

PUBLICATIONS

Babcock, E., Boag, S., Becker, M., Chen, W.C., Chupp, T.E., Gentile, T.R., Jones, G.L., Petukhov, A.K., Soldner, T., and Walker, T.G., "Effects of High Flux Neutron Beams on He-3 Cells Polarized In-Situ with Spin-Exchange Optical Pumping," *Phys. Rev. A* **80**, 033414 (2009).

Borgmeyer, B., Wilson, C., Winholtz, R.A., Ma, H., Jacobson, D.L., and Hussey, D.S., "Heat Transport Capability and Fluid Flow Neutron Radiography of Three-Dimensional Oscillating Heat Pipes," *J. of Heat Transfer-Transactions of the ASME*, **132**, 061502 (2010).

Boukharouba, N., Bateman, F.B., Carlson, A.D., Brient, C.E., Grimes, S.M., Massey, T.N., Haight, R.C., and Carter, D.E., "Measurement of the n - p Elastic Scattering Angular Distribution at $E_n = 14.9$ MeV," *Phys. Rev. C* **82**, 014001 (2010).

Chen, W.C., Erwin, R., McIver III, J.W., Watson, S., Fu, C.B., Gentile, T.R., Borchers, J.A., Lynn, J.W., and Jones, G.L., "Applications of He-3 Neutron Spin Filters at the NCNR," *Physica B* **404**, 2663-2666 (2009).

Cooper, R., Bass, C.D., Beise, E., Breuer, H., Byrne, J., Chupp, T.E., Coakley, K.J., Dewey, M.S., Fisher, B., Fu, C., Gentile, T.R., McGonagle, M., Mumm, H.P., Nico, J.S., Thompson, A.K., and Wietfeldt, F.E., "An Experiment for the Precision Measurement of the Radiative Decay Mode of the Neutron," *Nucl. Instrum. Meth.*, 219-223 (2009).

Cooper, R., Chupp, T.E., Dewey, M.S., Gentile, T.R., Mumm, H.P., Nico, J.S., Thompson, A.K., Fisher, B., Kremsky, I., Wietfeldt, F.E., Beise, E., Breuer, H., Kiriluk, K.G., Bryne, J., Coakley, K.J., and Fu, C., "Radiative Beta Decay of the Free Neutron," *Phys. Rev. C*, 23-40, (2009).

Dewey, M.S., "Measuring ${}^6\text{Li}(n,t)$ and ${}^{10}\text{B}(n,\alpha)$ Cross Sections using the NIST Alpha-Gamma Device," *Proc. 13th ASTM-EWGRD Reactor Dosimetry Symposium*, Akersloot, Netherlands, World Scientific Publishing Co., Hackensack, New Jersey, (2009).

Dewey, M.S., Coakley, K., Gilliam, D., Greene, G., Laptev, A., Nico, J.S., Snow, W., Wietfeldt, F., and Yue, A., "Prospects for a New Cold Neutron Beam Measurement of the Neutron Lifetime," *Nucl. Instrum. Meth. A*. **611**, 189-193 (2009).

Fu, C.B., Gentile, T.R., and Snow, W.M., "Constraints On Monopole-Dipole Interactions Of Wisps From Polarized Gas Relaxation Time," in *Proc. of the Fifth Meeting on CPT and Lorenz Symmetry*, Bloomington, Indiana, (in press).

Fu, C.B., Gentile, T.R., Jones, G.L., Chen, W.C., Erwin, R., Watson, S., Broholm, C., Rodriguez-Rivera, J. A., and Scherschligt, J. "A Wide-Angle Neutron Spin Filter System Using Polarized He-3," *Physica B*; doi:10.1016/j.physb.2010.10.002. (in press).

Gentile, T.R., Bass, C.D., Nico, J.S., Breuer, H., and Farrell, R., "Magnetic Field Effects on Large Area Avalanche Photodiodes at Cryogenic Temperatures," *Nucl. Instr. and Meth. A*; doi:10.1016/j.nima.2010.08.061 (in press).

Gentile, T.R., Brown, S.W., Lykke, K.R., Shaw, P.S., and Woodward III, J.T., "Internal Quantum Efficiency Modeling of Silicon Photodiodes." *Appl. Optics* **49**, 1859-1864 (2010).

Gericke, M., Page, S., Ramsay, D., Alarcon, R., Balascuta, S., Barron, L., Bowman, J.D., Carlini, R.D., Chen, W., Chupp, T.E., Crawford, C., Covig, S., Dabaghyan, M., Freedman, S.J., Gentile, T.R., Gillis, R.C., Greene, G.L., Hersman, F.W., Ino, T., Jones, G.L., Lauss, B., Leuschner, M., Losowki, B., Mahurin, R., Masuda, Y., Mei, J., Mitchell, G.S., Muto, S., Nann, H., Penttila, S.I., Salas-Bacci, S., Santra, S., Seo, P.-N., Sharapov, E., Sharma, M.,

Smith, T., Snow, W.M., Wilburn, W.S., and Yuan, V, "Parity Violation in Neutron-Proton Capture: the NPD Gamma Experiment," Nucl. Instrum. and Meth. A **611**, 239-243 (2009).

