

Selected Publications

Andrew S. Voyles

June 10, 2025

- H. L. O. Ekeberg, **A. S. Voyles**, M. S. Basunia, J. C. Batchelder, L. A. Bernstein, K. C. W. Li, E. M. Martinsen, E. F. Matthews, J. T. Morrell, N. I. J. Pettersen, and S. Siem, *Nuclear excitation functions for medical isotope production: targeted radionuclide therapy via $^{nat}\text{Ir}(d, x)^{193m}\text{Pt}$* . Applied Radiation and Isotopes, (submitted).
- E. M. Martinsen, **A. S. Voyles**, K. C. W. Li, M. S. Basunia, L. A. Bernstein, H. L. O. Ekeberg, M. Hussain, J. T. Morrell, S. M. Qaim, S. Siem, M. S. Uddin, and H. Zaneb, *Deuteron-induced reactions on natural Zr from threshold to 50 MeV: production of ^{86}Y* . Radiochimica Acta, (submitted).
- M. Shuza Uddin, Ingo Spahn, M. Shamsuzzoha Basunia, **Andrew S. Voyles**, Stefan Spellerberg, Mazhar Hussain, Sándor Sudár, Lee A. Bernstein, Bernd Neumaier, Syed M. Qaim, *An overview of production routes of the non-standard positron emitter ^{86g}Y with emphasis on a comparative analysis of the $^{86}\text{Sr}(p,n)$ - and $^{86}\text{Sr}(d,2n)$ -reactions*. Radiochimica Acta, **113** (2025) 5. <https://doi.org/10.1515/ract-2024-0375>
[PDF](#)
- J.M. Gordon, J.A. Brown, B.L. Goldblum, T.A. Laplace, J.C. Batchelder, D.L. Bleuel, B. Buckley, A. Georgiadou, C. Henderson, T. Johnson, J.W. Lee, K. Myers, T. Nagel, J.R. Sebastian, **A.S. Voyles**, and L.A. Bernstein, *$^{12}\text{C}(n, n'_1 \gamma)$ partial γ -ray cross section measured using the GENESIS array*. Physical Review C, **111** (2025) 044608. <https://doi.org/10.1103/PhysRevC.111.044608>
[PDF](#)
- Md. Shuza Uddin, Sándor Sudár, M. Shamsuzzoha Basunia, Ingo Spahn, **Andrew S. Voyles**, Alex Hermanne, Lee A. Bernstein, Bernd Neumaier, and Syed M. Qaim, *Cross sections for the formation of $^{84}\text{Rb}^{m,g}$, ^{83}Rb and $^{82}\text{Rb}^m$ in $^{86}\text{Sr}(d,x)$ -reactions up to deuteron energies of 49 MeV: competition between α -particle and multi-nucleon emission processes*. Physical Review C, **110** (2024) 064608. <https://doi.org/10.1103/PhysRevC.110.064608>
[PDF](#)
- Sinthia Binte Kholil, M. Shuza Uddin, M. Mehedi Hasan, A. Kumer Chakraborty, M. Asad Shariff, **Andrew S. Voyles**, and Ingo Spahn, *Excitation functions of proton-induced nuclear reactions on titanium*. Radiochimica Acta, **113** (2025) 2. <https://doi.org/10.1515/ract-2024-0347>
[PDF](#)
- Jonathan T. Morrell, Ellen M. O'Brien, Michael Skulski, **Andrew S. Voyles**, Dmitri G. Medvedev, Veronika Mocko, Lee A. Bernstein, and C. Etienne Vermeulen, *Measurement of Proton-Induced Reactions on Lanthanum from 55–200 MeV by Stacked-Foil Activation*. Physical Review C, (submitted).
- Md. Shuza Uddin, Sándor Sudár, M. Shamsuzzoha Basunia, Bernhard Scholten, Stefan Spellerberg, **Andrew S. Voyles**, Jonathan T Morrell, Ingo Spahn, Alex Hermanne, Lee A. Bernstein, Bernd Neumaier, and Syed. M. Qaim, *Excitation functions and isomeric cross-section ratios of (d, xn) reactions on ^{86}Sr* . The European Physical Journal A, **60** (2024) 128. <https://doi.org/10.1140/epja/s10050-024-01330-6>
[PDF](#)
- N. Burahmah, J.R. Griswold, L.H. Heilbronn, L.A. Bernstein, **A.S. Voyles**, J.T. Morrell, M. Zach, and R. Copping, *^{229}Pa cross section measurements via deuteron irradiation of ^{232}Th* . Physical Review C,

