

# Reyco Henning

## Curriculum Vitae

### Physics Interests

Experimental nuclear and particle physics. Physics beyond the Standard Model. Searches for neutrinoless double-beta decay, direct dark matter searches, underground and low-background experiments, searches for rare, exotic processes.

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### Education

**2004, PhD, Massachusetts Institute of Technology**, Experimental High-Energy Physics. Thesis Supervisor: Prof. Ulrich Becker. Thesis Title: “Search for Anti-Deuterium and Strangelets in Cosmic-rays with AMS-01”.

**1998, B.S. University of Denver**, with Honors, Magna Cum Laude, Majors: Physics, Mathematics. Minor: Astronomy.

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### Employment

2018—present University of North Carolina – Chapel Hill: Professor  
2013—2017 University of North Carolina – Chapel Hill: Associate Professor  
2007—2012 University of North Carolina – Chapel Hill: Assistant Professor  
2003—2006 Lawrence Berkeley National Laboratory: Postdoctoral Fellow  
1998—2003 Massachusetts Institute of Technology: Graduate Research Assistant  
Summer, 1997 Geophysical Fluid Dynamics Laboratory: Research Assistant  
Summer, 1996 High Altitude Observatory, NCAR: Research Assistant  
1994—1998 University of Denver: Undergraduate Research Assistant

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### Professional Memberships and Honors

- J. Carlyle Sitterson Award for Teaching First-year Students: 2018
- Pogue Senior Faculty Research and Scholarly Leave: 2017
- Co-recipient of 2016 Breakthrough Prize as member of SNO Collaboration.
- The LEGEND Collaboration (2018-present)
- The ABRACADABRA Collaboration (2017-present)
- The MAJORANA Collaboration (2003-current)
- The Sudbury Neutrino Observatory Collaboration (SNO) (2004-2007).
- The Alpha Magnetic Spectrometer (AMS) Collaboration (1998-2003).
- Phi Beta Kappa, Sigma Pi Sigma.

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### Professional Service

**External to UNC:**

- Chair, MAJORANA Experiment Executive Committee (elected) 2007-2008, 2010-2011
- The APS DNP Program Committee (2014-2016)
- Journal Reviewer: *Physical Review Letters*, *Physical Review D*, *Nuclear Instruments and Methods*, *Astroparticle Physics*, *European Journal of Physics*, *Applied Radiation and Isotopes*, *IEEE Transactions on Nuclear Science*
- Grant Proposal Reviewer: US Department of Energy

**Internal to UNC:**

- Experimental Nuclear Physics search committee 2018-2019
- Director of Graduate Admissions, Dept. of Physics and Astronomy: 2018
- UNC Goldwater Fellows selection committee: 2016, 2017
- Graduate Recruitment Committee: 2015-2016
- Intro Physics Oversight Committee: 2016-2018
- Nuclear Theory Search Committee: 2016
- Led effort to convert calculus-based introductory mechanics course at UNC into more interactive lecture-studio format: 2013
- Led effort to add modern physics to calculus-based introductory physics sequence at UNC: 2014-2015.
- Developed new BA track in Physics with a specialization in Quantitative Finance in Collaboration with Business School: 2013-2014
- Lecturer Search Committee: 2014
- Graduate Affairs & Studies Committee Member: 2009
- Academic Advisor for Physics Majors: 2007-2009, 2011-2013, 2017-2018
- Compiled new undergraduate advising plan: 2008
- Graduate Admissions Committee Member: 2011
- Undergraduate Affairs and Studies Committee Member: 2009-2010, 2013
- Undergraduate Recruiting Committee Member: 2011
- K-12 Outreach Committee Member: 2011
- Society of Physics Students Advisor: 2007-2009
- Provided questions and graded for graduate qualifying exams: 2007-2017
- Served on approximately 20 graduate prelim and thesis committees.

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**Teaching**

Shanghai International Summer School of Neutrino and Dark Matter Summer School, Jiao Tong University, Shanghai, China (2012)

Spring 2007: PHYS 128 "Modern Physics", 33 students

Fall 2007: PHYS 128 "Modern Physics", 27 students

Spring 2008: PHYS 321 "Introduction to Quantum Mechanics", 11 students

Fall 2008: PHYS 128 "Modern Physics", 32 students

Spring 2009: PHYS 321 "Introduction to Quantum Mechanics", 18 students

Fall 2009: PHYS 721 "Quantum Mechanics" (graduate), 10 students

Fall 2010: PHYS 521 "Applications of Quantum Mechanics", 18 students

Fall 2011: PHYS 521 "Applications of Quantum Mechanics", 24 students

Spring 2012: PHYS 321 "Introduction to Quantum Mechanics", 21 students  
Spring 2012: PHYS 862 "Nuclear Physics II" (graduate), 5 students  
Fall 2012: PHYS 116 "Mechanics" SCALE-UP w/ L. McNeil, 45 students  
Spring 2013: PHYS 116 "Mechanics" SCALE-UP, 45 students  
Fall 2013: PHYS 116 "Mechanics" Lecture-studio format, 233 students  
Fall 2014: PHYS 118 "Mechanics and Relativity" Lecture Studio format, 230 students  
Spring 2015: PHYS 119 "Electromagnetism and Quanta" Lecture Studio format, 130 students  
Fall 2015: PHYS 119 "Electromagnetism and Quanta" Lecture Studio format, 85 students  
Spring 2016: PHYS 119 "Electromagnetism and Quanta" Lecture Studio format, 148 students  
Fall 2016: PHYS 118 "Mechanics and Relativity" Lecture Studio format, 250 students  
Spring 2017: Pogue Leave  
Fall 2017: Teaching Release.  
Spring 2018: PHYS 861 "Nuclear Physics" (Graduate), 11 students.  
Fall 2019: RSA Leave  
Spring 2019: PHYS 119 "Electromagnetism and Quanta" Lecture Studio format, 115 students

## Public Lectures, and Education and Outreach Activities

- “Taming the Dark Matter Zoo Without Telescopes” Public presentation at Astronomy on Tap in the Triangle, Apr 2019
- “Why become a Major in Physics & Astronomy at Carolina?” recruitment presentation to students at North Carolina School of Science and Mathematics, Dec. 2017
- “The Nature of Matter and UNC’s Nobel Connection.” invited presentation to NC high school teachers at SHAPE 2016: “Symposium on Horizons in Astronomy and Physics Education”
- Video conference from underground at SURF to North Carolina Science Museum in Raleigh as part of Annual Neutrino Day in 2015
- Video conference from underground at SURF to surface facility as part of Neutrino Day 2013 in Lead, SD
- "The nature of matter and dark matter," presentation to TC Roberson high school Students, Feb 24, 2012.
- "The nature of matter and dark matter," presentation to Durham Scientifica high school Students, Apr. 9, 2011
- "The nature of matter and dark matter," presentation to high school students at Durham School of the Arts, Mar. 2, 2011
- “Understanding the Nature of Matter and Searches for Dark Matter”, invited presentation to NC high school teachers at SHAPE 2010: “Symposium on Horizons in Astronomy and Physics Education”, Dec. 29. 2010.
- “Understanding the Nature of Matter and Searches for Dark Matter”, UNC Science Expo Scientific Talk as part of North Carolina Science Festival, Sept. 25, 2010
- “Why Antimatter Matters”, Brown Bag Lunch Public Talk as part of North Carolina Science Festival, Sept. 15, 2010
- Expert Reviewer for Science 360 Show on Antimatter at Morehead Planetarium and Science Center, 2010.
- “Restarting the Big Bang Machine”, presentation at Morehead Planetarium Current Science Forum, Nov. 5, 2009
- “How Small is Small”, presented at Morehead Planetarium and Science Center “Meet as Scientist” Event, Sept. 9, 2007

