega phases of zirconium. Physical Review B **71(184119-1 – 184119-6.)**. MAC NSLS
- Zhao, Y. Z. J., Clausen, B., Shen, T.D., Gray III, G.T., Wang, L. (2007). Thermo-mechanics of nanocrystalline nickel under high P-T conditions. Nano Letters **7**: 426-432. MAC NSLS