

SNLiddick - Curriculum Vitae

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Education

December 2004 Ph.D. (Chemical Physics) Michigan State University
March 2001 B.S. (Chemistry) Texas A&M University

Professional Appointments

Jun. 2019 – present NSCL Associate Director of Experimental Science
Jan. 2015 – present Associate Professor, NSCL/MSU, East Lansing, MI
Dec. 2009 – Jan. 2015 Assistant Professor, NSCL/MSU, East Lansing, MI
Oct. 2008 – Nov. 2009 Roger Batzel Nuclear Chemistry Postdoctoral
Researcher, LLNL, Livermore CA
Nov. 2006 – Sept. 2008 Postdoctoral Researcher, University of Tennessee,
Knoxville TN
Jan. 2005 – Oct. 2006 Postdoctoral Researcher, University Radioactive Ion
Beam Consortium, Oak Ridge, TN

Awards:

Coryell Award 2002, Outstanding Undergraduate Research, Division of Nuclear Chemistry
and Technology, American Chemical Society

Total number of refereed publications and invited talks (10 years):

Refereed publications 68, invited talks/seminars 54

Publications in refereed journals

Half-life measurement of the 199-keV isomeric state in ^{76}Ga

A.Chester, B.A.Brown, S.P.Burcher, M.P.Carpenter, J.J.Carroll, C.J.Chiera, P.A.Copp, B.P.Crider, J.T.Harke, D.E.M.Hoff, K.Kolos, **S.N.Liddick**, B.Longfellow, M.J.Mogannam, T.H.Ogunbeku, C.J.Prokop, D.Rhodes, A.L.Richard, O.A.Shehu, A.S.Tamashiro, R.Unz, Y.Xiao, Phys.Rev. C 105, 024319 (2022)

[Feb]

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Total absorption spectroscopy measurement on neutron-rich 74 , ^{75}Cu isotopes

F.Naqvi, S.Karampagia, A.Spyrou, **S.N.Liddick**, A.C.Dombos, D.L.Bleuel, B.A.Brown, L.Crespo Campo, A.Couture, B.Crider, T.Ginter, M.Guttormsen, A.C.Larsen, R.Lewis, P.Moller, S.Mosby, G.Perdikakis, C.Prokop, T.Renstrom, S.Siem, Nucl.Phys. A1018, 122359 (2022)

[Feb]

<https://dx.doi.org/10.1016/j.nuclphysa.2021.122359>

^{57}Zn β -delayed proton emission establishes the ^{56}Ni rp-process waiting point bypass

M.Saxena, W.-J.Ong, Z.Meisel, D.E.M.Hoff, N.Smirnova, P.C.Bender, S.P.Burcher, M.P.Carpenter, J.J.Carroll, A.Chester, C.J.Chiera, R.Conaway, P.A.Copp, B.P.Crider, J.Derkin, A.Estrae, G.Hamad, J.T.Harke, R.Jain, H.Jayatissa, **S.N.Liddick**, B.Longfellow, M.Mogannam, F.Montes, N.Nepal, T.H.Ogunbeku, A.L.Richard, H.Schatz, D.Soltesz, S.K.Subedi, I.Sultana, A.S.Tamashiro, V.Tripathi, Y.Xiao, R.Zink, Phys.Lett. B 829, 137059 (2022)

[April]

<https://dx.doi.org/10.1016/j.physletb.2022.137059>

Identification of a new isomeric state in ^{76}Zn following the β decay of ^{76}Cu

A.Chester, B.A.Brown, S.P.Burcher, M.P.Carpenter, J.J.Carroll, C.J.Chiera, P.A.Copp, B.P.Crider, J.T.Harke, D.E.M.Hoff, K.Kolos, **S.N.Liddick**, B.Longfellow, M.J.Mogannam, T.H.Ogunbeku, C.J.Prokop, D.Rhodes, A.L.Richard, O.A.Shehu, A.S.Tamashiro, R.Unz, Y.Xiao, Phys.Rev. C 104, 054314 (2021)

[Nov]

<https://dx.doi.org/10.1103/PhysRevC.104.054314>

β -decay feeding intensity distributions of 71 , ^{73}Ni

C.F.Persch, P.A.DeYoung, S.Lyons, A.Spyrou, **S.N.Liddick**, F.Naqvi, B.P.Crider, A.C.Dombos, J.Gombas, D.L.Bleuel, B.A.Brown, A.Couture, L.Crespo Campo, J.Engel, M.Guttormsen, A.C.Larsen, R.Lewis, S.Karampagia, S.Mosby, E.M.Ney, A.Palmisano, G.Perdikakis, C.J.Prokop, T.Renstrom, S.Siem, M.K.Smith, S.J.Quinn, Phys.Rev. C 103, 055808 (2021)

[May]

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Total absorption spectroscopy of the β decay of 101 , ^{102}Zr and ^{109}Tc