## Postdocs and Students Supervised

### Postdocs (Co-supervised with John Wilkerson):

Tom Caldwell (now research scientist, UNC)  
Wenqin Xu (now faculty, University of South Dakota)  
Chris O'Shaughnessy (now Los Alamos National Laboratory)  
Michael Ronquest (now industry)  
Melissa Boswell (now Los Alamos National Laboratory)  
Dave Phillips (now Industry)  
Matthew Green (now faculty, North Carolina State University)  
Florian Fraenkle (now post-doc at the Karlsruhe Institute of Technology)

### Graduate:

#### **Padraic Finnerty MS 2008, PhD 2013**

MS Title: "Commissioning of a Low-Background Counting Facility at the Kimballton Mine"

PhD Title: "A Direct Dark Matter Search with the MAJORANA Low-Background Broad Energy Germanium Detector"

#### **Sean MacMullin MS 2009, PhD 2013**

MS Title: "Background Reduction and Detector Characterization at the Kimballton Underground Research Facility"

PhD Title: "Elastic and inelastic neutron scattering as backgrounds for dark matter and neutrinoless double-beta decay experiments"

#### **Kyle Snavely MS 2013**

MS Title: "The Majorana Parts Tracking Database"

#### **Jim Trimble PhD 2016**

PhD Title: "Low-Background Germanium Radioassay For The Majorana Collaboration"

#### **Kris Vorren, PhD 2017**

PhD Title: "A Direct Search for Dark Matter with the MAJORANA DEMONSTRATOR"

#### **Gulden Othman MS 2016, PhD expected 2020**

MS Title: "Design of a Novel Electromagnet for an Experimental Search for CP Violation in Positronium Decays"

#### **Chelsea Bartram, PhD 2019**

PhD Title: "CALIOPE, A Search for *CPT*-Violation in Positronium"

#### **Jamin Rager PhD 2019**

PhD Title: "A Search for Bosonic Dark Matter with the Majorana Demonstrator"

Aaron Engelhardt, current, PhD expected 2024

Pan Ji, current, PhD expected 2024

**Undergraduate Researchers:**

Kate Richardson (current)  
Zelong Yi (current)  
Jie Wei Leow, NUS Exchange student  
Corey Pahel-Short  
Thomas Marshall  
Samantha Pagan (now Yale)  
Chris Silver (now Industry)  
Chiara Salemi (now MIT, Goldwater Scholar 2016)  
Jake Murphy  
Robert Alfredson (now Industry)  
Drew Smith (now Duke University)  
Ryan Petersburg (now Yale University)  
Max Hays (now Yale University)  
Greg MacCabe (now Caltech)  
Bill Ireland (now Caltech)  
James Walker (now Michigan State)  
Ben Rose (TUNL REU 2011)  
Benjamin Laroque (now UC Santa Barbara)  
Lenny Evans (now UC Berkeley, Goldwater Scholar 2013)  
Michael Brown (TUNL REU 2010, now U. of Kentucky)  
Kalissa Andre (now Penn State)  
David Kaleko (now Columbia)  
Rebecca Holmes (UIUC PhD program, now Los Alamos National Laboratory)  
Alex Long (now Boston U.)  
Kevin Macon (now LSU)  
Austin Stevens  
Emily Morgan (2007 SURF recipient, now UNC)  
Shauna Marquess (TUNL REU 2008, now Naval Surface Warfare Center)  
Kimberly Venta (TUNL REU 2007, now industry)

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## Refereed Publications:

- 1) “Multi-site event discrimination for the MAJORANA DEMONSTRATOR” S.I. Alvis, I.J. Arnquist, F.T. Avignone III, A.S. Barabash, C.J. Barton, F.E. Bertrand, B. Bos, M. Buuck, T.S. Caldwell, Y-D. Chan, C.D. Christofferson, P.-H. Chu, C. Cuesta, J.A. Detwiler, H. Ejiri, S.R. Elliott, T. Gilliss, G.K. Giovanetti, M.P. Green, J. Gruszko, I.S. Guinn, V.E. Guiseppe, C.R. Haufe, R.J. Hegedus, L. Hehn, **R. Henning**, D. Hervas Aguilar, E.W. Hoppe, M.A. Howe, K.J. Keeter, M.F. Kidd, S.I. Konovalov, R.T. Kouzes, A.M. Lopez, R.D. Martin, R. Massarczyk, S.J. Meijer, S. Mertens, J. Myslik, G. Othman, W. Pettus, A. Piliounis, A.W.P. Poon, D.C. Radford, J. Rager, A.L. Reine, K. Rielage, N.W. Ruof, B. Shanks, M. Shirchenko, D. Tedeschi, R.L. Varner, S. Vasilyev, Vasundhara, B.R. White, J.F. Wilkerson, C. Wiseman, W. Xu, E. Yakushev, C.-H. Yu, V. Yumatov, I. Zhitnikov, B.X. Zhu (The MAJORANA Collaboration), arXiv:1901.05388, *accepted for publication in Phys. Rev. C*
- 2) “A Search for Neutrinoless Double-Beta Decay in  $^{76}\text{Ge}$  with 26 kg-yr of Exposure from the MAJORANA DEMONSTRATOR” S.I. Alvis, I.J. Arnquist, F.T. Avignone III, A.S. Barabash, C.J. Barton, V. Basu, F.E. Bertrand, B. Bos, M. Busch, M. Buuck, T.S. Caldwell, Y-D. Chan, C.D. Christofferson, P.-H. Chu, C. Cuesta, J.A. Detwiler, Yu. Efremenko, H. Ejiri, S.R. Elliott, T. Gilliss, G.K. Giovanetti, M.P. Green, J. Gruszko, I.S. Guinn, V.E. Guiseppe, C.R. Haufe, R.J. Hegedus, L. Hehn, **R. Henning**, D. Hervas Aguilar, E.W. Hoppe, M.A. Howe, M.F. Kidd, S.I. Konovalov, R.T. Kouzes, A.M. Lopez, R.D. Martin, R. Massarczyk, S.J. Meijer, S. Mertens, J. Myslik, G. Othman, W. Pettus, A. Piliounis, A.W.P. Poon, D.C. Radford, J. Rager, A.L. Reine, K. Rielage, N.W. Ruof, B. Shanks, M. Shirchenko, D. Tedeschi, R.L. Varner, S. Vasilyev, B.R. White, J.F. Wilkerson, C. Wiseman, W. Xu, E. Yakushev, C.-H. Yu, V. Yumatov, I. Zhitnikov, B.X. Zhu (The MAJORANA Collaboration), arXiv:1902.02299, *accepted for publication in Phys. Rev. C*
- 3) “Design and Implementation of the ABRACADABRA-10 cm Axion Dark Matter Search” Jonathan L. Ouellet, Chiara P. Salemi, Joshua W. Foster, **Reyco Henning**, Zachary Bogorad, Janet M. Conrad, Joseph A. Formaggio, Yonatan Kahn, Joe Minervini, Alexey Radovinsky, Nicholas L. Rodd, Benjamin R. Safdi, Jesse Thaler, Daniel Winklehner, Lindley Winslow, *Phys. Rev. D* **99** (2019) 052012-1— 052012-13
- 4) “First Results from ABRACADABRA-10 cm: A Search for Sub- $\mu\text{eV}$  Axion Dark Matter” Jonathan L. Ouellet, Chiara P. Salemi, Joshua W. Foster, **Reyco Henning**, Zachary Bogorad, Janet M. Conrad, Joseph A. Formaggio, Yonatan Kahn, Joe Minervini, Alexey Radovinsky, Nicholas L. Rodd, Benjamin R. Safdi, Jesse Thaler, Daniel Winklehner, Lindley Winslow, *Phys. Rev. Lett.* **122** (2018) 121802-1 — 121802-7
- 5) “Search for trinucleon decay in the MAJORANA DEMONSTRATOR” S. I. Alvis, I. J. Arnquist, F. T. Avignone III, A. S. Barabash, C. J. Barton, V. Basu, F. E. Bertrand, B. Bos, V. Brudanin, M. Busch, M. Buuck, T. S. Caldwell, Y-D. Chan, C. D. Christofferson, P.-H. Chu, C. Cuesta, J. A. Detwiler, Yu. Efremenko, H. Ejiri, S. R. Elliott, T. Gilliss, G. K. Giovanetti, M. P. Green, J. Gruszko, I. S. Guinn, V. E. Guiseppe, C. R. Haufe, R. J. Hegedus, L. Hehn, **R. Henning**, D. Hervas Aguilar, E. W. Hoppe, M. A. Howe, K. J. Keeter, M. F. Kidd, S. I. Konovalov, R. T.