Hickner, M. A., Siegel, N. P., Chen, K. S., Hussey, D. S., and Jacobson, D. L., "Observations of Transient Flooding in a Proton Exchange Membrane Fuel Cell Using Time-Resolved Neutron Radiography," J. of Electrochemical Soc., **157**, B32-B38 (2010).

Hickner, M. A., and Hussey, D. S., "Neutron Radioscopy: Industrial and Scientific Applications," Wiley Encyclopedia of Analytical Chemistry, R.A. Meyers (ed.), Chapter A 9069 (2010).

Huber, M.G., Wietfeldt, F.E., Gentile, T.R., Chen, W.C., Arif, M., Pushin, D.A., Yang, L., and Black, T., "Precision Measurement of the Neutron He-3 Spin-Dependent Scattering Length Using Neutron Interferometry," Nucl. Instrum. Meth. A **611**, 235-238 (2009).

Hussey, D. S., Jacobson, D. L., Arif, M., Coakley, K. J., and Vecchia, D. F., "In Situ Fuel Cell Water Metrology at the NIST Neutron Imaging Facility," J. Fuel Cell Science Tech., **7**, 021024 (2010).

Jacobson, D.L., Hussey, D.S., Baltic, E., Udovic, T.J., Rush, J.J., and Bowman, Jr., R.C., "Neutron Imaging Studies of Metal-Hydride Storage Beds," Int. J. of Hydrogen Energy, **35**, 12837 - 12845 (2010).

Jacobson, D.L., and Hussey, D.S., "High Resolution Neutron Radiography Analysis of Proton Exchange Membrane Fuel Cells," Modern Aspects of Electrochemistry, Vol. **49**, ed. by, Pasaogullari, Ugur, Wang, Chao-Yang (2010).

Krycka, K.L., Booth, R.A., Hogg, C.R., Ijiri, Y., Borchers, J.A., Chen, W.C., Watson, S.M., Laver, M., Gentile, T.R., Dedon, L.R., Harris, S., Rhyne, J.J., and Majetich, S.A., "Core-shell Magnetic Morphology of Structurally Uniform Magnetite Nanoparticles," Phys. Rev. Lett. **104**, 207203 (2010).

Krycka, K.L., Borchers, J.A., Booth, R., Hogg, C.R., Ijiri, Y., Chen, W.C., Watson, S.M., Laver, M., Gentile, T.R., Harris, S., Dedon, L.R., Rhyne, J.J., and Majetich, S.A., "Internal Magnetic Structure of Magnetite Nanoparticles at Low Temperature," J. Appl. Phys. **107**, 09B525 (2010).

Krycka, L., Booth, R., Borchers, J.A., Chen, W.C., Conlon, C., Gentile, T.R., Hogg, C., Ijiri Y., Laver, M., Maranville, B.B., Majetich, S.A., Rhyne, J., and Watson, S.M., "Resolving 3D Magnetism in Nanoparticles Using Polarization Analyzed SANS," J. Physica B, **404**, 2561-2564 (2009).

Lee, S.W., Hussey, D.S., and Jacobson, D.L., "Development of the Grating Phase Neutron Interferometer at a Monochromatic Beam Line," NIMA, **605**, 16-20 (2009).

Nico, J.S., "Neutron Beta Decay", J. Physica G., **36**, 104001 (2009).

Park, J.K., Jones, P.J., Sahagun, C., Page, K., Hussey, D.S., Jacobson, D.L., Morgan, S.E., and Moore, R.B., "Electrically-Stimulated Gradients in Water and Counterion Concentrations within Electroactive Polymer Actuators," Soft Matter, **6**, 1444-1452 (2010).

Quan, P., Lai, M.C., Jacobson, D.L., Hussey, D.S., Kumar, A., and Hirano, S., "Time-Resolved Water Measurement in a PEM Fuel Cell Using High-Resolution Neutron Imaging Technique," J. Cell Science Technol., **7**, 051009 (2010).

Trabold, T.A., Owejan, J.P., Gagliardo, J.J., Jacobson, D.L., Hussey, D.S., and Arif, M., "Use of Neutron Imaging for Proton Exchange Membrane Fuel Cell (PEMFC) Performance Analysis and Design," Handbook of Fuel Cells, Volume 5, Chapter 44, (2009).