

## Selected Publications in Peer-Reviewed Journals

**Big physics at small place: The mongol horde model of undergraduate research**, P.J. Voss, J. E. Finck, R. Howes, J. Brown, T. Baumann, A. Schiller, M. Thoennessen, P.A. DeYoung, G. Peaslee, J. Hinnefeld, B. Luther, P.V. Pancella, W.F. Rogers, *Journal of College Teaching and Learning* 5(2), 37 (2008)

**Production of nuclei in neutron unbound states via primary fragmentation of  $^{48}\text{Ca}$** , G. Christian, W.A. Peters, D. Absalonc, D. Albertson, T. Baumann, D. Bazin, E. Breitbach, J. Brown, P.L. Cole, D. Denby, P.A. DeYoung, J.E. Finck, N. Frank, A. Fritsch, C. Hall, A.M. Hayes, J. Hinnefeld, C.R. Hoffman, R. Howes, B. Luther, E. Mosby, S. Mosby, D. Padilla, P.V. Pancella, G. Peaslee, W.F. Rogers, A. Schiller, M.J. Strongman, M. Thoennessen, L.O. Wagner, *Nucl. Phys. A* 801 101 (2008)

**Selective Population and Neutron Decay of an Excited State of  $^{23}\text{O}$** , A. Schiller, N. Frank, T. Baumann, D. Bazin, B. A. Brown, J. Brown, P. A. DeYoung, J. E. Finck, A. Gade, J. Hinnefeld, R. Howes, J.-L. Lecouey, B. Luther, W. A. Peters, H. Scheit, M. Thoennessen, and J. A. Tostevin, *Phys. Rev. Lett.* 99, 112501 (2007)

**Fabrication of a modular neutron array: A collaborative approach to undergraduate research**, R. Howes, T. Baumann, M. Thoennessen, J. Brown, P. DeYoung, J. Finck, J. Hinnefeld, K. Kemper, B. Luther, P. Pancella, G. Peaslee, W. Rogers and S. Tabor, *Am. J. Phys.* 73, 122 (2005).

**Construction of a modular large-area neutron detector for the NSCL**, T. Bauman, J. Boike, J. Brown, M. Bullinger, J.P. Bychoswki, S. Clark, K. Daum, P.A. Young, J.V. Evans, J. Finck, N. Frank, A. Grant, J. Hinnefeld, G.W. Hitt, R.H. Howes, B. Isselhardt, K.W. Kemper, J. Longacre, Y. Lu, B. Luther, S. T. Marley, D. McCollum, E. McDonald, U. Onwuemene, P.V. Pancella, G.F. Peaslee, W.A. Peters, M. Rajabali, J. Robertson, W.F. Rogers, S.L. Tabor, M. Thoennessen, E. Tryggestad, R.E. Turber, P.J. VanWynen, and N. Walker, *Nucl. Instr. And Methods A* 543, 517 (2005)

**Single proton knock-out in  $^{24}\text{F}$** , M. Thoennessen, T. Baumann, B.A. Brown, J. Endres, N. Frank, P. G. Hansen, P. Heckman, B. A. Luther, J. Seitz, A. Stolz, and E. Tryggestad, *Nuclear Physics A* 746 536c (2004)

**Single proton knock-out reactions from  $^{24,25,26}\text{F}$** , M. Thoennessen, T. Baumann, B.A. Brown, J. Endres, N. Frank, P. G. Hansen, P. Heckman, B. A. Luther, J. Seitz, A. Stolz, and E. Tryggestad, *Phys. Rev. C* 68, 044318 (2003)

**First two energy levels in  $^{15}\text{F}$** , W.A. Peters, T. Baumann, D. Bazin, B.A. Brown, R. R. C. Clement, N. Frank, P. Heckman, B. A. Luther, F. Nunes, J. Seitz, A. Stolz, M. Thoennessen, and E. Tryggestad, *Phys. Rev. C* 68, 034607 (2003).