Kouzes, A. M. Lopez, R. D. Martin, R. Massarczyk, S. J. Meijer, S. Mertens, J. Myslik, G. Othman, W. Pettus, A. Piliounis, A. W. P. Poon, D. C. Radford, J. Rager, A. L. Reine, K. Rielage, N. W. Ruof, B. Shanks, M. Shirchenko, D. Tedeschi, R. L. Varner, S. Vasilyev, B. R. White, J. F. Wilkerson, C. Wiseman, W. Xu, E. Yakushev, C.-H. Yu, V. Yumatov, I. Zhitnikov, and B. X. Zhu (The MAJORANA Collaboration), arXiv:1902.02299 *Phys. Rev. D* **99** (2019) 072004-1—072004-8

- 6) “First Limit on the Direct Detection of Lightly Ionizing Particles for Electric Charge as Low as  $e/1000$  with the MAJORANA DEMONSTRATOR” S. I. Alvis, I. J. Arnuquist, F. T. Avignone III, A. S. Barabash, C. J. Barton, F. E. Bertrand, V. Brudanin, M. Busch, M. Buuck, T. S. Caldwell, Y-D. Chan, C. D. Christofferson, P.-H. Chu, C. Cuesta, J. A. Detwiler, C. Dunagan, Yu. Efremenko, H. Ejiri, S. R. Elliott, T. Gilliss, G. K. Giovanetti, M. P. Green, J. Gruszko, I. S. Guinn, V. E. Guiseppe, C. R. Haufe, L. Hehn, **R. Henning**, E. W. Hoppe, M. A. Howe, S. I. Konovalov, R. T. Kouzes, A. M. Lopez, R. D. Martin, R. Massarczyk, S. J. Meijer, S. Mertens, J. Myslik, C. O’Shaughnessy, G. Othman, W. Pettus, A. W. P. Poon, D. C. Radford, J. Rager, A. L. Reine, K. Rielage, R. G. H. Robertson, N. W. Ruof, B. Shanks, M. Shirchenko, A. M. Suriano, D. Tedeschi, R. L. Varner, S. Vasilyev, K. Vorren, B. R. White, J. F. Wilkerson, C. Wiseman, W. Xu, E. Yakushev, C.-H. Yu, V. Yumatov, I. Zhitnikov, B. X. Zhu (The MAJORANA Collaboration), arXiv:1801.10145, *Phys. Rev. Lett.* **120** (2018) 211804-1—211804-7
- 7) “Search for Neutrinoless Double- $\beta$  Decay in  $^{76}\text{Ge}$  with the MAJORANA DEMONSTRATOR,” C.E. Aalseth, N. Abgrall, E. Aguayo, S.I. Alvis, M. Amman, I.J. Arnuquist, F.T. Avignone III, H.O. Back, A.S. Barabash, P.S. Barbeau, C.J. Barton, P.J. Barton, F.E. Bertrand, T. Bode, B. Bos, M. Boswell, R.L. Brodzinski, A.W. Bradley, V. Brudanin, M. Busch, M. Buuck, A.S. Caldwell, T.S. Caldwell, Y-D. Chan, C.D. Christofferson, P.-H. Chu, J.I. Collar, D.C. Combs, R.J. Cooper, C. Cuesta, J.A. Detwiler, P.J. Doe, J.A. Dunmore, Yu. Efremenko, H. Ejiri, S.R. Elliott, J.E. Fast, P. Finnerty, F.M. Fraenkle, Z. Fu, B.K. Fujikawa, E. Fuller, A. Galindo-Uribarri, V.M. Gehman, T. Gilliss, G.K. Giovanetti, J. Goett, M.P. Green, J. Gruszko, I.S. Guinn, V.E. Guiseppe, A.L. Hallin, C.R. Haufe, L. Hehn, **R. Henning**, E.W. Hoppe, T.W. Hossbach, M.A. Howe, B.R. Jasinski, R.A. Johnson, K.J. Keeter, J.D. Kephart, M.F. Kidd, A. Knecht, S.I. Konovalov, R.T. Kouzes, K.T. Lesko, B.D. LaFerriere, J. Leon, L.E. Leviner, J.C. Loach, A.M. Lopez, P.N. Luke, J. MacMullin, S. MacMullin, M.G. Marino, R.D. Martin, R. Massarczyk, A.B. McDonald, D.-M. Mei, S.J. Meijer, J.H. Merriman, S. Mertens, H.S. Miley, M.L. Miller, J. Myslik, J.L. Orrell, C. O’Shaughnessy, G. Othman, N.R. Overman, W. Pettus, D.G. Phillips II, A.W.P. Poon, G. Perumpilly, K. Pushkin, D.C. Radford, J. Rager, J.H. Reeves, A.L. Reine, K. Rielage, R.G.H. Robertson, M.C. Ronquest, N.W. Ruof, A.G. Schubert, B. Shanks, M. Shirchenko, K.J. Snaveley, N. Snyder, D. Steele, A.M. Suriano, D. Tedeschi, W. Tornow, J.E. Trimble, R.L. Varner, S. Vasilyev, K. Vetter, K. Vorren, B.R. White, J.F. Wilkerson, C. Wiseman, W. Xu, E. Yakushev, H. Yaver, A.R. Young, C.-H. Yu, V. Yumatov, I. Zhitnikov, B.X. Zhu, S. Zimmermann (The MAJORANA Collaboration), arXiv:1710.11608, *Phys. Rev. Lett.* **120** (2018) 13502-1—13502-7  
**(Editor’s Suggestion)**
- 8) “The Processing of Enriched Germanium for the MAJORANA DEMONSTRATOR and R&D for a Possible Future Ton-Scale Ge-76 Double-Beta Decay Experiment,” N. Abgrall, I.J. Arnuquist, F.T. Avignone III, A.S. Barabash, F.E. Bertrand, A.W. Bradley, V. Brudanin, M. Busch, M. Buuck, J. Caja, M. Caja, T.S. Caldwell, C.D. Christofferson, P.-H. Chu, C. Cuesta, J.A. Detwiler, C. Dunagan, D.T. Dunstan, Yu. Efremenko, H. Ejiri, S.R. Elliott, T. Gilliss, G.K. Giovanetti, J. Goett, M.P. Green, J. Gruszko, I.S. Guinn, V.E. Guiseppe, C.R.S. Haufe, R. Henning, E.W.