A.C.Dombos, A.Spyrou, F.Naqvi, S.J.Quinn, **S.N.Liddick**, A.Algora, T.Baumann, J.Brett, B.P.Crider, P.A.DeYoung, T.Ginter, J.Gombas, S.Lyons, T.Marketin, P.Moller, W.-J.Ong, A.Palmisano, J.Pereira, C.J.Prokop, P.Sarriguren, D.P.Scriven, A.Simon, M.K.Smith, S.Valenta, Phys. Rev. C 103, 025810 (2021)

[Feb]

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A technique for the study of (p, n) reactions with unstable isotopes at energies relevant to astrophysics

P.Gastis, G.Perdikakis, G.P.A.Berg, A.C.Dombos, A.Estrade, A.Falduto, M.Horoi, **S.N.Liddick**, S.Lipschutz, S.Lyons, F.Montes, A.Palmisano, J.Pereira, J.S.Randhawa, T.Redpath, M.Redshaw, J.Schmitt, J.R.Sheehan, M.K.Smith, P.Tsintari, A.C.C.Villari, K.Wang, R.G.T.Zegers, Nucl. Instrum. Methods Phys. Res. A 985, 164603 (2021) [Jan]

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β -decay feeding intensity distributions for 103 , ^{104m}Nb

J.Gombas, P.A.DeYoung, A.Spyrou, A.C.Dombos, A.Algora, T.Baumann, B.Crider, J.Engel, T.Ginter, E.Kwan, **S.N.Liddick**, S.Lyons, F.Naqvi, E.M.Ney, J.Pereira, C.Prokop, W.Ong, S.Quinn, D.P.Scriven, A.Simon, C.Sumithrarachchi, Phys. Rev. C 103, 035803 (2021)
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Mapping of fragmented $\nu f_{5/2} \rightarrow \pi f_{7/2}$ transitions in the $^{73}\text{Co} \rightarrow ^{73}\text{Ni}$ decay

S.Go, R.Grzywacz, C.Mazzocchi, **S.N.Liddick**, M.Alshudifat, J.C.Batchelder, T.Baumann, A.A.Ciemny, T.N.Ginter, C.J.Gross, K.Kolos, A.Korgul, S.V.Paulauskas, C.J.Prokop, M.M.Rajabali, K.P.Rykaczewski, S.Taylor, Y.Xiao, Phys. Rev. C 102, 044331 (2020) [Oct]
<https://dx.doi.org/10.1103/PhysRevC.102.044331>

β Decay of ^{61}V and its Role in Cooling Accreted Neutron Star Crusts

W.-J.Ong, E.F.Brown, J.Browne, S.Ahn, K.Childers, B.P.Crider, A.C.Dombos, S.S.Gupta, G.W.Hitt, C.Langer, R.Lewis, **S.N.Liddick**, S.Lyons, Z.Meisel, P.Moller, F.Montes, F.Naqvi, J.Pereira, C.Prokop, D.Richman, H.Schatz, K.Schmidt, A.Spyrou, Phys. Rev. Lett. 125, 262701 (2020) [Dec]
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First identification of ^{58}Zn β -delayed proton emission

A.A.Ciemny, W.Dominik, T.Ginter, R.Grzywacz, Z.Janas, M.Kuich, C.Mazzocchi, M.Pfutzner, M.Pomorski, D.Bazin, T.Baumann, A.Bezbakh, B.P.Crider, M.Cwiok, S.Go, G.Kaminski, K.Kolos, A.Korgul, E.Kwan, **S.Liddick**, K.Miernik, S.V.Paulauskas, J.Pereira, T.Roginski, K.Rykaczewski, C.Sumithrarachchi, Y.Xiao, H.Schatz, P.Sarriguren, Phys. Rev. C 101, 034305 (2020)
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Experimentally constrained (n, γ) reaction rates relevant to r - and i -process nucleosynthesis

M.Guttormsen, A.C.Larsen, A.Spyrou, **S.N.Liddick**, Acta Phys.Pol. B51, 667 (2020)
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Mirror-symmetry violation in bound nuclear ground states

D.E.M.Hoff, A.M.Rogers, S.M.Wang, P.C.Bender, K.Brandenburg, K.Childers, J.A.Clark, A.C.Dombos, E.R.Doucet, S.Jin, R.Lewis, **S.N.Liddick**, C.J.Lister, Z.Meisel, C.Morse, W.Nazarewicz, H.Schatz, K.Schmidt, D.Soltész, S.K.Subedi, S.Waniganeththi, Nature(London) 580, 52 (2020)
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Probing the role of proton cross-shell excitations in ^{70}Ni using nucleon knockout reactions

B.Elman, A.Gade, R.V.F.Janssens, A.D.Ayangeakaa, D.Bazin, J.Belarge, P.C.Bender, B.A.Brown, C.M.Campbell, M.P.Carpenter, H.L.Crawford, B.P.Crider, P.Fallon, A.M.Forney, J.Harker, **S.N.Liddick**, B.Longfellow, E.Lunderberg, C.J.Prokop, J.Sethi, R.Taniuchi, W.B.Walters, D.Weisshaar, S.Zhu, Phys.Rev. C 100, 034317 (2019)
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Novel techniques for constraining neutron-capture rates relevant for r -process heavy-element nucleosynthesis

