

Publications and Presentations

IUCF – FY2005

Refereed Publications

*experimental work done at IUCF
§ NSF support not acknowledged

Refereed Publications

Azimuthal Anisotropy and Correlations at Large Transverse Momenta in p+p and Au+Au Collisions at $\sqrt{s_{NN}} = 200$ GeV, J. Adams *et al.* (STAR Collaboration), Phys. Rev. Lett. **93**, 252301 (2004).

Azimuthal anisotropy in Au+Au collisions at $\sqrt{s_{NN}} = 200$ GeV, J. Adams *et al.* (STAR Collaboration), Phys. Rev. C **72**, 014904 (2005).

Centrality and pseudorapidity dependence of charged hadron production at intermediate p_T in Au+Au collisions at $\sqrt{s_{NN}} = 130$ GeV, J. Adams *et al.* (STAR Collaboration), Phys. Rev. C. **70**, 044901 (2004).

A current mode detector array for γ -ray asymmetry measurements, M.T. Gericke, C. Blessinger, J.D. Bowman, R.C. Gillis, J. Hartfield, T. Ino, M. Leuschner, Y. Masuda, G.S. Mitchell, S. Muto, H. Nann, S.A. Page, S.I. Pentillä, W.D. Ramsey, P.-N. Seo, W.M. Snow, J. Tasson, and W.S. Wilburn, Nucl. Instrum. Methods **A540**, 328 (2005).

Event-wise $\langle p_T \rangle$ fluctuations in Au-Au collisions at $\sqrt{s_{NN}} = 130$ GeV, J. Adams *et al.* (STAR Collaboration), Phys. Rev. C **71**, 064906 (2005).

Experimental and Theoretical Challenges in the Search for the Quark Gluon Plasma: The STAR Collaboration's Critical assessment of the Evidence from RHIC Collisions, J. Adams *et al.* (STAR Collaboration), Nucl. Phys. **A757**, 102 (2005).

* Inclusion of non-spherical components of the Pauli blocking operator in (p,p') reactions, E.J. Stephenson, R.C. Johnson, and F. Sammarruca, Phys. Rev. C **71**, 014612 (2005).

A low-noise, current-mode preamplifier for gamma asymmetry measurements, W.S. Wilburn, J.D. Bowman, S.I. Pentillä, and M. Gericke, Nucl. Instrum. Methods A **540**, 180 (2005).

* Measurement of the Absolute np Scattering Differential Cross Section at 194 MeV, M. Sarsour, T. Peterson, M. Plananic, S.E. Vigdor, C. Allgower, B. Bergenwall, J. Blomgren, T. Hossbach, W.W. Jacobs, C. Johansson, J. Klug, A.V. Klyachko, P. Nadel-Turonski, L. Nilsson,

N. Olsson, S. Pomp, J. Rapaport, T. Rinckel, E.J. Stephenson, U. Tippawan, S.W. Wissink, and Y. Zhou, Phys. Rev. Lett. **94**, 082303 (2005).

Measurement of the Neutron Lifetime by Counting Trapped Protons in a Cold Neutron Beam, J.S. Nico, M.S. Dewey, D.M. Gilliam, F.E. Weitfeld, X. Fei, W.M. Snow, G.L. Greene, J. Pauwels, R. Bykens, A. Lamberty, J. van Gestel, and R.D. Scott, Phys. Rev. C **71**, 055502 (2005).

Measurements of transverse energy distributions in Au+Au collisions at $\sqrt{s_{NN}} = 200$ GeV, J. Adams *et al.* (STAR Collaboration), Phys. Rev. C **70**, 054907 (2004).

A method for an improved measurement of the electron-antineutrino correlation in free neutron beta decay, F.E. Wietfeldt, B.M. Fisher, C. Trull, G.L. Jones, B. Collet, L. Goldin, B.G. Yerozolimsky, R. Wilson, S. Balashov, Yu. Mostovoy, A. Komives, M. Leuschner, J. Byrne, F.B. Bateman, M.S. Dewey, J.S. Nico, and A.K. Thompson, Nucl. Instrum. Methods **A545**, 181 (2005).