- Hoppe, B.R. Jasinski, M.F. Kidd, S.I. Konovalov, R.T. Kouzes, A.M. Lopez, J. MacMullin, R.D. Martin, R. Massarczyk, S.J. Meijer, S. Mertens, J.H. Meyer, J. Myslik, C. O'Shaughnessy, A.W.P. Poon, D.C. Radford, J. Rager, A.L. Reine, J.A. Reising, K. Rielage, R.G.H. Robertson, B. Shanks, M. Shirchenko, A.M. Suriano, D. Tedeschi, L.M. Toth, J.E. Trimble, R.L. Varner, S. Vasilyev, K. Vetter, K. Vorren, B.R. White, J.F. Wilkerson, C. Wiseman, W. Xu, E. Yakushev, C.-H. Yu, V. Yumatov, I. Zhitnikov, B.X. Zhu (The MAJORANA Collaboration), arXiv:1707.06255, *Nucl. Instr. and Methods A*, **877** (2018) 314 —322
- 9) “Muon Flux Measurements at the Davis Campus of the Sanford Underground Research Facility with the Majorana Demonstrator Veto System”, N. Abgrall, E. Aguayo, F.T. Avignone III, A.S. Barabash, F.E. Bertrand, A.W. Bradley, V. Brudanin, M. Busch, M. Buuck, D. Byram, A.S. Caldwell, Y.-D. Chan, C.D. Christofferson, P.-H. Chu, C. Cuesta, J.A. Detwiler, C. Dunagan, Yu. Efremenko, H. Ejiri, S.R. Elliott, A. Galindo-Uribarri, T. Gilliss, G.K. Giovanetti, J. Goett, M.P. Green, J. Gruszko, I.S. Guinn, V.E. Guiseppe, **R. Henning**, E.W. Hoppe, S. Howard, M.A. Howe, B.R. Jasinski, K.J. Keeter, M.F. Kidd, S.I. Konovalov, R.T. Kouzes, B.D. LaFerriere, J. Leon, A.M. Lopez, J. MacMullin, R.D. Martin, R. Massarczyk, S.J. Meijer, S. Mertens, J.L. Orrell, C. O'Shaughnessy, N.R. Overman, A.W.P. Poon, D.C. Radford, J. Rager, K. Rielage, R.G.H. Robertson, E. Romero-Romero, M.C. Ronquest, C. Schmitt, B. Shanks, M. Shirchenko, N. Snyder, A.M. Suriano, D. Tedeschi, J.E. Trimble, R.L. Varner, S. Vasilyev, K. Vetter, K. Vorren, B.R. White, J.F. Wilkerson, C. Wiseman, W. Xu, E. Yakushev, C.-H. Yu, V. Yumatov, I. Zhitnikov. (The MAJORANA Collaboration), arXiv:1602.07742, *Astroparticle Physics* **93** (2017) 70—75
- 10) “The MAJORANA DEMONSTRATOR calibration system,” N. Abgrall, I.J. Arnquist, F.T. Avignone III, A.S. Barabash, F.E. Bertrand, M. Boswell, A.W. Bradley, V. Brudanin, M. Busch, M. Buuck, T.S. Caldwell, C.D. Christofferson, P.-H. Chu, C. Cuesta, J.A. Detwiler, C. Dunagan, Yu. Efremenko, H. Ejiri, S.R. Elliott, Z. Fu, V.M. Gehman, T. Gilliss, G.K. Giovanetti, J. Goett, M.P. Green, J. Gruszko, I.S. Guinn, V.E. Guiseppe, C.R. Haufe, R. Henning, E.W. Hoppe, M.A. Howe, B.R. Jasinski, K.J. Keeter, M.F. Kidd, S.I. Konovalov, R.T. Kouzes, A.M. Lopez, J. MacMullin, R.D. Martin, R. Massarczyk S.J. Meijer, S. Mertens, J.L. Orrell, C. O'Shaughnessy, A.W.P. Poon, D.C. Radford, J. Rager, A.L. Reine, K. Rielage, R.G.H. Robertson, B. Shanks, M. Shirchenko, A.M. Suriano, D. Tedeschi, J.E. Trimble, R.L. Varner, S. Vasilyev, K. Vetter, K. Vorren, B.R. White, J.F. Wilkerson, C. Wiseman, W. Xu, C.-H. Yu, V. Yumatov, I. Zhitnikov, B.X. Zhu (The MAJORANA Collaboration) *Nucl. Instr. and Methods A* **872** (2017) 16—22
- 11) “New limits on bosonic dark matter, solar axions, Pauli Exclusion Principle, and 2 electron decay from the low-energy spectrum of the MAJORANA DEMONSTRATOR”, N. Abgrall, I.J. Arnquist, F.T. Avignone III, A.S. Barabash, F.E. Bertrand, A.W. Bradley, V. Brudanin, M. Busch, M. Buuck, T.S. Caldwell, Y.-D. Chan, C.D. Christofferson, P.-H. Chu, C. Cuesta, J.A. Detwiler, C. Dunagan, Yu. Efremenko, H. Ejiri, S.R. Elliott, T. Gilliss, G.K. Giovanetti, J. Goett, M.P. Green, J. Gruszko, I.S. Guinn, V.E. Guiseppe, C.R.S. Haufe, **R. Henning**, E.W. Hoppe, S. Howard, M.A. Howe, B.R. Jasinski, K.J. Keeter, M.F. Kidd, S.I. Konovalov, R.T. Kouzes, A.M. Lopez, J. MacMullin, R.D. Martin, R. Massarczyk, S.J. Meijer, S. Mertens, C.O'Shaughnessy, A.W.P. Poon, D.C. Radford, J. Rager, A.L. Reine, K. Rielage, R.G.H. Robertson, B. Shanks, M. Shirchenko, A.M. Suriano, D. Tedeschi, J.E. Trimble, R.L. Varner, S. Vasilyev, K. Vetter, K. Vorren, B.R. White, J.F. Wilkerson, C. Wiseman, W. Xu, E. Yakushev, C.-H. Yu, V. Yumatov, I. Zhitnikov, B.X. Zhu (The MAJORANA Collaboration), arXiv:1612.00886, *Physical Review Letters* **118** (2017) 161801

