

# Publication List

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## Articles (77)

- [1] P. B. Denton and S. J. Parke, “NuFast-Earth: Efficient Atmospheric, Solar, and Supernova Neutrino Propagation Through the Earth,” [arXiv:2511.04735 \[hep-ph\]](https://arxiv.org/abs/2511.04735).
- [2] L. A. Anchordoqui *et al.*, “Letter of Intent: The Forward Physics Facility,” [arXiv:2510.26260 \[hep-ex\]](https://arxiv.org/abs/2510.26260).
- [3] H. Davoudiasl, P. B. Denton, and A. M. Suliga, “Glimpsing Physics of Nano-Hz Gravitational Waves in Neutrinos from Core-Collapse Supernovae,” [arXiv:2510.23713 \[hep-ph\]](https://arxiv.org/abs/2510.23713).

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\*For the latest version see: [peterdenton.github.io](https://peterdenton.github.io)

<sup>†</sup>Most author lists are in alphabetical order as that is the standard in particle physics.

- [4] A. Abada *et al.*, “Neutrino Theory in the Precision Era,” [arXiv:2504.00014 \[hep-ph\]](https://arxiv.org/abs/2504.00014).
- [5] P. B. Denton and C. Gourley, “Determining the density of the sun with neutrinos,” *Phys. Lett. B* **866** (2025) 139560, [arXiv:2502.17546 \[hep-ph\]](https://arxiv.org/abs/2502.17546).
- [6] P. B. Denton, J. Gehrlein, and C.-F. Kong, “Testing new physics in oscillations at a neutrino factory,” *Nucl. Phys. B* **1018** (2025) 117040, [arXiv:2502.14027 \[hep-ph\]](https://arxiv.org/abs/2502.14027).
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- [12] J. F. Acevedo, J. Berger, and P. B. Denton, “Dark matter raining on DUNE and other large volume detectors,” *JHEP* **11** (2024) 011, [arXiv:2407.01670 \[hep-ph\]](https://arxiv.org/abs/2407.01670).
- [13] P. B. Denton and S. J. Parke, “Fast and accurate algorithm for calculating long-baseline neutrino oscillation probabilities with matter effects,” *Phys. Rev. D* **110** no. 7, (2024) 073005, [arXiv:2405.02400 \[hep-ph\]](https://arxiv.org/abs/2405.02400).
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## Conference Proceedings

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# Collaboration Papers

- [1] **DUNE** Collaboration, S. Abbaslu *et al.*, “Measurement of Exclusive  $\pi^+$ -argon Interactions Using ProtoDUNE-SP,” [arXiv:2511.13462 \[hep-ex\]](https://arxiv.org/abs/2511.13462).
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- [21] D. Ayzenberg *et al.*, “Fundamental physics opportunities with future ground-based mm/sub-mm VLBI arrays,” *Living Rev. Rel.* **28** no. 1, (2025) 4.
- [22] **DUNE** Collaboration, A. Abed Abud *et al.*, “Impact of cross-section uncertainties on supernova neutrino spectral parameter fitting in the Deep Underground Neutrino Experiment,” *Phys. Rev. D* **107** no. 11, (2023) 112012, [arXiv:2303.17007 \[hep-ex\]](#).
- [23] **DUNE** Collaboration, A. Abed Abud *et al.*, “Highly-parallelized simulation of a pixelated LArTPC on a GPU,” *JINST* **18** no. 04, (2023) P04034, [arXiv:2212.09807 \[physics.comp-ph\]](#).
- [24] **FASER** Collaboration, H. Abreu *et al.*, “Technical Proposal: FASERnu,” [arXiv:2001.03073 \[physics.ins-det\]](#).
- [25] **FASER** Collaboration, H. Abreu *et al.*, “Detecting and Studying High-Energy Collider Neutrinos with FASER at the LHC,” *Eur. Phys. J.* **C80** no. 1, (2020) 61, [arXiv:1908.02310 \[hep-ex\]](#).
- [26] **GRAND** Collaboration, J. Álvarez Muñiz *et al.*, “The Giant Radio Array for Neutrino Detection (GRAND): Science and Design,” *Sci. China Phys. Mech. Astron.* **63** no. 1, (2020) 219501, [arXiv:1810.09994 \[astro-ph.HE\]](#).

## Talks (122 including 82 invited)

- [1] “CP-Violation with Neutrino Disappearance and NuFast.”.
- [2] “Modern Neutrino Oscillation Theory.”  
<https://indico.cern.ch/event/1568942/contributions/6741263/>. **Invited** plenary talk at NuPhys, Kings College London, January 2026.
- [3] “NuFast.”  
<https://indico.phys.sinica.edu.tw/event/301/contributions/2540/>. **Invited** plenary talk at the International Joint Workshop on the Standard Model and Beyond, Taipei, December 2025.
- [4] “Neutrino Oscillations in the Three Flavor Paradigm.”  
[youtube.com/watch?v=OxjUAnE79M4](https://youtube.com/watch?v=OxjUAnE79M4).  
<https://neutrinos.discussingresearch.com/>. **Invited** pedagogical plenary for Neutrinos From Home, December 2025.
- [5] “NuFast.”. **Invited** talk at Stony Brook, November 2025.
- [6] “CP-Violation with Neutrino Disappearance and NuFast.”. **Invited** seminar at NYU, November 2025.
- [7] “Solar Neutrinos and the Strongest Oscillation Constraints on Scalar NSI.”. **Invited** talk, August 2025.
- [8] “Untangling Systematic Uncertainties from BSM Physics.”  
<https://indico.cern.ch/event/1424413/contributions/6468090/>. **Invited** plenary at NPN at University of Cincinnati, June 2025.
- [9] “Modern Neutrino Oscillation Theory.”  
<https://agenda.hep.wisc.edu/event/2257/contributions/33831/>. **Invited** plenary at CIPAN at University of Wisconsin, Madison, June 2025.
- [10] “Towards Solidifying the Discrete Mass Ordering Measurement in the Presence of New Physics.”  
<https://indico.cern.ch/event/1458241/contributions/6507839/>. **Invited** plenary at Magnificent CEvNS, Rio, June 2025.
- [11] “NuFast.”. **Invited** talk at the Stony Brook DUNE group, June 2025.
- [12] “Shining the Neutrino Flashlight into the Darkest Places.”. **Invited** seminar, June 2025.
- [13] “Testing the Three-Flavor Paradigm.”  
<https://indico.global/event/13925/contributions/125625/>. **Invited** plenary at the NEAT: Neutrino Experiment and Theory workshop at Colorado State University, May 2025.