A.C.Larsen, A.Spyrou, **S.N.Liddick**, M.Guttormsen, Prog.Part.Nucl.Phys. 107, 69 (2019)
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Experimental constraints on the $^{73}\text{Zn}(n, \gamma)^{74}\text{Zn}$ reaction rate

R.Lewis, **S.N.Liddick**, A.C.Larsen, A.Spyrou, D.L.Bleuel, A.Couture, L.Crespo Campo, B.P.Crider, A.C.Dombos, M.Guttormsen, S.Mosby, F.Naqvi, G.Perdikakis, C.J.Prokop, S.J.Quinn, T.Renstrom, S.Siem, Phys.Rev. C 99, 034601 (2019)
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Benchmarking the extraction of statistical neutron capture cross sections on short-lived nuclei for applications using the β -Oslo method

S.N.Liddick, A.C.Larsen, M.Guttormsen, A.Spyrou, B.P.Crider, F.Naqvi, J.E.Midtbo, F.L.Bello Garrote, D.L.Bleuel, L.Crespo Campo, A.Couture, A.C.Dombos, F.Giacoppo, A.Gorgen, K.Hadynska-Klek, T.W.Hagen, V.W.Ingeberg, B.V.Kheswa, R.Lewis, S.Mosby, G.Perdikakis, C.J.Prokop, S.J.Quinn,

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b- decay of Tz = +11/2 isotopes 37Al and 39Si: Understanding Gamow-Teller strength distribution in neutron-rich nuclei

B.Abromeit, V.Tripathi, H.L.Crawford, **S.N.Liddick**, S.Yoshida, Y.Utsuno, P.C.Bender, B.P.Crider, R.Dungan, P.Fallon, K.Kravvaris, N.Larson, R.S.Lubna, T.Otsuka, C.J.Prokop, A.L.Richard, N.Shimizu, S.L.Tabor, A.Volya, Phys.Rev. C 100, 014323 (2019)
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69, 71Co β -decay strength distributions from total absorption spectroscopy

S.Lyons, A.Spyrou, **S.N.Liddick**, F.Naqvi, B.P.Crider, A.C.Dombos, D.L.Bleuel, B.A.Brown, A.Couture, L.Crespo Campo, J.Engel, M.Guttormsen, A.C.Larsen, R.Lewis, P.Moller, S.Mosby, M.R.Mumpower, E.M.Ney, A.Palmisano, G.Perdikakis, C.J.Prokop, T.Renstrom, S.Siem, M.K.Smith, S.J.Quinn, Phys.Rev. C 100, 025806 (2019)
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Level densities of 74,76Ge from compound nuclear reactions

A. V. Voinov, T. Renstrøm, D. L. Bleuel, S. M. Grimes, M. Guttormsen, A. C. Larsen, **S. N. Liddick**, G. Perdikakis, A. Spyrou, S. Akhtar, N. Alanazi, K. Brandenburg, C. R. Brune, T. W. Danley, S. Dhakal, P. Gastis, R. Giri, T. N. Massey, Z. Meisel, S. Nikas, S. N. Paneru, C. E. Parker, and A. L. Richard, Phys. Rev. C 99, 054609 (2019)
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β -decay half-lives of neutron-rich nuclides in the A=100--110 mass region

A.C.Dombos, A.Spyrou, F.Naqvi, S.J.Quinn, **S.N.Liddick**, A.Algora, T.Baumann, J.Brett, B.P.Crider, P.A.DeYoung, T.Ginter, J.Gombas, E.Kwan, S.Lyons, W.-J.Ong, A.Palmisano, J.Pereira, C.J.Prokop, D.P.Scriven, A.Simon, M.K.Smith, C.S.Sumithrarachchi, Phys.Rev. C 99, 015802 (2019)
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Level densities of 74,76Ge from compound nuclear reactions

A. V. Voinov, T. Renstrøm, D. L. Bleuel, S. M. Grimes, M. Guttormsen, A. C. Larsen, **S. N. Liddick**, G. Perdikakis, A. Spyrou, S. Akhtar, N. Alanazi, K. Brandenburg, C. R. Brune, T. W. Danley, S. Dhakal, P. Gastis, R. Giri, T. N. Massey, Z. Meisel, S. Nikas, S. N. Paneru, C. E. Parker, and A. L. Richard, Phys. Rev. C 99, 054609 (2019)
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Doppler broadening in 20Mg($\beta\gamma$)19Ne decay

B.E.Glassman, D.Perez-Loureiro, C.Wrede, J.Allen, D.W.Bardayan, M.B.Bennett, K.A.Chipps, M.Febraro, M.Friedman, C.Fry, M.R.Hall, O.Hall, **S.N.Liddick**, P.O'Malley, W.-J.Ong, S.D.Pain, S.B.Schwartz, P.Shidling, H.Sims, L.J.Sun, P.Thompson, H.Zhang, Phys.Rev. C 99, 065801 (2019)
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Toward complete spectroscopy using β decay: The example of 32Cl ($\beta\gamma$)32S