- 12) “Search for Pauli exclusion principle violating atomic transitions and electron decay with a p-type point contact germanium detector”, N. Abgrall, I.J. Arnquist, F.T. Avignone III, A.S. Barabash, F.E. Bertrand, A.W. Bradley, V. Brudanin, M. Busch, M. Buuck, A.S. Caldwell, Y-D. Chan, C.D. Christofferson, P.-H. Chu, C. Cuesta, J.A. Detwiler, C. Dunagan, Yu. Efremenko, H. Ejiri, S.R. Elliott, P.S. Finnerty, A. Galindo-Uribarri, T. Gilliss, G.K. Giovanetti, J. Goett, M.P. Green, J. Gruszko, I.S. Guinn, V.E. Guiseppe, **R. Henning**, E.W. Hoppe, S. Howard, M.A. Howe, B.R. Jasinski, K.J. Keeter, M.F. Kidd, S.I. Konovalov, R.T. Kouzes, B.D. LaFerriere, J. Leon, J. MacMullin, R.D. Martin, R. Massarczyk, S.J. Meijer, S. Mertens, J.L. Orrell, C. O’Shaughnessy, A.W.P. Poon, D.C. Radford, J. Rager, K. Rielage, R.G.H. Robertson, E. Romero-Romero, B. Shanks, M. Shirchenko, A.M. Suriano, D. Tedeschi, J.E. Trimble, R.L. Varner, S. Vasilyev, K. Vetter, K. Vorren, B.R. White, J.F. Wilkerson, C. Wiseman, W. Xu, E. Yakushev, C.-H. Yu, V. Yumatov, I. Zhitnikov. (The MAJORANA Collaboration) *Eur. Phys. J. C* **76** (2016) 619—624
- 13) “The MAJORANA DEMONSTRATOR Radioassay Program”, N. Abgrall, I.J. Arnquist, F.T. Avignone III, H.O. Back, A.S. Barabash, F.E. Bertrand, M. Boswell, A.W. Bradley, V. Brudanin, M. Busch, M. Buuck, D. Byram, A.S. Caldwell, Y-D. Chan, C.D. Christofferson, P.-H. Chu, C. Cuesta, J.A. Detwiler, J.A. Dunmore, Yu. Efremenko, H. Ejiri, S.R. Elliott, P. Finnerty, A. Galindo-Uribarri, V.M. Gehman, T. Gilliss, G.K. Giovanetti, J. Goett, M.P. Green, J. Gruszko, I.S. Guinn, V.E. Guiseppe, **R. Henning**, E.W. Hoppe, S. Howard, M.A. Howe, B.R. Jasinski, R.A. Johnson, K.J. Keeter, M.F. Kidd, O. Kochetoi, S.I. Konovalov, R.T. Kouzes, B.D. LaFerriere, J. Leon, J.C. Loach, J. MacMullin, S. MacMullin, R.D. Martin, R. Massarczyk, S. Meijer, S. Mertens, M.L. Miller, J.L. Orrell, C. O’Shaughnessy, N.R. Overman, A.W.P. Poon, K. Pushkin, D.C. Radford, J. Rager, K. Rielage, R.G.H. Robertson, E. Romero-Romero, M.C. Ronquest, A.G. Schubert, B. Shanks, M. Shirchenko, K.J. Snavely, N. Snyder, D. Steele, A.M. Suriano, D. Tedeschi, J.E. Trimble, R.L. Varner, S. Vasilyev, K. Vetter, K. Vorren, B.R. White, J.F. Wilkerson, C. Wiseman, W. Xu, E. Yakushev, C.-H. Yu, V. Yumatov, I. Zhitnikov. (The MAJORANA Collaboration), *Nucl. Instr. and Methods A*, **828** (2016) 22—36
- 14) “Current status of neutrinoless double-beta decay searches”, **R. Henning**, *Reviews in Physics*, **1** (2016) 29—35
- 15) “High voltage testing for the MAJORANA DEMONSTRATOR”, N. Abgrall, I.J. Arnquist, F.T. Avignone III, A.S. Barabash, F.E. Bertrand, A.W. Bradley, V. Brudanin, M. Busch, M. Buuck, D. Byram, A.S. Caldwell, Y-D. Chan, C.D. Christofferson, P.-H. Chu, C. Cuesta, J.A. Detwiler, P.J. Doe, C. Dunagan, Yu. Efremenko, H. Ejiri, S.R. Elliott, Z. Fu, A. Galindo-Uribarri, G.K. Giovanetti, J. Goett, M.P. Green, J. Gruszko, I.S. Guinn, V.E. Guiseppe, **R. Henning**, E.W. Hoppe, S. Howard, M.A. Howe, B.R. Jasinski, K.J. Keeter, M.F. Kidd, S.I. Konovalov, R.T. Kouzes, B.D. LaFerriere, J. Leon, A. Li, J. MacMullin, R.D. Martin, R. Massarczyk, S.J. Meijer, S. Mertens, J.L. Orrell, C. O’Shaughnessy, A.W.P. Poon, D.C. Radford, J. Rager, K. Rielage, R.G.H. Robertson, E. Romero-Romero, B. Shanks, M. Shirchenko, N. Snyder, A.M. Suriano, D. Tedeschi, A. Thompson, K.T. Ton, J.E. Trimble, R.L. Varner, S. Vasilyev, K. Vetter, K. Vorren, B.R. White, J.F. Wilkerson, C. Wiseman, W. Xu, E. Yakushev, C.-H. Yu, V. Yumatov. (The MAJORANA Collaboration), *Nucl. Instr. and Methods A* **823** (2016) 83—90
- 16) “The Majorana Parts Tracking Database”, N. Abgrall, E. Aguayo, F. T. Avignone III, A. S. Barabash, F. E. Bertrand, V. Brudanin, M. Busch, D. Byram, A. S. Caldwell, Y-D. Chan, C. D.

- Christofferson, D. C. Combs, C. Cuesta, J. A. Detwiler, P. J. Doe, Yu. Efremenko, V. Egorov, H. Ejiri, S. R. Elliott, J. Esterline, J. E. Fast, P. Finnerty, F. M. Fraenkle, A. Galindo-Uribarri, G. K. Giovanetti, J. Goett, M. P. Green, J. Gruszko, V. E. Guiseppe, K. Gusev, A. L. Hallin, R. Hazama, A. Hegai, **R. Henning**, E. W. Hoppe, S. Howard, M. A. Howe, K. J. Keeter, M. F. Kidd, O. Kochetov, S. I. Konovalov, R. T. Kouzes, B. D. LaFerriere, J. Diaz Leon, L. E. Leviner, J. C. Loach, J. MacMullin, R. D. Martin, S. J. Meijer, S. Mertens, M. L. Miller, L. Mizouni, M. Nomachi, J. L. Orrell, C. O'Shaughnessy, N. R. Overman, R. Petersburg, D. G. Phillips III, A. W. P. Poon, K. Pushkin, D. C. Radford, J. Rager, K. Rielage, R. G. H. Robertson, E. Romero-Romero, M. C. Ronquest, B. Shanks, T. Shima, M. Shirchenko, K. J. Snavelly, N. Snyder, A. Soin, A. M. Suriano, D. Tedeschi, J. Thompson, V. Timkin, W. Tornow, J. E. Trimble, R. L. Varner, S. Vasilyev, K. Vetter, K. Vorren, B. R. White, J. F. Wilkerson, C. Wiseman, W. Xu, E. Yakushev, A. R. Young, C.-H. Yu, V. Yumatov, I. Zhitnikov. (The MAJORANA Collaboration), *Nucl. Instr. and Methods A* **779** (2015) 52—62
- 17) “Improving Photoelectron Counting and Particle Identification in Scintillation Detectors with Bayesian Techniques”, M. Akashi-Ronquest, P.-A. Amaudruz, M. Batygov, B. Beltran, M. Bodmer, M.G. Boulay, B. Broerman, B. Buck, A. Butcher, B. Cai, T. Caldwell, M. Chen, Y. Chen, B. Cleveland, K. Coakley, K. Dering, F.A. Duncan, J.A. Formaggio, R. Gagnon, D. Gastler, F. Giuliani, M. Gold, V.V. Golovko, P. Gorel, K. Graham, E. Grace, N. Guerrero, V. Guiseppe, A.L. Hallin, P. Harvey, C. Hearn, **R. Henning**, A. Hime, J. Hofgartner, S. Jaditz, C.J. Jillings, C. Kachulis, E. Kearns, J. Kelsey, J.R. Klein, M. Kuzniak, A. LaTorre, I. Lawson, O. Li, J.J. Lidgard, P. Liimatainen, S. Linden, K. McFarlane, D.N. McKinsey, S. MacMullin, A. Mastbaum, R. Mathew, A.B. McDonald, D.-M. Mei, J. Monroe, A. Muir, C. Nantais, K. Nicolics, J.A. Nikkel, T. Noble, E. O'Dwyer, K. Olsen, G.D. Orebi Gann, C. Ouellet, K. Palladino, P. Pasuthip, G. Perumpilly, T. Pollmann, P. Rau, F. Retiere, K. Rielage, R. Schnee, S. Seibert, P. Skensved, T. Sonley, E. Vazquez-Jauregui, L. Veloce, J. Walding, B. Wang, J. Wang, M. Ward, C. Zhang. *Astroparticle Physics* **65** (2015) 40—54
- 18) “A Dark Matter Search with MALBEK”, G.K. Giovanetti et al, *Physics Procedia*, **61**, (2015) 77
- 19) “High Statistics Measurement of the Positron Fraction in Primary Cosmic Rays of 0.5–500 GeV with the Alpha Magnetic Spectrometer on the International Space Station”, The AMS Collaboration<sup>1</sup>, *Phys. Rev. Lett.* **113** (2014) 121101-1—121101-9
- 20) “The Majorana Demonstrator Neutrinoless Double-Beta Decay Experiment”, N. Abgrall, E. Aguayo, F.T. Avignone III, A.S. Barabash, F.E. Bertrand, M. Boswell, V. Brudanin, M. Busch, A.S. Caldwell, Y-D. Chan, C.D. Christofferson, D.C. Combs, J.A. Detwiler, P.J. Doe, Yu. Efremenko, V. Egorov, H. Ejiri, S.R. Elliott, J. Esterline, J.E. Fast, P. Finnerty, F.M. Fraenkle, A. Galindo-Uribarri, G.K. Giovanetti, J. Goett, M.P. Green, J. Gruszko, V.E. Guiseppe, K. Gusev, A.L. Hallin, R. Hazama, A. Hegai, **R. Henning**, E.W. Hoppe, S. Howard, M.A. Howe, K.J. Keeter, M.F. Kidd, A. Knecht, O. Kochetov, S.I. Konovalov, R.T. Kouzes, B.D. LaFerriere, J. Leon, L.E. Leviner, J.C. Loach, S. MacMullin, R.D. Martin, S. Mertens, L. Mizouni, M. Nomachi, J.L. Orrell, C. O'Shaughnessy, N.R. Overman, D.G. Phillips II, A.W.P. Poon, K. Pushkin, D.C. Radford, K. Rielage, R.G.H. Robertson, M.C. Ronquest, A.G. Schubert, B. Shanks, T. Shima, M. Shirchenko, K.J. Snavelly, N. Snyder, D. Steele, J. Strain, A.M. Suriano, J. Thompson, V. Timkin, W. Tornow, R.L. Varner, S. Vasilyev, K. Vetter, K. Vorren, B.R. White,