108 (2023) 024609. <https://doi.org/10.1103/PhysRevC.108.024609>

[PDF](#)

Jonathan T. Morrell, **Andrew S. Voyles**, Jon C. Batchelder, Joshua A. Brown, and Lee A. Bernstein, *Secondary Neutron Production from Thick Target Deuteron Breakup*. Physical Review C, **108** (2023) 024616. <https://doi.org/10.1103/PhysRevC.108.024616>

[PDF](#)

F. Pogliano, F. L. Bello Garrote, A. C. Larsen, H. C. Berg, D. Gjestvang, A. Görgen, M. Guttormsen, V. W. Ingeberg, T. W. Johansen, K. L. Malatji, E. F. Matthews, M. Markova, J. E. Midtbø, V. Modamio, L. G. Pedersen, E. Sahin, S. Siem, T. G. Tornyi, and **A. S. Voyles**, *Observation of a candidate for the M1 scissors resonance in odd-odd ^{166}Ho* . Physical Review C, **107** (2023) 034605. <https://doi.org/10.1103/PhysRevC.107.034605>

[PDF](#)

Denise Neudecker, C. Romano, Nathan A. Gibson, Robert C. Little, Lee Bernstein, R. Bostelmann, D. Brown, R.J. Casperson, Stephen Croft, S. Dewji, L. Greenwood, P. Griffin, L. Kyriazidis, A. Lewis, M. Pigni, B. Pritychenko, B. Rearden, J. Ressler, T. Slaba, M. Smith, V. Sobes, A. Sonzogni, Scott A. Vander Wiel, N. Vassh, **A. Voyles**, and K. Wendt, *5–10 Years Cross-cutting Priorities on the Topic of Nuclear Data Covariances and Uncertainty Quantification for Users*. Technical Report LA-UR-22-32080 (2023). <https://doi.org/10.2172/1958970>

[PDF](#)

Andrew S. Voyles, Morgan B. Fox, Jonathan T. Morrell, Michael P. Zach, Evan K. Still, Lee A. Bernstein, Wesley D. Frey, and Burton J. Mehciz, *Preparation and Characterization of Thin Arsenic Targets for Stacked-Target Experiments*. Nuclear Instruments and Methods in Physics Research B, (*in preparation*). <https://arxiv.org/abs/2106.05524>

Sarah Stevenson, Andrew Dong, Yujun Xie, Jon Morrell, **Andrew S. Voyles**, Jeff Bickel, Lee Bernstein, S.A. Maloy, and Peter Hosemann, *The effects of high energy deuteron ion beam irradiation on the tensile behavior of HT-9*. Nuclear Instruments and Methods in Physics Research B, **531** (2022) 65–73. <https://doi.org/10.1016/j.nimb.2022.09.001>

[PDF](#)

M. S. Uddin, M. S. Basunia, S. Sudár, B. Scholten, S. Spellerberg, **A. S. Voyles**, J. T. Morrell, M. B. Fox, I. Spahn, O. Felden, R. Gebel, L. A. Bernstein, B. Neumaier, and S. M. Qaim, *Excitation functions of proton-induced nuclear reactions on ^{86}Sr , with particular emphasis on the formation of isomeric states in ^{86}Y and ^{85}Y* . The European Physical Journal A, **58** (2022) 67. <https://doi.org/10.1140/epja/s10050-022-00714-w>

[PDF](#)

Karolina Kolos, Vladimir Sobes, Ramona Vogt, Catherine E. Romano, Michael S. Smith, Lee A. Bernstein, David A. Brown, Mary T. Burkey, Yaron Danon, Mohamed A. Elsayi, Bethany L. Goldblum, Lawrence H. Heilbronn, Susan L. Hogle, Jesson Hutchinson, Ben Loer, Elizabeth A. McCutchan, Matthew R. Mumpower, Ellen M. O'Brien, Catherine Percher, Patrick N. Peplowski, Jennifer J. Ressler, Nicolas Schunck, Nicholas W. Thompson, **Andrew S. Voyles**, William Wieselquist, and Michael Zerkle, *Current nuclear data needs for applications*. Physical Review Research, **4** (2022) 021001. <https://doi.org/10.1103/PhysRevResearch.4.021001>