Multiplicity and pseudorapidity distributions of photons in Au+Au collisions at $\sqrt{s_{NN}} = 62.4$ GeV, J. Adams *et al.* (STAR Collaboration), Phys. Rev. Lett. **95**, 062301 (2005).

Multistrange Baryon Elliptic Flow in Au+Au Collisions at $\sqrt{s_{NN}} = 200$ GeV, J. Adams *et al.* (STAR Collaboration), Phys. Rev. Lett. **95**, 122301 (2005).

Open charm yields in d+Au collisions at $\sqrt{s_{NN}} = 200$ GeV, J. Adams *et al.* (STAR Collaboration), Phys. Rev. Lett. **96**, 062301 (2005).

Phi meson production in Au+Au and p+p collisions at $\sqrt{s} = 200$ GeV, J. Adams *et al.* (STAR Collisions), Phys. Lett. **B612**, 181 (2005).

Photon and neutral pion production in Au+Au collisions at $\sqrt{s_{NN}} = 130$ GeV, J. Adams *et al.* (STAR Collaboration), Phys. Rev. C **70**, 044902 (2004).

Pion interferometry in Au+Au collisions at $\sqrt{s_{NN}} = 200$ GeV, J. Adams *et al.* (STAR Collaboration), Phys. Rev. C **71**, 044906 (2005).

* A Polarized ^3He Compression System Using Metastability-Exchange Optical Pumping, D.S. Hussey, D.R. Rich, A.S. Belov, X. Tong, H. Yang, C. Bailey, X. Fei, C.D. Keith, J. Hartfield, B. Neff, D. Allen, M. Flamini, B. Paturalski, G. Hall, T. Gentile, W.C. Chen, G.L. Jones, E. Wildman, and W.M. Snow, Rev. Sci. Instrum. **76**, 053503 (2005).

Pseudorapidity asymmetry and centrality dependence of charged hadron spectra in d+Au collisions at $\sqrt{s_{NN}} = 200$ GeV, J. Adams *et al.* (STAR Collaboration), Phys. Rev. C **70**, 064907 (2004).

Rapidity and centrality dependence of proton and antiproton production from $^{197}\text{Au}+^{197}\text{Au}$ collisions at $\sqrt{s_{NN}} = 130$ GeV, J. Adams *et al.* (STAR Collaboration), Phys. Rev. C **70**, 041901 (2004).

* Reaction mechanism for natural parity (p,p') transitions in ^{10}B , A.C. Betker, S. Chang, E.J. Stephenson, A.D. Bacher, S.M. Bowyer, W.A. Franklin, J. Liu, C. Olmer, D.L. Prout, S.P. Wells, S.W. Wissink, C. Yu, R.A. Lindgren, H. Baghaei, V. Gladyshev, J.A. Carr, S.K. Yoon, F. Petrovich, B.L. Clausen, and J. Lisantti, Phys. Rev. C **71**, 064607 (2005).

Tests of Lorentz violation in $\bar{\nu}_\mu \rightarrow \bar{\nu}_e$ oscillations, L.B. Auerbach, R.L. Burman, D.O. Caldwell, E.D. Church, A.K. Cochran, J.B. Donohue, A.R. Fazely, G.T. Garvey, R. Gunasingha, R.L. Imlay, T. Katori, W.C. Louis, K.L. McIlhany, W.J. Metcalf, G.B. Mills, V.D. Sandberg, D. Smith, I. Stancu, W.H. Strossman, R. Tayloe, M. Sung, W. Vernon, D.H. White, and S. Yellin, Phys. Rev. D **72**, 076004 (2005).

Transverse-momentum dependent modification of dynamic texture in central Au+Au collisions at $\sqrt{s_{NN}} = 200$ GeV, J. Adams *et al.* (STAR Collaboration), Phys. Rev. C **71**, 031901 (2005).

K(892)*-resonance production in Au+Au and p+p collisions at $\sqrt{s_{NN}} = 200$ GeV, J. Adams *et al.* (STAR Collaboration), Phys. Rev. C **71**, 064902 (2005).