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<sup>1</sup> This paper has 300 authors. The full list is available at: <http://inspirehep.net/record/1317847#>

J.F. Wilkerson, W. Xu, E. Yakushev, A.R. Young, C-H. Yu, V. Yumatov. The MAJORANA Collaboration, *Adv. High Energy Phys.* **2014** (2014) 365432-1—365432-18

- 21) “Measurement of the elastic scattering cross section of neutrons from argon and neon”, S. MacMullin, M. Kidd, **R. Henning**, W. Tornow, C.R. Howell, M. Brown, *Phys. Rev. C* **87**(2013) 054613-1 — 054613-11
- 22) “Measurement of the  $\nu_e$  and Total  $^8\text{B}$  Solar Neutrino Fluxes with the Sudbury Neutrino Observatory Phase-III Data Set”, B. Aharmim, S.N. Ahmed, J.F. Amsbaugh, J.M. Anaya, A.E. Anthony, J. Banar, N. Barros, E.W. Beier, A. Bellerive, B. Beltran, M. Bergevin, S.D. Biller, K. Boudjemline, M.G. Boulay, T.J. Bowles, M.C. Browne, T.V. Bullard, T.H. Burritt, B. Cai, Y.D. Chan, D. Chauhan, M. Chen, B.T. Cleveland, G.A. Cox, C.A. Currat, X. Dai, H. Deng, J.A. Detwiler, M. DiMarco, P.J. Doe, G. Doucas, M.R. Dragowsky, P.-L. Drouin, C.A. Duba, F.A. Duncan, M. Dunford, E.D. Earle, S.R. Elliott, H.C. Evans, G.T. Ewan, J. Farine, H. Fergani, F. Fleurot, R.J. Ford, J.A. Formaggio, M.M. Fowler, N. Gagnon, J.V. Germani, A. Goldschmidt, J.T.M. Goon, K. Graham, E. Guillian, S. Habib, R.L. Hahn, A.L. Hallin, E.D. Hallman, A.A. Hamian, G.C. Harper, P.J. Harvey, R. Hazama, K.M. Heeger, W.J. Heintzelman, J. Heise, R.L. Helmer, **R. Henning**, A. Hime, C. Howard, M.A. Howe, M. Huang, P. Jagam, B. Jamieson, N.A. Jelly, K.J. Keeter, J.R. Klein, L.L. Kormos, M. Kos, A. Krueger, C. Kraus, C.B. Krauss, T. Kutter, C.C.M. Kyba, R. Lange, J. Law, I.T. Lawson, K.T. Lesko, J.R. Leslie, J.C. Loach, R. MacLellan, S. Majerus, H.B. Mak, J. Maneira, R. Martin, N. McCauley, A.B. McDonald, S.R. McGee, C. Mifflin, G.G. Miller, M.L. Miller, B. Monreal, J. Monroe, B. Morissette, A.W. Myers, B.G. Nickel, A.J. Noble, H.M. O’Keeffe, N.S. Oblath, R.W. Ollerhead, G.D. Orebi Gann, S.M. Oser, R.A. Ott, S.J.M. Peeters, A.W.P. Poon, G. Prior, S.D. Reitzner, K. Rielage, B.C. Robertson, R.G.H. Robertson, E. Rollin, M.H. Schwendener, J.A. Secrest, S.R. Seibert, O. Simard, J.J. Simpson, P. Skensved, M.W.E. Smith, T.J. Sonley, T.D. Steiger, L.C. Stonehill, G. Tesic, P.M. Thornewell, N. Tolich, T. Tsui, C.D. Tunnell, T. Van Wechel, R. Van Berg, B.A. VanDevender, C.J. Virtue, B.L. Wall, D. Waller, H. Wan Chan Tseung, J. Wendland, N. West, J.B. Wilhelmy, J.F. Wilkerson, J.R. Wilson, J.M. Wouters, A. Wright, M. Yeh, F. Zhang, K. Zuber (The SNO Collaboration) *Phys. Rev. C* **87** (2013) 015502-1—015502-43
- 23) “Characteristics of signals originating near the lithium-diffused N<sup>+</sup> contact of high purity germanium p-type point contact detectors”, E. Aguayo, M. Amman, F. T. Avignone III, A. S. Barabash, P. J. Barton, J. R. Beene, F. E. Bertrand, M. Boswell, V. Brudanin, M. Busch, Y-D. Chan, C. D. Christofferson, J. I. Collar, D. C. Combs, R. J. Cooper, J. A. Detwiler, P. J. Doe, Yu. Efremenko, V. Egorov, H. Ejiri, S. R. Elliott, J. Esterline, J. E. Fast, N. Fields, P. Finnerty, F. M. Fraenkle, A. Galindo-Uribarri, V. M. Gehman, G. K. Giovanetti, M. P. Green, V. E. Guiseppe, K. Gusey, A. L. Hallin, R. Hazama, **R. Henning**, E. W. Hoppe, M. Horton, S. Howard, M. A. Howe, R. A. Johnson, K. J. Keeter, M. F. Kidd, A. Knecht, O. Kochetov, S. I. Konovalov, R. T. Kouzes, B. D. LaFerriere, J. Leon, L. E. Leviner, J. C. Loach, Q. Looker, P. N. Luke, S. MacMullin, M. G. Marino, R. D. Martin, J. H. Merriman, M. L. Miller, L. Mizouni, M. Nomachi, J. L. Orrell, N. R. Overman, G. Perumpilly, D. G. Phillips II, A. W. P. Poon, D. C. Radford, K. Rielage, R. G. H. Robertson, M. C. Ronquest, A. G. Schubert, T. Shima, M. Shirchenko, K. J. Snively, D. Steele, J. Strain, V. Timkin, W. Tornow, R. L. Varner, K. Vetter, K. Vorren, J. F. Wilkerson, E. Yakushev, H. Yaver, A. R. Young, C.-H. Yu, V. Yumatov (The MAJORANA Collaboration), *Nucl. Instr. and Methods A* **701** (2013) 176—185