E.Aboud, M.B.Bennett, C.Wrede, M.Friedman, **S.N.Liddick**, D.Perez-Loureiro, D.W.Bardayan, B.A.Brown, A.A.Chen, K.A.Chipps, C.Fry, B.E.Glassman, C.Langer, E.I.McNeice, Z.Meisel, W.-J.Ong, P.D.O'Malley, S.D.Pain, C.J.Prokop, H.Schatz, S.B.Schwartz, S.Suchyta, P.Thompson, M.Walters, X.Xu, Phys.Rev. C 98, 024309 (2018)
<http://dx.doi.org/10.1103/PhysRevC.98.024309>

Detailed study of the decay 31Cl($\beta\gamma$)31S

M.B.Bennett, C.Wrede, **S.N.Liddick**, D.Perez-Loureiro, D.W.Bardayan, B.A.Brown, A.A.Chen, K.A.Chipps, C.Fry, B.E.Glassman, C.Langer, N.R.Larson, E.I.McNeice, Z.Meisel, W.Ong, P.D.O'Malley, S.D.Pain, C.J.Prokop, H.Schatz, S.B.Schwartz, S.Suchyta, P.Thompson, M.Walters, X.Xu, Phys.Rev. C 97, 065803 (2018)
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B.E.Glassman, D.Perez-Loureiro, C.Wrede, J.Allen, D.W.Bardayan, M.B.Bennett, B.A.Brown, K.A.Chipps, M.Febbraro, M.Friedman, C.Fry, M.R.Hall, O.Hall, **S.N.Liddick**, P.O'Malley, W.J.Ong, S.D.Pain, C.Prokop, S.B.Schwartz, P.Shidling, H.Sims, P.Thompson, H.Zhang, Phys.Lett. B 778, 397 (2018)
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Measurement of the ^{20}F half-life
M.Hughes, E.A.George, O.Naviliat-Cuncic, P.A.Voytas, S.Chandavar, A.Gade, X.Huyan, **S.N.Liddick**, K.Minamisono, S.V.Paulauskas, D.Weisshaar, Phys.Rev. C 97, 054328 (2018)
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Enhanced low-energy γ -decay strength of ^{70}Ni and its robustness within the shell model
A.C.Larsen, J.E.Midtbo, M.Guttormsen, T.Renstrom, **S.N.Liddick**, A.Spyrou, S.Karampagia, B.A.Brown, O.Achakovskiy, S.Kamerdzhev, D.L.Bleuel, A.Couture, L.Crespo Campo, B.P.Crider, A.C.Dombos, R.Lewis, S.Mosby, F.Naqvi, G.Perdikakis, C.J.Prokop, S.J.Quinn, S.Siem, Phys.Rev. C 97, 054329 (2018)
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Confirmation of the isomeric state in ^{26}P
D.Perez-Loureiro, C.Wrede, M.B.Bennett, **S.N.Liddick**, A.Bowe, B.A.Brown, A.A.Chen, K.A.Chipps, N.Cooper, E.McNeice, F.Naqvi, R.Ortez, S.D.Pain, J.Pereira, C.Prokop, S.J.Quinn, J.Sakstrup, M.Santia, S.B.Schwartz, S.Shanab, A.Simon, A.Spyrou, E.Thiagalingam, Phys.Rev. C 96, 014306 (2017)
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Isovector excitations in ^{100}Nb and their decays by neutron emission studied via the $^{100}\text{Mo}(t, ^3\text{He} + n)$ reaction at 115 MeV/u
K.Miki, R.G.T.Zegers, S.M.Austin, D.Bazin, B.A.Brown, A.C.Dombos, R.K.Grzywacz, M.N.Harakeh, E.Kwan, **S.N.Liddick**, S.Lipschutz, E.Litvinova, M.Madurga, M.T.Mustonen, W.J.Ong, S.V.Paulauskas, G.Perdikakis, J.Pereira, W.A.Peters, C.Rubin, M.Scott, A.Spyrou, C.Sullivan, R.Titus, Phys. Lett. B, **769**, 339 (2017).
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Neutron-capture rates for explosive nucleosynthesis: the case of $^{68}\text{Ni}(n, \gamma)^{69}\text{Ni}$
A.Spyrou, A.C.Larsen, **S.N.Liddick**, F.Naqvi, B.P.Crider, A.C.Dombos, M.Guttormsen, D.L.Bleuel, A.Couture, L.Crespo Campo, R.Lewis, S.Mosby, M.R.Mumpower, G.Perdikakis, C.J.Prokop, S.J.Quinn, T.Renstrom, S.Siem, R.Surman, J.Phys.(London) G **44**, 044002 (2017).
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β decay of $^{38}, ^{40}\text{Si}$ ($T_z = +5, +6$) to low-lying core excited states in odd-odd $^{38-40}\text{P}$ isotopes
V.Tripathi, R.S.Lubna, B.Abromeit, H.L.Crawford, **S.N.Liddick**, Y.Utsuno, P.C.Bender, B.P.Crider, R.Dungan, P.Fallon, K.Kravvaris, N.Larson, A.O.Macchiavelli, T.Otsuka, C.J.Prokop, A.L.Richard, N.Shimizu, S.L.Tabor, A.Volya, S.Yoshida, Phys.Rev. C **95**, 024308 (2017).
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Strong Neutron- γ Competition above the Neutron Threshold in the Decay of ^{70}Co
A.Spyrou, **S.N.Liddick**, B.P.Crider, F.Naqvi, A.C.Larsen, M.Guttormsen, M.Mumpower, R.Surman, G.Perdikakis, D.L.Bleuel, A.Couture, L.Crespo Campo, A.C.Dombos, R.Lewis, S.Mosby, S.Nikas, C.J.Prokop, T.Renstrom, B.Rubio, S.Siem, and S.J.Quinn, Phys.Rev.Lett. **117**, 142701 (2016)
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Shape coexistence from lifetime and branching-ratio measurements in $^{68,70}\text{Ni}$