Submitted

* A large-volume detector capable of charged-particle tracking, R. Tayloe, H.O. Meyer, D.C. Cox, J. Doskow, A. Ferguson, T. Katori, M. Novak, and D. Passmore, submitted to Nucl. Instrum. Methods.

Distributions of Charged Hadrons Associated with High Transverse Momentum Particles in pp and Au+Au Collisions at $\sqrt{s_{NN}} = 200$ GeV, J. Adams *et al.* (STAR Collaboration), accepted for publication in Phys. Rev. Lett.

Incident Energy Dependence of p_t Correlations at RHIC, J. Adams *et al.* (STAR Collaboration), accepted for publication in Phys. Rev. C.

Multiplicity and Pseudorapidity Distributions of Charged Particles and Photons at Forward Pseudorapidity in Au+Au Collisions at $\sqrt{s_{NN}} = 62.4$ GeV, J. Adams *et al.* (STAR Collaboration), submitted to Phys. Rev. C.

Pion, kaon, proton and anti-proton transverse momentum distributions from p+p and d+Au collisions at $\sqrt{s_{NN}} = 200$ GeV, J. Adams *et al.* (STAR Collaboration), accepted for publication in Phys. Lett. B.

Precision neutron interferometric measurements of the n-p, n-d, and n-³He zero-energy neutron scattering amplitudes, P.R. Huffman, M. Arif, T.C. Black, D.L. Jacobson, K. Schoen, W.M. Snow, and S.A. Werner, submitted to Physica B.

Proton-lambda correlations in central Au+Au collisions at $\sqrt{s_{NN}} = 200$ GeV, J. Adams *et al.* (STAR Collaboration), submitted to Phys. Rev. C.

Two-particle correlations on transverse momentum and minijet dissipation in Au-Au collisions at $\sqrt{s_{NN}} = 130$ GeV, J. Adams *et al.* (STAR Collaboration), submitted for publication.

Conference Proceedings

- invited, ○ contributed, ¶ poster

Proceedings on prior conferences published in FY 2005

International Conference on Precision Measurements with Slow Neutrons, Gaithersburg, MD, April 5-7, 2004, J. Res. NIST 110 (2005).

○ Beamline Performance Simulations for the Fundamental Neutron Physics Beamline at the Spallation Neutron Source, P.R. Huffman, G.L. Greene, R.R. Allen, V. Cianciolo, R.R. Huerto, P. Koehler, D. Desai, R. mahurin, A. Yue, G.R. Palmquist, and W.M. Snow, p. 161.

○ Commissioning of the NPDGamma Detector Array: Counting Statistics in Current Mode Operations and Parity Violation in the Capture of Cold Neutrons on B₄C and ²⁷Al, M.T. Gericke, J.D. Bowman, R.D. Carlini, T.E. Chupp, K.P. Coulter, M. Dabaghyan, D. Desai, S.J. Freedman, T.R. Gentile, R.C. Gillis, G.L. Greene F.W. Hersman, T. Ino, S. Ishimoto, G.L. Jones, B. Lauss, M.B. Leuschner, B. Lozowski, R. Mahurin, Y. Masuda, G.S. Mitchell, S. Muto, H. Nann, S.A. Page, S.I. Pentillä, W.D. Ramsay, S. Santra, P.-N. Seo, E.I. Sharapov, T.B. Smith, W.M. Snow, W.S. Wilburn, V. Yuan, and H. Zhu, p. 215.

○ The Fundamental Neutron Physics Beamline at the Spallation Neutron Source, Geoffrey Greene, Vince Cianciolo, Paul Koehler, Richard Allen, William Michael Snow, Paul Huffman, Chris Gould, David Bowman, Martin Cooper, and John Doyle, p. 149.

○ A Gamma Polarimeter for Neutron Polarization Measurement in a Liquid Deuterium Target for Parity Violation in Polarized Neutron Capture on Deuterium, A. Komives, A.K. Sint, M. Bowers, and W.M. Snow, p. 221.

○ LENS: A New Pulsed Neutron Source for Research and Education, M. Leuschner, D.V. Baxter, J.M. Cameron, V. Derenchuk, C. Lavelle, A. Lone, H. Nann, R. Rinckel, and W.M. Snow, p. 153.