[PDF](#)

Morgan B. Fox, **Andrew S. Voyles**, Jonathan T. Morrell, Lee A. Bernstein, Jon C. Batchelder, Eva R. Birnbaum, Cathy S. Cutler, Arjan J. Koning, Amanda M. Lewis, Dmitri G. Medvedev, Francois M. Nortier, Ellen M. O'Brien, and Christiaan Vermeulen, *Measurement and modeling of proton-induced reactions on arsenic from 35 to 200 MeV*. Physical Review C, **104** (2021) 064615. <https://doi.org/>

[PDF](#)

Stephan Friedrich, Geon-Bo Kim, Dongwon Lee, J. Ad Hall, Robin Cantor, **Andrew Voyles**, Ruslan Hummatov, and Stephen P.T. Boyd, *Ultra-High Resolution Magnetic Microcalorimeter Gamma-Ray Detectors for Non-Destructive Assay of Uranium and Plutonium*. Journal of Nuclear Materials Management, **49** (2021), 114–122.

[PDF](#)

Ryan K. Chapman, **Andrew S. Voyles**, Narek Gharibyan, Lee A. Bernstein, and James E. Bevins, *Measurement of the $^{160}\text{Gd}(p,n)^{160}\text{Tb}$ excitation function from 4–18 MeV using stacked-target activation*. Applied Radiation and Isotopes, **171** (2021) 109647. <https://doi.org/10.1016/j.apradiso.2021.109647>

[PDF](#)

D.L. Bleuel, L.A. Bernstein, R.A. Marsh, J.T. Morrell, B. Rusnak, and **A.S. Voyles**, *Precision measurement of relative γ -ray intensities from the decay of ^{61}Cu* . Applied Radiation and Isotopes, **170** (2021) 109625. <https://doi.org/10.1016/j.apradiso.2021.109625>

[PDF](#)

D. Gjestvang, S. Siem, F. Zeiser, J. Randrup, R. Vogt, J.N. Wilson, F. Bello-Garrote, L.A. Bernstein, D.L. Bleuel, M. Guttormsen, A. Görgen, A.C. Larsen, K.L. Malatji, E.F. Matthews, A. Oberstedt, S. Oberstedt, T. Torny, G.M. Tveten, and **A.S. Voyles**, *Excitation energy dependence of prompt fission γ -ray emission from $^{241}\text{Pu}^*$* . Physical Review C, **103** (2021) 034609. <https://doi.org/10.1103/PhysRevC.103.034609>

[PDF](#)

Morgan B. Fox, **Andrew S. Voyles**, Jonathan T. Morrell, Lee A. Bernstein, Amanda M. Lewis, Arjan J. Koning, Jon C. Batchelder, Eva R. Birnbaum, Cathy S. Cutler, Dmitri G. Medvedev, Francois M. Nortier, Ellen M. O'Brien, and Christiaan Vermeulen, *Investigating high-energy proton-induced reactions on spherical nuclei: Implications for the preequilibrium exciton model*. Physical Review C, **103** (2021) 034601. <https://doi.org/10.1103/PhysRevC.103.034601>

[PDF](#)

Andrew S. Voyles, Amanda M. Lewis, Jonathan T. Morrell, M. Shamsuzzoha Basunia, Lee A. Bernstein, Jonathan W. Engle, Stephen A. Graves, and Eric F. Matthews, *Proton-induced reactions on Fe, Cu, & Ti from threshold to 55 MeV*. The European Physical Journal A, **57** (2021) 94. <https://doi.org/10.1140/epja/s10050-021-00401-2>

[PDF](#)