B. P. Crider, C. J. Prokop, **S. N. Liddick**, M. Al-Shudifat, A. D. Ayangeakaa, M. P. Carpenter, J. J. Carroll, J. Chen, C. J. Chiara, H. M. David, A. C. Dombos, S. Go, R. Grzywacz, J. Harker, R. V. F. Janssens, N. Larson, T. Lauritsen, R. Lewis, S. J. Quinn, F. Recchia, A. Spyrou, S. Suchyta, W. B. Walters, S. Zhu, Phys. Lett. B, **763**, 108 (2016)

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Experimental neutron capture rate constraint far from stability

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Digital data acquisition for the Low Energy Neutron Detector Array (LENDA)

S. Lipschutz, R.G.T. Zegers, J. Hill, **S.N. Liddick**, S. Noji, C.J. Prokop, M. Scott, M. Solt, C. Sullivan, J. Tompkins, Nucl. Instrum. Methods Phys. Res. A, 815, 1 (2016).

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Isospin Mixing Reveals $^{30}\text{P}(\rho, \gamma)^{31}\text{S}$ Resonance Influencing Nova Nucleosynthesis

M.B.Bennett, C.Wrede, B.A.Brown, **S.N.Liddick**, D.Perez-Loureiro, D.W.Bardayan, A.A.Chen, K.A.Chipps, C.Fry, B.E.Glassman, C.Langer, N.R.Larson, E.I.McNeice, Z.Meisel, W.Ong, P.D.O'Malley, S.D.Pain, C.J.Prokop, H.Schatz, S.B.Schwartz, S.Suchyta, P.Thompson, M.Walters, X.Xu, Phys. Rev. Lett. 116, 102502 (2016).

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Shape coexistence in neutron-rich nuclei

A. Gade, **S.N. Liddick**, J. Phys (London) G43, 024001 (2016)

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The half-life of the doubly-magic r-process nucleus ^{78}Ni

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Voyage to the "Island of Inversion": ^{29}Na

V.Tripathi, S.L.Tabor, P.F.Mantica, C.R.Hoffman, M.Wiedeking, A.D.Davies, **S.N.Liddick**, W.F.Mueller, A.Stolz, B.E.Tomlin, A.Volya, Eur.Phys.J. A 25, Supplement 1, 101 (2005)

Tracking the monopole migration of the $\nu 1f_{5/2}$ state near the $N = 32$ subshell closure in neutron-rich nuclei above ^{48}Ca

S.N.Liddick, P.F.Mantica, R.V.F.Janssens, R.Broda, B.A.Brown, M.P.Carpenter, B.Fornal, A.C.Morton, W.F.Mueller, J.Pavan, A.Stolz, S.L.Tabor, B.E.Tomlin, M.Wiedeking, Nucl.Phys. A746, 140c (2004)

Radioactive ion beams in the region of ^{100}Sn and ^{78}Ni at the NSCL

A.Stolz, A.Estrade, A.D.Davies, T.N.Ginter, P.T.Hosmer, E.Kwan, **S.N.Liddick**, P.F.Mantica, T.J.Mertzimekis, F.A.Montes, D.J.Morrissey, A.C.Morton, M.Ouellette, E.Pellegrini, P.Santi, H.Schatz, M.Steiner, A.E.Stuchbery, B.E.Tomlin, W.B.Walters, A.Woehr, O.Arndt, K.-L.Kratz, B.Pfeiffer, P.Reeder, Nucl.Phys. A746, 54c (2004)

Invited talks

Highly-converted and low-energy isomer searches and FRIB

100 Years of Nuclear Isomers, Zoom/Berlin, May, 2022 (zoom)

b-Oslo measurements for indirect neutron capture measurements

WANDA, Mar 1, 2022 (zoom)