¶ A low noise CsI detector array for the precision measurement of parity nonconservation in n+p→d+γ, M. Gericke.

- Measurement of Neutron Decay Parameters: the abBA Experiment, W.S. Wilburn, J.D. Bowman, G.S. Mitchell, J.M. O'Donnell, S.I. Pentillä, P.-N. Seo, J.L. Calarco, F.W. Hersman, T.E. Chupp, K.P. Coulter, T.V. Cianciolo, K.P. Rykaczewski, G.L. Young, R. DeSouza, W.M. Snow, D. Desai, G.L. Greene, R.K. Grzywacz, E. Frlez, D. Pocanic, V. Gudkov, and G.L. Jones, p. 389.
- Measurement of the Neutron Lifetime Using a Proton Trap, P.E. Weitfeldt, M.S. Dewey, D.M. Gilliam, J.S. Nico, X. Fei, W.M. Snow, G.L. Greene, J. Pauwels, R. Eykens, A. Lamberty, and J. Van Gestel, p. 327.
- Measurement of the Parity-Violating Neutron Spin Rotation in ^4He , C.D. Bass, J.M. Dawkins, D. Luo, A. Micherdzinska, M. Sarsour, W.M. Snow, H.P. Mumm, J.S. Nico, P.R. Huffman, D.M. Markoff, B.R. Heckel, and H.E. Swanson, p. 205.
- Measurement of Parity Violation in np Capture: the NPDGamma Experiment, Shelly A. Page, J.D. Bowman, R.D. Carlini, T. Case, T.E. Chupp, K.P. Coulter, M. Dabaghyan, D. Desai, S.J. Freedman, T.R. Gentile, M.T. Gericke, R.C. Gillis, G.L. Greene, F.W. Hersman, T. Ino, S. Ishimoto, G.L. Jones, B. Lauss, M.B. Leuschner, B. Lozowski, R. Mahurin, Y. Masuda, G.S. Mitchell, H. Nann, S.I. Pentillä, W.D. Ramsay, S. Santra, P.-N. Seo, E.I. Sharapov, T.B. Smith, W.M. Snow, W.S. Wilburn, V. Yuan, and H. Zhu, p. 195.
- Neutron Measurements and the Weak Nucleon-nucleon Interaction, W.M. Snow, p. 189.
- Virtual Excitation and Multiple Scattering Correction Terms to the Neutron Index of Refraction for Hydrogen, K. Schoen, W.M. Snow, H. Kaiser, and S.A. Werner, p. 259.

19th European Conference on Few-Body Problems in Physics, Groningen, the Netherlands, April 23-27, 2004, AIP Conference Proceedings volume 768.

- Charge Symmetry Breaking in the Few Nucleon System, E.J. Stephenson, p. 31.

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- Continuously operating compact ^3He -based neutron spin filter, G.L. Jones, J. Baker, W.C. Chen, B. Collett, J.A. Cowan, M.F. Dias, T.R. Gentile, C. Hoffmann, T. Koetzle, W.T. Lee, K. Littrell, M. Miller, A. Schultz, W.M. Snow, X. Tong, H. Yan, and A. Yue, p. 86.
- Polarized ^3He spin filters in neutron scattering, T.R. Gentile, E. Babcock, J.A. Borchers, W.C. Chen, D. Hussey, G.L. Jones, W.T. Lee, C.F. Majkzrak, K.V. O'Donovan, W.M. Snow, X. Tong, S.G.E. te Velthuis, T.G. Walker, and H. Yan, p. 96.

International Conference on Electron-Nucleus Scattering VIII, Elba, Italy, June 21-25, 2004, European Phys. J. A24 (2005).

- The Nucleon-nucleon Weak Interaction and Low Energy Neutrons, W.M. Snow, p. 119.

Fifth International Topical Meeting on Neutron Radiography, Garching, Germany, July 26-30, 2004, eds. T. Bücherl, B. Schillinger, A. Türler, P. Böni, Nucl. Instrum. Methods 542, (2005).