**Search for  $^{16}\text{Be}$** , T. Baumann, N. Frank, B. Luther, D. J. Morrissey, J. Seitz, B. M. Sherrill, M. Steiner, J. Stetson, A. Stolz, M. Thoennessen, I. Wiedenhöver *Phys. Rev. C* 67, 061303(R) (2003)

**MoNA: The Modular Neutron Detector**, B. Luther, T. Baumann, M. Thoennessen, J. Brown, P. DeYoung, J. Finck, J. Hinnefeld, R. Howes, K. Kemper, P. Pancella, G. Peaslee, W. Rogers and S. Tabor, *Nucl. Instr. And Methods A* 505, 33 (2003)

**INPOL - the Indiana University Neutron Polarimeter.**, M. Palarczyk, J. Rapaport, C. Hautala, K. Hicks, D.L. Prout, T. Taddeucci, C.D. Goodman, I.J. Van Heerden, T. Rinckel, G. Savopulus, X. Yang, D. Yoder, E.R. Sugarbaker, D.C. Cooper, B. Luther, Nucl. Instr. and Meth. A457, 309 (2001)

**Investigating collisional broadening of spectral lines using a tuning fork: An undergraduate laboratory**, A.L. Boreen, R.L. Coons, D.J. Ulness and B.A. Luther, Am. J. Phys. 68, 768 (2000).

**Zero-degree differential cross sections and  $D_{NN}$  values for the  $^{17,18}\text{O}(p,n)^{17,18}\text{F}$  reactions at  $E_p = 118$  MeV**, I. Van Heerden, M. Palarczyk, X. Wang, J. Rapaport, D.L. Prout, C.D. Goodman, B.A. Luther, E.R. Sugarbaker, T.N. Taddeucci, D. Dehnhard, C.C. Foster, K. Hicks, L. Wang, X. Yang, J.M. O'Donnell, H. Ohnuma, B.K. Park, G.R. Burleson, and S. Blanchard, Phys. Rev. C **59**, 1488 (1999).

**Measurement of Gamow-Teller strength for  $^{127}\text{I}$  as a solar neutrino**, M. Palarczyk, J. Rapaport, C. Hautala, D.L. Prout, C.D. Goodman, I. Van Heerden, J. Sowinski, G. Savopulus, X. Yang, H. M. Sages, R. Howes, R. Carr, M. Islam, E.R. Sugarbaker, D. Cooper, K. Lande, B. Luther, T. Taddeucci, Phys. Rev. C **59**, 500 (1999).

**Measurement of a Complete Set of Spin Observables in the  $^2\text{H}(p,n)2p$  Reaction at 200 MeV**, B.D. Anderson, D.L. Prout, M. Palarczyk, A. Ahmidouch, A.R. Baldwin, D. Cooper, C.C. Foster, W. Glocke, M.S. Islam, C. Hautala, K. Hicks, M. Khayat, B. Luther, R. Madey, D.M. Manley, I. Niculescu, J. Rapaport, G. Savopulus, J. Sowinski, E.R. Sugarbaker, R. Suleiman, I. Van Heerden, J.W. Watson, H. Witata, X. Yang, W.M.Zhang, Nuclear Physics A**631** 752c (1998).

**Spin decomposition of the  $\Delta$  resonance cross section using the  $^{12}\text{C}(p,n)$  reaction at  $E_p = 795$  MeV**, D. Prout, S. Delucia, D. Cooper, B. Luther, E. Sugarbaker, T. Taddeucci, L. Rybarcyk, J. Rapaport, B.K. Park, C.D. Goodman, G. Edwards, G. Glasshauser, T. Sams, T. Udagawa, and F. Osterfeld, Phys. Rev. Lett. **76**, 4488 (1996).

**Dipole excitations in  $p$ -shell nuclei via  $(p,n)$  reactions**, X. Yang, L. Wang, J. Rapaport, C.D. Goodman, C.C. Foster, Y. Yang, E. Sugarbaker, D. Marchlenski, S. DeLucia, B.A. Luther, L. Rybarcyk, T.N. Taddeucci, and B.K. Park, Phys. Rev. C **52**, 2535 (1995).