Neutron capture cross section measurements on short-lived isotopes

SSAP, Zoom, February 15-17, 2022 (zoom)

Indirect constraints on neutron capture cross sections for nucleosynthesis and stewardship science

Seaborg Award Symposium, August 24, 2021, Atlanta, GA

Status of FRIB facility preparation for the FDSi

Low energy community meeting, August 9th, 2021 (zoom)

Beta decay experiments and machine learning applications

Machine Learning and Data Analysis for Nuclear Physics, a Nuclear TALENT Course at the ECT*, July 19-30, 2021 (zoom) total of 13 presentations

Nuclear Chemistry Research at the Facility for Rare Isotope Beams (FRIB)

Nuclear Chemistry Summer School, July 16, 2021 (zoom)

Neutron capture cross section measurements on short-lived isotopes

SSAP, Zoom, February 16-18, 2021 (zoom)

Nuclear Chemistry Research at the Facility for Rare Isotope Beams (FRIB)

Nuclear Chemistry Summer School, Brookhaven, NY, July 26, 2020

Nuclear Chemistry Research at the Facility for Rare Isotope Beams (FRIB)

Nuclear Chemistry Summer School, Brookhaven, NY, June, 2020

Multiple talks on Nuclear Science, Beta Decay, and Machine Learning

Machine Learning and Data Analysis for Nuclear Physics, a Nuclear TALENT Course at the ECT*, Trento, Italy, June 22 to July 3 2020 (Zoom)

FDSi Utilites and DAQ

FRIB User Instrument Proposal Review, June 5th, 2020

FRIB Day One science topics

Low Energy Community Meeting, Raleigh, NC, August 7, 2019

Nuclear Chemistry Research at the Facility for Rare Isotope Beams (FRIB)

Nuclear Chemistry Summer School, Brookhaven, NY, July 26, 2019

Nuclear Chemistry Research at the Facility for Rare Isotope Beams (FRIB)

Nuclear Chemistry Summer School, San Jose, CA, June 28, 2019

Properties of neutron-rich $^{71,72,73}\text{Ni}$

7th Workshop on Nuclear Level Density and Gamma Strength, Oslo, Norway, May 20, 2019

Detectors for Nuclear Science

Experimental Techniques in Quantum Sensing and Information Workshop, East Lansing, MI, March 21, 2019

Neutron capture cross section measurements on short-lived isotopes
SSAP, Albuquerque, NM, February 19-20, 2019

Neutron-capture reaction rates for astrophysical applications
6th International Conference on Collective Motion in Nuclei under Extreme Conditions
(COMEX6), Cape Town, South Africa, November 1, 2018

Benchmarking the extraction of statistical neutron capture cross sections on short-lived nuclei
Division of Nuclear Physics, Waikoloa, HI, October 25, 2018

Nuclear Shapes and Shells: Studying the decay of short-lived states
MSU Honors Research Seminar, September 2018

Nuclear Science Experiments at MSU with Multi-Modal Outcomes in Basic Research, Non-proliferation, and Stockpile Stewardship
Nuclear Science and Security Consortium Workshop and Advisory Board Meeting, October 1, 2018

FRIB Capabilities for Nuclear Astrophysics
Nuclear Process in Dense Plasma, Livermore CA, July 30, 2018

Nuclear Chemistry Research at the Facility for Rare Isotope Beams (FRIB)
Nuclear Chemistry Summer School, Brookhaven, NY, July, 2018

Input Nuclear Data for r-process abundance calculations from beta decay
FRIB and the GW170817 kilonova workshop, East Lansing, MI, July 16th, 2018

Overview of Nuclear and Particle Physics and Nuclear Data
Nuclear Science and Security Consortium Schubert Review of Nuclear and Particle Physics,
Berkeley, CA, June 14, 2018

Overview of Nuclear and Particle Physics and Nuclear Data
Review of the Nuclear Science and Security Consortium, June, 13-14, Berkeley, CA 2018

Decay Studies from NSCL to FRIB
FRIB decay workshop, June 4-5, Livermore, CA 2018

Neutron capture cross sections of short-lived isotopes
SSAA program review, February 19-23, Bethesda MD 2018

Decay Studies from NSCL to FRIB
FRIB Decay Workshop, January January 25-26, East Lansing, MI 2018

MSU Personnel and Activities

Review of the Nuclear Science and Security Consortium, December 5-6, Berkeley, CA 2017

Shape coexistence in the N~40 region around ^{68}Ni

Shape Coexistence and Electric Monopole Transitions in Atomic Nuclei, ESNT, October 23-27, CEA-Saclay, France 2017

Research and Lab Engagement at Michigan State University

Nuclear Science and Security Consortium Advisory Meeting, September 11-13, Berkeley CA 2017

Beta decay for neutron capture

6th Workshop on Nuclear Level Density and Gamma Strength, May 8 – 12, Oslo, Norway 2017

Neutron capture cross section measurements on short-lived isotopes

SSAP Symposium, Apr 12-13, Chicago II, 2017

Michigan State University

Nuclear Science and Security Consortium Engagement Workshop, Dec. 14, Los Alamos National Laboratory, Los Alamos NM, 2016.