- LENS, a pulsed neutron source for education and research, David V. Baxter, J.M. Cameron, V.P. Derenchuk, C. Lavelle, M.B. Leuschner, M.A. Lone, H.O. Meyer, T. Rinckel, and W.M. Snow, p. 28.

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- Fundamental Physics with Slow Neutrons, W.M. Snow, p. 668.

¶ A low noise CsI detector array for the precision measurement of parity nonconservation in $\bar{n} + p \rightarrow d + \gamma$, Michael T. Gericke, C. Blessinger, J.D. Bowman, R.D. Carlini, T.E. Chupp, K.P. Coulter, M. Dawkins, M. Dabaghyan, D. Desai, S.J. Freedman, T.R. Gentile, R.C. Gillis, G.L. Greene, J. Hartfield, F.W. Hersman, T. Ino, G.L. Jones, B. Lauss, M. Leuschner, B. Losowski, R. Mahurin, Y. Masuda, G.S. Mitchell, S. Muto, H. Nann, S.A. Page, S.I. Pentillä, W.D. Ramsay, S. Santra, P.N. Seo, E.T. Sharapov, T.B. Smith, W.M. Snow, J. Tasson, W.S. Wilburn, and H. Zhu, p. 692.

- Measurement of Absolute np Scattering Differential Cross Sections with a Tagged Intermediate-Energy Neutron Beam, S.E. Vigdor, p. 820.

¶ A Measurement of the Parity-Violating Gamma-Ray Asymmetry in the Neutron-Proton Capture, P.-N. Seo.

- A Precision Measurement of Neutron β -decay Angular Correlations with Pulsed Cold Neutrons – the abBA Experiment, P.-N. Seo, J.D. Bowman, J.R. Calarco, T.E. Chupp, T.V. Cianciolo, D. Desai, R.T. De Souza, J.M. O'Donnell, E. Friež, T. Gentile, G.L. Greene, R.K. Grzywacz, V. Gudkov, F.W. Hersman, G.L. Jones, G.S. Mitchell, S.I. Pentillä, D. Počanić, K.P. Rykaczewski, W.M. Snow, W.S. Wilburn, and G.R. Young, p. 704.

¶ FP-12 Pulsed Cold Neutron Beam for Fundamental Nuclear Physics at LANSCE, P.-N. Seo, J.D. Bowman, M. Dabaghyan, M. Gericke, R.C. Gillis, G.L. Greene, M.B. Leuschner, J. Long, R. Mahurin, G.S. Mitchell, H. Nann, S.A. Page, S.L. Pentillä, G. Peralta, W.D. Ramsay, S. Santra, E.I. Sharapov, and W.S. Wilburn, p. 700.

The 2004 NPDGamma Commissioning Run – Measurement of Parity-Violating Gamma-Ray asymmetries in Neutron Capture on Al, Cu, Cl, In, and B, P.-N. Seo, J.D. Bowman, R.D. Carlini, T.E. Chupp, K.P. Coulter, M. Dabaghyan, M. Dawkins, D. Desai, S.J. freedman, M.T. Gericke, R.C. Gillis, G.L. Greene, F.W. Hersman, T. Ino, S. Ishimoto, G.L. Jones, B. Lauss, M.B. Leuschner, B. Lozowski, R. Mahuin, Y. Masuda, G.S. Mitchell, S. Muto, H. Nann, S.A. Page, S.I. Pentillä, W.D. Ramsay, S. Santra, E.I. Sharapov, T.B. Smith, W.M. Snow, W.S. Wilburn, V. Yuan, and H. Zhu, p. 696.

Conferences held in FY 2005

18th International Conference on the Application of Accelerators in Research and Industry, Fort Worth, TX, October 10-15, 2004.

- The Heavy-Ion and Spin Physics Programs with the STAR Detector at RHIC, Scott W. Wissink.
- The STAR EEMC Calorimeter, William W. Jacobs.
- Status of the Low Energy Neutron Source at Indiana University, D.V. Baxter, J.M. Cameron, V.P. Derenchuk, C. Lavelle, M.B. Leuschner, M.A. Lone, H.O. Meyer, T. Rinckel, and W.M. Snow.

16th International Spin Physics Symposium, Trieste, Italy, October 10-16, 2004.