M. Shuza Uddin, Bernhard Scholten, M. Shamsuzzoha Basunia, Sandor Sudár, Stefan Spellerberg, **Andrew S. Voyles**, Jonathan T. Morrell, Haleema Zaneb, Jesus A. Rios, Ingo Spahn, Lee A. Bernstein, Bernd Neumaier, and Syed M. Qaim, *Accurate Determination of Production Data of the Non-Standard Positron Emitter ^{86}Y via the $^{86}\text{Sr}(p,n)$ -Reaction*. Radiochimica Acta, **108** (2020) 747–756. <https://doi.org/10.1515/ract-2020-0021>

[PDF](#)

M.S. Basunia, J.T. Morrell, M.S. Uddin, **A.S. Voyles**, C.D. Nesaraja, L.A. Bernstein, E. Browne, M.J. Martin, and S.M. Qaim, *Resolution of a discrepancy in the γ -ray emission probability from the β decay of $^{137}\text{Ce}^g$* . Physical Review C, **101** (2020) 064619. <https://doi.org/10.1103/PhysRevC.101.064619>

[PDF](#)

G.B. Kim, S.T.P. Boyd, R.H. Cantor, **A.S. Voyles**, J.T. Morrell, L.A. Bernstein, and S. Friedrich, *A New Measurement of the 60 keV Emission from Am-241 Using Metallic Magnetic Calorimeters*. Journal of

Low Temperature Physics, (2020) 1-7.
<https://doi.org/10.1007/s10909-020-02412-7>
[PDF](#)

Jonathan T. Morrell, **Andrew S. Voyles**, M. S. Basunia, Jon C. Batchelder, Eric F. Matthews, and Lee A. Bernstein, *Measurement of $^{139}\text{La}(p,x)$ cross sections from 35–60 MeV by stacked-target activation*. The European Physical Journal A, **56** (2020) 13. <https://doi.org/10.1140/epja/s10050-019-00010-0>
[PDF](#)

Lee A. Bernstein, David A. Brown, Arjan J. Koning, Bradley T. Rearden, Catherine E. Romano, Alejandro A. Sonzogni, **Andrew S. Voyles**, and Walid Younes, *Our Future Nuclear Data Needs*. Annual Review of Nuclear and Particle Science, **69.1** (2019) 109–136. <https://doi.org/10.1146/annurev-nucl-101918-023708>
[PDF](#)

Mauricio Ayllon, Parker A. Adams, Joseph D. Bauer, Jon C. Batchelder, Tim A. Becker, Lee A. Bernstein, Su-Ann Chong, Jay James, Leo E. Kirsch, Ka-Ngo Leung, Eric F. Matthews, Jonathan T. Morrell, Paul R. Renne, Andrew M. Rogers, Daniel Rutte, **Andrew S. Voyles**, Karl Van Bibber, and Cory S. Waltz, *Design, construction, and characterization of a compact DD neutron generator designed for $^{40}\text{Ar}/^{39}\text{Ar}$ geochronology*. Nuclear Instruments and Methods in Physics Research A, **903** (2018) 193–203. <https://doi.org/10.1016/j.nima.2018.04.020>
[PDF](#)

Andrew S. Voyles, Lee A. Bernstein, Eva R. Birnbaum, Jonathan W. Engle, Stephen A. Graves, Toshihiko Kawano, Amanda M. Lewis, and Francois M. Nortier, *Excitation functions for (p,x) reactions of niobium in the energy range of $E_p = 40\text{--}90$ MeV*. Nuclear Instruments and Methods in Physics Research B, **429** (2018) 53–74. <https://doi.org/10.1016/j.nimb.2018.05.028>
[PDF](#)

Andrew S. Voyles, *Nuclear Excitation Functions for the Production of Novel Medical Radionuclides*, University of California, Berkeley, (2018). <https://search.proquest.com/docview/2135771326>
[PDF](#)

Andrew S. Voyles, M.S. Basunia, J.C. Batchelder, J.D. Bauer, T.A. Becker, L.A. Bernstein, E.F. Matthews, P.R. Renne, D. Rutte, M.A. Unzueta, and K.A. van Bibber, *Measurement of the $^{64}\text{Zn}, ^{47}\text{Ti}(n,p)$ Cross Sections using a DD Neutron Generator for Medical Isotope Studies*. Nuclear Instruments and Methods in Physics Research B, **410** (2017) 230–239. <https://doi.org/10.1016/j.nimb.2017.08.021>
[PDF](#)