**Cross sections and analyzing powers for quasielastic scattering at 795 and 495 MeV using the  $(p,n)$  reaction**, D.L. Prout, C. Zafiratos, T.N. Taddeucci, J. Ullmann, R.C. Byrd, T.A. Carey, P. Lisowski, J.B. McClland, L.J. Rybarcyk, W. Sailor, W. Amian, M. Braunstein, D. Lind, D.J. Mercer, D. Cooper, S. DeLucia, B. Luther, D.G. Marchlenski, E. Sugarbaker, J. Rapaport, B.K. Park, E. Gulmez, C.A. Whitten, Jr., C.D. Goodman, W. Huang, D. Ciskowski, and W.P. Alford, Phys. Rev. C **52**, 228 (1995).

**Study of the  $(1/2)^-_{g.s.} \rightarrow (1/2)^+_1$  transition in the  $^{13}\text{C}(p,n)^{13}\text{N}$  reaction at intermediate energies**, Y. Wang, X. Yang, J. Rapaport, C.D. Goodman, S. DeLucia, B.A. Luther, D. Marchlenski, B.K. Park, L. Rybarcyk, A. Smith, E. Sugarbaker, T.N. Taddeucci, and L. Wang, Phys. Rev. C **51**, 1345 (1995).

**Momentum dependence of the nuclear isovector spin responses from (p,n) reactions at 494 MeV**, T.N. Taddeucci, B.A. Luther, L.J. Rybarcyk, R.C. Bryd, J.B. McClland, D.L. Prout, S. Delucia, D.A. Cooper, D.G. Marchlenski, E. Sugarbaker, B.P. Park, T. Sams, C.D. Goodman, J. Rapaport, M. Ichimura, and K. Kawahigashi, Phys. Rev. Lett. **73**, 3516 (1994).

**Spin-longitudinal and spin-transverse cross sections for  $\Delta$  production in the  $^{12}\text{C}(\text{p},\text{n})$  reaction**, D. Prout, S. Delucia, E. Sugarbaker, B. Luther, D. Cooper, T. Taddeucci, L. Rybarcyk, J. McClland, C. Goodman, B. Park, J. Rapaport, T. Sams, G. Edwards, and C. Glasshauser, Nuclear Physics A**577** 233c (1994).

**Polarization transfer in quasifree (p,n) reactions at 495 MeV**, X.Y. Chen, J.B. McClland, T.N. Taddeucci, W.P. Alford, R. Byrd, T.A. Carey, S. DeLucia, C.D. Goodman, E. Gulmez, W. Huang, B. Luther, D.G. Marchlenski, D.J. Mercer, D.L. Prout, J. Rapaport, L.J. Rybarcyk, W. Sailor, E. Sugarbaker, Y. Wang and C.A. Whitten, Phys. Rev. C **47**, 2159 (1993).

**Quasifree polarization-transfer measurements in the (p,n) reaction at 495 MeV**, J.B. McClland, T.N. Taddeucci, X.Y. Chen, W.P. Alford, R. Byrd, T.A. Carey, S. DeLucia, C.D. Goodman, E. Gulmez, W. Huang, B. Luther, D.G. Marchlenski, D.J. Mercer, D.L. Prout, J. Rapaport, L.J. Rybarcyk, W. Sailor, E. Sugarbaker, Y. Wang and C.A. Whitten, Phys. Rev. Lett. **69**, 582 (1992).

### **Invited Talks**

**The MoNA Project: Doing Big Science Projects With Small-College Undergraduates**  
Bryan Luther, Bulletin of the American Physical Society V2.002 April 2004.

**Spin Observables in Quasifree Isovector Reactions at 495 MeV**, Bryan Luther, Louis Rosen Lecture, Los Alamos National Laboratory, August 1993

A complete list of publications and presentations is available upon request.