- IUCF polarized ion source CIPIOS for JINR accelerator, N.N. Agapov, V.V. Fimushkin, V.P. Vadeev, V.P. Derenchuk, and A.S. Belov.
- Measurement of the analyzing power of proton-carbon elastic scattering in the CNI region at RHIC, O. Jinnouchi, I.G. Alekseev, A. Bravar, G. Bunce, S. Dhawan, R. Gill, W. Haeberli, H. Huang, G. Igo, K. Kurita, Z. Li, W. Lozowski, V.P. Kanavets, A. Khodinov, A. Kponou, W.W. MacKay, A. Nass, H. Okada, Y. Makdisi, S. Rescia, T. Roser, N. Saito, H. Spinka, E.J. Stephenson, D.N. Svirida, D. Underwood, C. Whitten, T. Wise, J. Wood, and A. Zelenski.
- Measurement of the analyzing power in pp elastic scattering in the peak CNI region at RHIC, H. Okada, G. Alexseev, A. Bravar, G. Bunce, S. Dhawan, R. Gill, W. Haeberli, O. Jinnouchi, A. Khodinov, A. Kponou, K. Kurita, Z. Li, Y. Makdisi, A. Nass, S. Rescia, N. Saito, H. Spinka, E.J. Stephenson, D.N. Svirida, T. Wise, and A. Zelenski.
- Spin dependence in elastic scattering in the CNI region, I. Alekseev, A. Bravar, G. Bunce, S. Dhawan, R. Gill, H. Huang, W. Haeberli, G. Igo, O. Jinnouchi, A. Khodinov, K. Kurita, Z. Li, Y. Makdisi, A. Nass, H. Okada, S. Rescia, N. Saito, H. Spinka, E. Stephenson, D. Svirida, D. Underwood, C. Whitten, T. Wise, J. Wood, and A. Zelenski.
- Spin physics in nucleon-nucleon interactions at intermediate energies, B. von Przewoski.

- Spin physics progress with the STAR detector at RHIC, J. Sowinski.

2004 Fall Meeting of the Division of Nuclear Physics, Chicago, IL, October 27-30, 2004.

- An Experiment for Measuring the Electron-Antineutrino Correlation in Neutron Beta Decay, A.K. Komives, F.E. Weitfeldt, B. Fisher, C. Trull, G. Jones, B. Collett, B.G. Yerozolimsky, R. Wilson, S. Balashov, Yu. Mustovoy, M. Leuschner, J. Byrne, F.B. Bateman, M.S. Dewey, J.S. Nico, and A.K. Thompson.
- FINESS, prototype test beam, Teppei Katori.
- Jet Trigger Studies for the STAR Detector at RHIC, Renee Fatemi (STAR Collaboration).
- Liquid Parahydrogen Target for the Measurement of the Parity-violating Gamma Asymmetry in $\bar{n} + p \rightarrow d + \gamma$, S. Santra, W.M. Snow, H. Nann, M. Leuschner, B. Lozowski, W. Fox, J. Graham, I. Penttila, and M.T. Gericke.
- * Measurement of the Absolute Differential Cross Section for np Elastic Scattering Near 200 MeV, Murad Sarsour (CE71 Collaboration).
- Measurement of the parity-violating neutron spin rotation in superfluid helium, C.D. Bass, J.M. Dawkins, D. Luo, A. Micherdzinska, M. Sarsour, W.M. Snow, H.P. Mummi, P.R. Huffman, D.M. Markoff, B.R. Heckel, and E. Swanson.
- A New Pulsed Cold Neutron Beam Line for Fundamental Nuclear Physics at LANSCE, P.-N. Seo, J.D. Bowman, M.T. Gericke, R.C. Gillis, G.L. Greene, M.B. Leuschner, J. Long, R. Mahurin, G.S. Mitchell, S.I. Penttila, G. Peralta, E.I. Sharapov, and W.S. Wilburn.
- Neutrino nucleon elastic scattering in MiniBooNE, David-Christopher Cox (MiniBooNE Collaboration).
- NPDGamma Commissioning Run; Parity Violation in the Radiative Capture of Polarized Cold Neutrons on Al, Cu, B₄C, ⁷Li, and In, Michael Gericke (NPDGamma Collaboration).
- * Polarized d+d elastic scattering at E(d)=231.8 MeV, A Micherdzinska, C.E. Allgower, A.D. Bacher, C. Lavelle, H. Nann, J. Olmsted, T Rinckel, E.J. Stephenson, P.V. Pancella, M.A. Pickar, J. Rapaport, and A. Smith.
- Progress on π^0 Reconstruction with the STAR Endcap Electromagnetic Calorimeter, Jason Webb (STAR Collaboration).
- A proposed measurement of Δs via neutrino-nucleon neutral-current elastic scattering, Rex Tayloe.