Neutron capture rates of short-lived isotopes relevant for astrophysical processes

Nuclei in the Cosmos XIV, June 19-24, Niigata, Japan, 2016

Shape Coexistence around ^{68}Ni

Zakopane Conference on Nuclear Physics, Aug. 28- Sept. 4, Zakopane, Poland 2016.

FRIB capabilities and timeline

Decay Station Collaboration meeting, Jan 21-22, Oak Ridge, TN, 2016

New method to study the photon strength function using the beta decay of unstable nuclei

Division of Nuclear Physics, American Physical Society, Oct 28, Baltimore, MD 2015.

Capabilities at the National Superconducting Cyclotron Laboratory

Nuclear Data Needs and Capabilities for Applications, May 27-29, Berkeley, CA (2015)

Inferring neutron capture rates of short-lived isotopes

American Physical Society, April Meeting, Apr. 12th, 2015

The connection between elemental synthesis, nuclear power, and national security

Nuclear Chemistry Summer School, Brookhaven, NY, June 26, 2015

Capabilities at the National Superconducting Cyclotron Laboratory

Nuclear Data Needs and Capabilities for Applications, Berkeley, CA, May 26, 2015

NNSA Workforce Development

DNP Education and Innovation Town Meeting, East Lansing, Aug. 7th, 2014

Nuclear Chemistry at NSCL

Nuclear Chemistry Summer School, Brookhaven, NY, July 27, 2014

Isomer Research at NSCL

Application of Highly-charged Ions, East Lansing, MI, May 23rd, 2014

Electron Spectroscopy and E0 transitions in 68Ni

Workshop on Structure of 68Ni, Leuven, Belgium, April 23rd, 2014

Electron spectroscopy along N = 40 with a planar Ge detector, Gordon Research Conference in Nuclear Chemistry, New London, NH, June 10th, 2013.

Use of a novel planar HPGe detector for Radioactive Decay Studies, University and Industry Technical Interchange (UITI2013) Review Meeting, East Lansing, MI, June 6th, 2013

CloverShare Collaboration, RCNP International Workshop on Physics using Compton Suppressed Ge Clover Array (Clover12), RCNP Osaka University, Osaka, Japan Dec. 8th, 2012

Low-energy level structures of neutron-rich Co, Fe, and Mn nuclei near N = 40, 2011 Annual Meeting of the American Physical Society, Newport Beach, California, Oct. 26, 2012

Indications of deformation along the N = 40 isotones, Nuclear Structure, Aug. 14th, 2012

Nuclear Science at the National Superconducting Cyclotron Laboratory (NSCL)
Symposium on Radiation Measurement and Applications, May 17th, 2012

Probing the chart of nuclides with zeptomoles of atoms

Conference Experience for Undergraduates at the 2011 Annual Meeting of the American Physical Society, East Lansing, Michigan, Oct. 19, 2011

Recent Results from NSCL Decay Experiments

Joint ATLAS-HRIBF-NSCL-FRIB Users Meeting, East Lansing, Michigan, Aug. 19, 2011

Discovery of the $^{109}\text{Xe} \rightarrow ^{105}\text{Te} \rightarrow ^{101}\text{Sn}$ alpha decay chain

Southeastern Section of the American Physical Society, Raleigh, North Carolina, Nov. 1, 2008

Discovery of the $^{109}\text{Xe} \rightarrow ^{105}\text{Te} \rightarrow ^{101}\text{Sn}$ alpha decay chain

International Conference on Proton Emitting Nuclei and related areas 2007, Lisbon, Portugal, June 18, 2007

Discovery of the $^{109}\text{Xe} \rightarrow ^{105}\text{Te} \rightarrow ^{101}\text{Sn}$ alpha decay chain

Radioactive Nuclear Beams 7, Cortina d'Ampezzo, Italy, July 7, 2006

Development of shell structure in the neutron-rich pf shell region

Symposium of Exotic Nuclei and Nuclear Forces, Tokyo, Japan, March 9, 2006

Invited Seminars

Multiple talks on Nuclear Science, Beta Decay, and Machine Learning

Machine Learning and Data Analysis for Nuclear Physics, a Nuclear TALENT Course at the ECT*, July 19 to July 30 2021 (Zoom)

Multiple talks on Nuclear Science, Beta Decay, and Machine Learning

Machine Learning and Data Analysis for Nuclear Physics, a Nuclear TALENT Course at the ECT*, June 22 to July 3 2020 (Zoom)

Radiation Detection: Charged Particles

Nuclear Science Summer School, Lecturer, East Lansing, MI, May 17, 2019

Rare Isotope Science: Atoms to Stars

Wayne State University, Physics seminar, September 20, Detroit, MI 2017

Alpha, beta, gamma-ray spectroscopy

May 17th, Nuclear Science Summer School, Michigan State University, East Lansing, MI, 2017