- 24) G. K. Giovanetti on behalf of the MAJORANA collaboration, “Dark matter sensitivities of the Majorana Demonstrator,” *J. Phys. Conf. Ser.* **375** (2012) 012014-1—012014-4
- 25) J. F. Wilkerson on behalf of the MAJORANA collaboration, “The Majorana Demonstrator: A Search for Neutrinoless Double-beta Decay of Germanium-76,” *J. Phys. Conf. Ser.* **375** (2012) 042010-1—042010-5
- 26) “Neutron-induced  $\gamma$ -ray production cross sections for the first excited-state transitions in  $^{20}\text{Ne}$  and  $^{22}\text{Ne}$ ”, S. MacMullin, M. Boswell, M. Devlin, S. R. Elliott, N. Fotiades, V. E. Guiseppe, **R. Henning**, T. Kawano, B. H. LaRoque, R. O. Nelson, J. M. O'Donnell. *Phys. Rev. C* **86** (2012) 067601-1— 067601-5
- 27) “Partial gamma-ray cross sections for  $(n, xn\gamma)$  reactions in natural argon from 1 – 30 MeV”, S. MacMullin, M. Boswell, M. Devlin, S. R. Elliott, N. Fotiades, V. E. Guiseppe, **R. Henning**, B. LaRoque, R. O. Nelson, J. M. O'Donnell, *Phys. Rev. C* **85** (2012) 064614-1—064614-9
- 28) “Measurement of airborne fission products in Chapel Hill, NC, USA from the Fukushima I reactor accident” S. MacMullin, G. K. Giovanetti, M. P. Green, **R. Henning**, R. Holmes, K. Vorren, J. F. Wilkerson, *Journal of Environmental Radioactivity* **112** (2012) 165—170
- 29) “The MAJORANA Experiment” **R. Henning** on behalf of the MAJORANA Collaboration presented at MEDEX 2011 Conference. *AIP Conf. Proc.* **1417** (2011) 95 —99
- 30) "Astroparticle physics with a customized low-background broad energy Germanium detector," C.E. Aalseth, M. Amman, F.T. Avignone III, H.O. Back, A.S. Barabash, P.S. Barbeau, M. Bergevin, F.E. Bertrand, M. Boswell, V. Brudanin, W. Bugg, T.H. Burritt, M. Busch, G. Capps, Y-D. Chan, J.I. Collar, R.J. Cooper, R. Creswick, J.A. Detwiler, J. Diaz, P.J. Doe, Yu. Efremenko, V. Egorov, H. Ejiri, S.R. Elliott, J. Ely, J. Esterline, H. Farach, J.E. Fast, N. Fields, P. Finnerty, B. Fujikawa, E. Fuller, V.M. Gehman, G.K. Giovanetti, V.E. Guiseppe, K. Gusey, A.L. Hallin, G.C Harper, R. Hazama, **R. Henning**, A. Hime, E.W. Hoppe, T.W. Hossbach, M.A. Howe, R.A. Johnson, K.J. Keeter, M. Keillor, C. Keller, J.D. Kephart, M.F. Kidd, A. Knecht, O. Kochetov, S.I. Konovalov, R.T. Kouzes, L. Leviner, J.C. Loach, P.N. Luke, S. MacMullin, M.G. Marino, R.D. Martin, D.-M. Mei, H.S. Miley, M.L. Miller, L. Mizouni, A.W. Meyers, M. Nomachi, J.L. Orrell, D. Peterson, D.G. Phillips II, A.W.P. Poon, G. Prior, J. Qian, D.C. Radford, K. Rielage, R.G.H. Robertson, L. Rodriguez, K.P. Rykaczewski, H. Salazar, A.G. Schubert, T. Shima, M. Shirchenko, D. Steele, J. Strain, G. Swift, K. Thomas, V. Timkin, W. Tornow, T.D. Van Wechel, I. Vanyushin, R.L. Varner, K. Vetter, J.F. Wilkerson, B.A. Wolfe, W. Xiang, E. Yakushev, H. Yaver, A.R. Young, C.-H. Yu, V. Yumatov, C. Zhang, S. Zimmerman (The MAJORANA Collaboration), *Nucl. Instr. and Methods A* **652** (2011) 692—695
- 31) "MAGE - a GEANT 4-based Monte Carlo Application Framework for Low-background Germanium Experiments", Melissa Boswell, Yuen-Dat Chan, Jason A. Detwiler, Padraic Finnerty, **Reyco Henning**, Victor M. Gehman, Rob A. Johnson, David V. Jordan, Kareem Kazkaz, Markus Knapp, Kevin Kröniger, Daniel Lenz, Lance Leviner, Jing Liu, Xiang Liu, Sean MacMullin, Michael G. Marino, Akbar Mokhtarani, Luciano Pandola, Alexis G. Schubert, Jens Schubert, Claudia Tomei, and Oleksandr Volynets, *IEEE Trans. Nucl. Sci.* **58** (2011) 1212—1220

- 32) "Low-background gamma counting at the Kimballton Underground Research Facility", P. Finnerty, S. MacMullin, H.O. Back, **R. Henning**, A. Long, K.T. Macon, J. Strain, R.M. Lindstrom, R.B. Vogelaar, *Nucl. Instr. and Methods A* **642** (2011) 65—69
- 33) "A Pulse Shape Analysis Technique for the MAJORANA Experiment", R.J. Cooper, D. C. Radford, K. Lagergren, James F. Colaresi, Larry Darken, **R. Henning**, M.G. Marino, K. Michael Yocum, *Nucl. Instr. and Methods A* **629** (2011) 303—310
- 34) "Reconstruction of a Radiation Point Source's Radial Location Using Goodness-of-Fit Test on Spectra Obtained from an HPGe Detector", L.T. Evans, K. Andre, R. De, **R. Henning**, E.D. Morgan, *Nucl. Instr. and Methods B* **267** (2009) 3688—3693
- 35) "Measurement of the Cosmic Ray and Neutrino-Induced Muon Flux at the Sudbury Neutrino Observatory." The SNO collaboration, *Phys. Rev. D* **80** (2009) 012001-1—012001-15
- 36) "An Independent Measurement of the Total Active  $^8\text{B}$  Solar Neutrino Flux at the Sudbury Neutrino Observatory Using an Array of He Proportional Counters" The SNO collaboration, *Phys. Rev. Lett.* **101** (2008) 111301-1—111301-15
- 37) "A Generic Surface Sampler for Monte Carlo Simulations" J. A. Detwiler, **R. Henning**, R. A. Johnson, M. G. Marino. *IEEE Trans. Nucl. Sci.* **55** (2008) 2329—2333
- 38) "Evaluation of radioactive background rejection in  $^{76}\text{Ge}$  neutrino-less double-beta decay experiments using a highly segmented HPGe detector" D.B. Campbell, K. Vetter, **R. Henning**, K. Lesko, Y.D. Chan, A.W.P. Poon, M. Perry, D. Hurley, A.R. Smith, *Nuclear Instr. and Methods A* **587** (2008) 60—67
- 39) "Validation of spallation neutron production and propagation within Geant4", M.G. Marino, J.A. Detwiler, **R. Henning**, R.A. Johnson, A.G. Schubert, J.F. Wilkerson, *Nuclear Instr. and Methods A* **582** (2007) 611—620
- 40) "Measurement of the  $\nu_e$  and Total  $^8\text{B}$  Solar Neutrino Fluxes with the Sudbury Neutrino Observatory Phase I Data Set" The SNO collaboration, *Phys. Rev. C* **75** (2007) 045502-1—045502-69
- 41) "A Search for Neutrinos from the Solar  $^7\text{Be}$  Reaction and the Diffuse Supernova Neutrino Background with the Sudbury Neutrino Observatory", The SNO collaboration, *Astrophys. J.* **653** (2006) 1545—1551
- 42) "The AMS-02 Transition Radiation Detector," Ph.v. Doetinchem, S. Fopp, W. Karpinski, Th. Kirn, K. Lubelsmeyer, J. Orboeck, S. Schael, A. Schultz von Dratzig, G. Schwering, Th. Siedenburg, R. Siedling, W. Wallraff, U. Becker, J. Burger, **R. Henning**, A. Kounine, V. Koutsenko, J. Wyatt, *Nuclear Instr. and Methods A*, **558** (2006) 526—535
- 43) "A Study of Cosmic Ray Secondaries Induced by the Mir Space Station Using AMS-01," The AMS-01 Collaboration, *Nuclear Instr. and Methods B*, **234** (2005) 321—332