○ Systematic Effects in the Electron-Antineutrino Correlation in Neutron Beta Decay Experiment, F.E. Weitfeldt, B.M. Fisher, C. Trull, A. Komives, B. Collett, G.L. Jones, B.G. Yerozolimsky, R. Wilson, S. Balashov, Yu. Mustovoy, M. Leuschner, J. Byrne, F.B. Bateman, M.S. Dewey, J.S. Nico, and A.K. Thompson.

April 2005 meeting of the American Physical Society, Tampa, FL, April 16-19, 2005.

○ A Deuteron Polarimeter for an EDM search, E.J. Stephenson, G. Noid, and C.J.G. Onderwater.

17th Meeting of the International Collaboration on Advanced Neutron Sources, Santa Fe, NM, April 25-29, 2005.

○ Fundamental Neutron Physics at the Spallation Neutron Source, G. Greene, V. Cianciolo, P. Koehler, R. Allen, W.M. Snow, P. Huffman, C. Gould, D. Bowman, M. Cooper, and J. Doyle.

● The Low Energy Neutron Source – Status and Prospects, D.V. Baxter, A. Bogdanov, P. Chen, J.M. Cameron, V.P. Derenchuk, B. Jones, H. Kaiser, C.M. Lavelle, M.B. Leuschner, M.A. Lone, H. Nann, H.O. Meyer, N. Remmes, T. Rinckel, W.M. Snow, and P.E. Sokol.

¶ Performance of the LENS Target-Moderator-Reflector System, C.M. Lavelle, D.V. Baxter, M.B. Leuschner, M.A. Lone, W. Lozowski, H. Nann, N. Remmes, T. Rinckel, Y. Shin, W.M. Snow, and P.E. Sokol.

○ Phase II Solid Methane Scattering Kernel with Comparison to LENS Neutron Energy Spectrum Measurement, Y. Shin, W.M. Snow, C.M. Lavelle, D.V. Baxter, M.B. Leuschner, W. Lozowski, H. Nann, N. Remmes, T. Rinckel, and P.E. Sokol.

¶ Polarizing Neutron Beams by Nuclear Spin-Polarized ^3He Gas, W.C. Chen, T.R. Gentile, W.M. Snow, G.L. Jones, E. Babcock, and T.G. Walker.

○ A Study of Parity Violation in Neutron-Proton Capture on the New Pulsed Cold Neutron Beamline FP12 at LANSCE, M. Gericke, R.C. Gillis, S.A. Page, W.D. Ramsay, G.L. Jones, T. Ino, Y. Masuda, S. Muto, M. Dawkins, M.B. Leuschner, B. Lozowski, H. Nann, W.M. Snow, E.I. Sharapov, J.D. Bowman, G.S. Mitchell, S.I. Pentillä, S. Santra, W.S. Wilburn, V. Yuan, P.N. Seo, T. Gentile, S.J. Freedman, B. Lauss, T.B. Smith, T.E. Chupp, K.P. Coulter, M. Candes, M. Dabaghyan, F.W. Hersman, M. Mason, H. Zhu, G.L. Greene, R. Manhurin, and R.D. Carlini.

Charge Symmetry Breaking and Other Isospin Violations, Trento, Italy, June 13-17, 2005.

● CSB vs. Direct or Other Photons in $d+d \rightarrow ^4\text{He}+\pi^0$, A.D. Bacher

● Observation of the Charge Symmetry Breaking $d+d \rightarrow ^4\text{He}+\pi^0$ Reaction near Threshold, E.J. Stephenson

- Polarized d+d Elastic Scattering at 231.8 MeV, A. Micherdzin'ska.