Beta decay for neutron capture

June 7th, ICNT, r-process nucleosynthesis, Michigan State University, East Lansing, MI, 2016

Alpha, beta, gamma-ray spectroscopy

May 18th, Nuclear Science Summer School, Michigan State University, East Lansing, MI, 2016

Inferring neutron capture rates of short-lived isotopes

Notre Dame University, Physics seminar, South Bend, IN, Mar. 14th, 2016

Constraining the neutron capture cross sections of short-lived isotopes

Nov. 10th, 2014, Lawrence Livermore National Laboratory

Nuclear Structure from Decay Studies

Jul. 31, 2014 and Aug. 1, 2014, Exotic Beam Summer School 2014

Science with Radioactive Ions

Jan. 27, 2014, Michigan State University, Society of Physics Students

Electron spectroscopy of the first excited 0^+ state in ^{68}Ni using a planar Ge detector and digital electronics

Nov 22nd, 2013, Lawrence Livermore National Laboratory

Zeptoscale spectroscopy, Producing and Studying Radioactive Isotopes One Atom at a Time

Feb. 6th, 2013, Oakland University

Indications of deformation along $N = 40$ isotones

Apr. 1, 2012, University of Notre Dame

Probing the chart of nuclides with zeptomoles of ions

Oct. 18, 2011, University of California Berkeley

Isomer spectroscopy near $N = 40$ in neutron-rich nuclei

Mar. 29, 2011, Yale University

Isomer spectroscopy near $N = 40$ in neutron-rich nuclei

Feb. 18, 2011, Florida State University

Nuclear Decay Spectroscopy

Kriya 2010, PSG College of Technology, Coimbatore, India

Contributed talks

Properties of neutron-rich $71, 72, 73\text{Ni}$

Division of Nuclear Physics, Arlington, VA, October, 2019

Intruder structure in odd- A ^{69}Co

Heavy Ion Accelerator Symposium for Fundamental and Applied Research, Sept. 14-18, 2016, Canberra, Australia

0^+ states in $^{68,70}\text{Ni}$

Electric Monopole Transitions Satellite Workshop, Sept. 11-12, 2016, Canberra, Australia

Planar GeDSSD implantation detectors

Decay Station Collaboration meeting, Jan 21-22, Oak Ridge, TN, 2016

Options with existing clover detectors

Decay Station Collaboration meeting, Jan 21-22, Oak Ridge, TN, 2016

Decay spectroscopy with a planar GeDSSD

2015 Low-energy community meeting, East Lansing, MI, August 21, 2015

Beta-decay and total absorption spectroscopy

2015 Low-energy community meeting, East Lansing, MI, August 21, 2015

Decay Spectroscopy

FRIB DAQ workshop, Argonne, IL, July 29, 2015

Neutron-rich beta-decay spectroscopy

2014 Long Range Planning Meeting, College Station, Texas, August 22, 2014

Decay spectroscopy station at FRIB

2014 Long Range Planning Meeting, College Station, Texas, August 22, 2014

Collectivity in neutron-rich Mn isotopes

2011 Annual Meeting of the American Physical Society, East Lansing, Michigan, Oct. 18, 2011

Beta-decay spectroscopy with a digital data acquisition system

2010 Annual Meeting of the American Physical Society, Santa Fe, New Mexico, Nov 4, 2010

Excited State in ^{101}Sn

2008 Annual Meeting of the American Physical Society, Oakland, California, Oct. 25, 2008.

Identification of ^{109}Xe and ^{105}Te

2007 Annual Meeting of the American Physical Society, Jacksonville, Florida, April 13, 2007.

Identification of ^{109}Xe and ^{105}Te

2006 Annual Meeting of the Division of Nuclear Physics of the American Physical Society, Nashville, Tennessee, Oct. 25, 2006.

Development of a high efficiency neutron array at the HRIBF

2005 Annual Meeting of the Division of Nuclear Physics of the American Physical Society, Kapalua, Hawaii, Sept. 20, 2005.

Evolution of Shell Structure in the $A \sim 60$ Region

228th Meeting of the American Chemical Society, Division of Nuclear Chemistry and Technology, Philadelphia, Pennsylvania, Aug 24, 2004.

Search for $N=34$ Shell Closure: Low-Energy Structure of ^{56}Ti

2004 Annual Meeting of the Division of Nuclear Physics of the American Physical Society, Tucson, Arizona, Oct 29, 2003.

Geant4 Simulation of the NSCL Beta Calorimeter

2002 Annual Meeting of the Division of Nuclear Physics of the American Physical Society, East Lansing, Michigan, Oct 12, 2002.

Contributed posters

Presence of Multiple beta-decaying states in ^{69}Co

2014 Advances in Radioactive Beam Science (ARIS), Tokyo, Japan, Jun. 2-6, 2014

Collectivity along $N = 40$ neutron-rich nuclei

2011 Advances in Radioactive Beam Science (ARIS), Leuven, Belgium, May 29-Jun. 3, 2011