- 44) “The AMS-02 TRD for the International Space Station”, Florian Hauler, A. Bartoloni, U. Becker, P. Berges, B. Borgia, C. Bosi, J. Burger, M. Capell, C. H. Chung, W. de Boer, F. Dömmecke, P. Fisher, S. Fopp, C. Gargiulo, S. Gentile, **R. Henning**, L. Jungermann, W. Karpinski, G. N. Kim, Th. Kirn, A. Kounine, V. Koutsenko, A. Lebedev, K. Lübelmeyer, B. Monreal, W. H. Park, P. Rapagnani, S. Schael, M. Schmanau, K. Scholberg, G. Schwering, T. Siedenburg, W. Wallraff, D. Son, and M. Wlochal, *IEEE Trans. Nucl. Sci.* **51** (2004) 1365—1372
- 45) “Helioseismic constraints on the structure of the solar tachocline”, Charbonneau, P., Christensen-Dalsgaard, J., **Henning, R.**, Larsen, R.M., Schou, J., Thompson, M.J., and Tomczyk, S, *Astrophys. J.* **527** (1999) 445—460

## Invited Talks, Seminars, and Colloquia

- 1) “Dark Matter, Quantum Computers, and all that”, R. Henning, UNC Physics Colloquium, (2018)
- 2) “A Tale of Two Axion Searches” R. Henning, Fermilab, FCPA Seminar, Batavia IL (2018)
- 3) “Quest for the Nature of the Neutrino,” R. Henning, Highpoint University Colloquium (2018)
- 4) “Recent results for the MAJORANA DEMONSTRATOR,” R. Henning, University of Maryland High Energy/Astrophysics Seminar, (2018)
- 5) “Neutrino-less double beta decay experiments,” R. Henning, ECT\* workshop “Exploring the role of electro-weak currents in Atomic Nuclei”, Trento, Italy (2018)
- 6) “Recent results and future plans for the MAJORANA DEMONSTRATOR”, Perimeter Institute Seminar, Waterloo, ON, Canada (2017)
- 7) “ABRACADABRA, A Search for Low-Mass Axion Dark Matter,” R. Henning, 13th PATRAS Workshop On Axions, WIMPS and WISPs, Thessaloniki, Greece (2017)
- 8) “Recent results and future plans for the MAJORANA DEMONSTRATOR”, R. Henning, Boston University High-energy Seminar (2017)
- 9) “Recent results and future plans for the MAJORANA DEMONSTRATOR”, R. Henning, MIT Laboratory for Nuclear Science Lunch-time Seminar (2017)
- 10) “Quest for the Nature of the Neutrino”, R. Henning, Southeastern Section of the APS 2016, Charlottesville, VA (2016)
- 11) “Quest for the Nature of the Neutrino”, R. Henning, Wake Forest University Colloquium, Winston-Salem, NC (2016)
- 12) “Update on The MAJORANA Neutrinoless Double-beta Decay Experiment”, R. Henning, Invited Talk at the 2015 International Workshop on Baryon & Lepton Number Violation, Amherst, MA (2015)
- 13) “Quest for the Nature of the Neutrino”, R. Henning, High-energy Seminar at Virginia Polytechnic Institute and State University, Blacksburg, VA (2014)
- 14) “The MAJORANA Low-Background Experiment at KURF (MALBEK)”, R. Henning, Invited Talk at The 10th Patras Workshop on Axions, WIMPs and WISPs, Geneva, Switzerland (2014)
- 15) “The MAJORANA Low-Background Experiment at KURF (MALBEK)”, R. Henning, Invited Talk at Astroparticle Physics – A Joint TeVPA/IDM Conference, Amsterdam, Netherlands (2014)
- 16) “Quest for the nature of the neutrino”, R. Henning, Colloquium at East Carolina University, Greenville, NC (2013)



- 17) "Neutrinoless double-beta decay and other searches for physics beyond the Standard Model with the Majorana experiment", R. Henning, Caltech HEP Seminar, Pasadena, CA (2013)
- 18) "A cautionary tale of false starts in neutrino physics", R. Henning, KATRIN Simulation and Analysis Workshop, U. of North Carolina, Chapel Hill, NC (2013)
- 19) "Update on the Majorana Neutrinoless Double-beta Decay Experiment", R. Henning, Shanghai Particle Physics and Cosmology Symposium 2012, Shanghai, China (2012)
- 20) "Non-accelerator Neutrino Physics", R. Henning, SSNuDM Summer School Lecture, Jiao Tong University, Shanghai, China (2012)
- 21) "The Majorana Experiment," R. Henning, Matrix Elements for the Double-beta-decay Experiments (MEDEX) 2011, Prague, Czech Republic (2011)
- 22) "Shining light through walls – searching new fundamental particles at HIGS," R. Henning, Duke HEP Seminar, Duke University, Durham, NC (2011)
- 23) "Prospects for Understanding the Nature of Neutrinos," R. Henning, Colloquium at North Carolina State University, Raleigh, NC (2011)
- 24) "Shining light through walls – searching new fundamental particles at HIGS," R. Henning, TUNL Seminar, Duke University, Durham, NC (2010)
- 25) "Double-beta decay at DUSEL," R. Henning, Annual DuRA Meeting and DUSEL PDR Rollout, Fermilab, Batavia, IL (2010)
- 26) "North American Underground Facilities," R. Henning, Topical Workshop in Low Radioactivity Techniques, SNOLAB, Sudbury, Ontario (2010)
- 27) "Searching for the rarest events in the Universe," R. Henning, Advances in Physics Seminar, Duke University, Durham, NC (2010)
- 28) "Direct Detection of Dark Matter", R. Henning, Southeastern Section of the APS 2009, Atlanta, GA (2009)
- 29) "Overview of current and proposed searches for double-beta decay", R. Henning, Neutrinos and Dark Matter 2009, Madison, WI (2009)
- 30) "Quest for the nature of the neutrino", R. Henning, Colloquium at U. of Denver, Denver, CO (2009)
- 31) "Searching for the rarest events in the universe and other fun topics in particle astrophysics", R. Henning, Colloquium at UNC Chapel Hill, Chapel Hill, NC (2009)
- 32) "Searching for the rarest events in the universe and other fun topics in particle astrophysics", R. Henning, Colloquium at NCA&T, Greensboro, NC (2008)

- 33) "The Dark Matter Puzzle and Proposed Experimental Solutions", R. Henning, Advances in Physics Seminar, Duke University, Durham, NC (2008)
- 34) "Reach of Future Non-accelerator Neutrino Efforts", R. Henning, Flavor Physics and CP Violation 2008, Taipei, Taiwan (2008), arXiv:0807.1291v1 [hep-ex]
- 35) "Neutrinoless Double-Beta Decay", R. Henning, 76th Annual Meeting of the Southeastern Section of the APS, Nashville, TN (2007)
- 36) "Quest for the Nature of The Neutrino", R. Henning, Colloquium at UNC Wilmington, Wilmington, NC (2007)
- 37) "Overview and Status of the Majorana Experiment", International Workshop on "Double Beta Decay and Neutrino Mass", Osaka, Japan (2007)
- 38) "Quest for the Nature of The Neutrino", R. Henning, Nuclear and Particle Physics Colloquium, Massachusetts Institute of Technology, Cambridge, MA (2007)
- 39) "Quest for the Nature of The Neutrino", R. Henning, Seminar at University of Maryland, Greenbelt, MD (2007)
- 40) "Quest for the Nature of The Neutrino", R. Henning, Colloquium at Colorado State University, Fort Collins, CO (2006)
- 41) "Quest for the Nature of The Neutrino", R. Henning, Seminar at Virginia Polytechnic Institute and State University, Blacksburg, VA (2006)
- 42) "Quest for the Nature of The Neutrino", R. Henning, Colloquium at UNC Chapel Hill, Chapel Hill, NC (2006)