Nuclear Forces and QCD: Never the Twain Shall Meet? Trento, Italy, June 20 – July 1, 2005.

- Measuring Precise Absolute np Cross Sections at Intermediate Energies, S. Vigdor.

Third Asia-Pacific Conference on Few-Body Problems in Physics, Nakhon Ratchasima, Thailand, July 26-28, 2005.

- Precision Neutron Interferometric Measurements of n-p, n-D, and n-³He Coherent Scattering Lengths, W.M. Snow.

- The Weak NN Interaction and Low Energy Neutrons, W.M. Snow.

Workshop on the Future of Nuclear Physics at LANSCE, Los Alamos National Laboratory, Los Alamos, NM, July 28-29, 2005.

- Short-Baseline Neutrino Oscillations and Neutrino Scattering Physics at LANSCE, R. Tayloe.

Second Canadian-American-Mexican Physics Graduate Student Conference, San Diego, CA, August 19-21, 2005.

- Coherent Parity Violation: Neutron Spin Rotation, C.D. Bass.

2nd Joint Meeting of the Nuclear Physics Divisions of the APS and the Physical Society of Japan, Maui, Hawaii, September 18-22, 2005.

- FINeSSE: Δ_S measurement through neutrino scattering, Teppei Katori.
- The STAR Endcap Electromagnetic Calorimeter – 2005 Operation, J. Sowinski.

¶ A 3D Liquid Scintillator Neutrino Detector, Daniel Passmore and Rex Tayloe

Colloquia

Neutrons, W.M. Snow, Physics Department, DePauw University, November 9, 2004; and University of Dayton, April 22, 2005.

Nuclear and Particle Physics with Neutrons, W.M. Snow, Physics Department, Tulane University, November 30, 2004.

Seminars

Deuteron Electric Dipole Moment Proposal, Ed Stephenson, IUCF Tuesday Lunch Series, February 1, 2005.

Measurement of the Absolute Differential Cross Section for np Elastic Scattering near 200 MeV, Murad Sarsour, IUCF, March 4, 2005.

Measurement of the Parity-Odd Neutron Spin Rotation in Liquid-⁴He, C.D. Bass, Stanford University HEPL, Stanford, CA, August 22, 2005.

Neutrino Scattering and Nucleon Spin Structure, Rex Tayloe, University of Kentucky, Lexington, KY, April 4, 2005.

Neutron Interferometry and the Weak NN Interaction: Opportunities for Effective Field Theory, Mike Snow, Ohio State University, Columbus, OH, January 20, 2005.

Neutron spin rotation in liquid helium, Anna Micherdzinska, DePauw University, Greencastle, IN, September 1, 2005.

Observation of the Charge Symmetry Breaking $d+d \rightarrow {}^4\text{He}+\pi^0$ Reaction, E.J. Stephenson, Oak Ridge National Laboratory, Oak Ridge, TN, July 22, 2005.

Parity Violation in Neutron-Proton Capture, Mike Snow, University of Kentucky, Lexington, KY, March 9, 2005.

Parity violation observed in spin rotation, Anna Micherdzinska, DePauw University (Physics Club), Greencastle, IN, September 1, 2005.

Probing Nucleon (strange) Spin Structure with Neutrino Scattering, Rex Tayloe, Thomas Jefferson National Accelerator Facility, Newport News, VA, March 18, 2005.

A proposal to measure the electron-antineutrino correlation in free neutron beta decay, M. Leuschner, IUCF, April 22, 2005.

Searching for an Electric Dipole Moment using a Storage Ring, E.J. Stephenson, INFN Frascati, Italy, June 20, 2005; INFN Pisa, Pisa, Italy, June 21, 2005; Università di Roma, Italy, June 22, 2005; Oak Ridge National Laboratory, Oak Ridge, TN, July 21, 2005.

Status and Plans for the miniBooNE Experiment, Rex Tayloe, IUCF Tuesday Lunch Series, March 29, 2005.