- [14] “Individual Neutrino Masses From a Supernova.”  
<https://indico.cern.ch/event/1488822/contributions/6480082/>. **Invited** plenary at the Mitchell Conference at Texas A&M, May 2025.
- [15] “Neutrino Factory.”. **Invited** seminar at Universidad Catolica del Norte, April 2024.
- [16] “Neutrino Factory.” <https://indico.bnl.gov/event/26010/>. Talk at the BNL HET Group, March 2024.
- [17] “CP Violation with Neutrino Disappearance.”  
<https://indico.cern.ch/event/1454726/contributions/6376522/>. Talk at the CERN Neutrino Platform Pheno Week, February 2025.
- [18] “Neutrino Oscillations: Unveiling Mysteries.”. **Invited** colloquium at Virginia Tech, February 2025.
- [19] “Individual Neutrino Masses From a Supernova.”  
<https://indico.bnl.gov/event/25821/>. Talk at the BNL HET Group, January 2024.
- [20] “Connecting the Extremes: A Story of Supermassive Black Holes and Ultralight Dark Matter.”  
[https://physics.ucsd.edu/events/seminars-colloquia/event?event\\_id=1396](https://physics.ucsd.edu/events/seminars-colloquia/event?event_id=1396). **Invited** seminar at UCSD, October 2024.
- [21] “Dark Matter Raining on DUNE and Other Large Volume Detectors.”  
<https://indico.bnl.gov/event/24793/>. Talk at the BNL HET Group, October 2024.
- [22] “Unitarity Violation in Neutrino Physics: Brief Pedagogy.”  
<https://indico.fnal.gov/event/66471/>. **Invited** talk at DUNE collaboration call, October 2024.
- [23] “Modern Neutrino Oscillation Theory.”  
<https://indico.fnal.gov/event/63406/contributions/297152/>. **Invited** keynote plenary at NuFact, Argonne, September 2024.
- [24] “NuFast: Fast and Accurate Algorithm for Calculating Long-Baseline Neutrino Oscillation Probabilities with Matter Effects.”  
<https://agenda.infn.it/event/39753/contributions/240076/>. **Invited** talk at NOW, Otranto Italy, August 2024.
- [25] “CP-Violation with Neutrino Disappearance and NuFast.”  
<https://indico.sanfordlab.org/event/69/timetable/#132-talk-dark-matter-raining-o>. **Invited** talk at the Center for Center for Theoretical Underground Physics and Related Areas (CETUP\*) workshop, Lead SD, July 2023.

- [26] “NuFast: Fast and Accurate Algorithm for Calculating Long-Baseline Neutrino Oscillation Probabilities with Matter Effects.”  
<https://indico.fnal.gov/event/60082/contributions/291412/>. Talk at DUNE Collaboration Meeting at Fermilab, May 2024.
- [27] “CP Violation with Neutrino Disappearance.”. **Invited** seminar at Rice University, April 2024.
- [28] “CP Violation with Neutrino Disappearance.”. **Invited** seminar at Colorado State University, March 2024.
- [29] “CP Violation with Neutrino Disappearance.”  
<https://indico.bnl.gov/event/21760/>. Talk at the BNL HET Group, March 2024.
- [30] “CP Violation with Neutrino Disappearance.”  
<https://indico.fnal.gov/event/63560/>. Talk at the DUNE LBL WG, March 2024.
- [31] “Knowns and Unknowns in Neutrinos.”  
<https://web.mit.edu/lns/news/archives/index.html>. **Invited** colloquium at MIT, Boston, October 2023.
- [32] “LMA-Dark: Large New Physics Effects in Neutrino Oscillations.”. **Invited** talk at the COHERENT collaboration, August 2023.
- [33] “Testing Unitarity of the Leptonic Mixing Matrix with Oscillations: A Focus on Tau Neutrinos.” <https://ifirse.icise.vn/nugroup/nuworkshop2023/program.html>. **Invited** plenary at the 19th Rencontres du Vietnam, July 2023.
- [34] “Light Sterile Neutrinos: A Modern Picture and a Model to Evade Cosmology.”  
<https://indico.ihep.ac.cn/event/18269/contributions/135575/>. **Invited** talk at WIN, July 2023.
- [35] “Light Sterile Neutrinos: A Modern Picture and a Model to Evade Cosmology.”  
<https://indico.sanfordlab.org/event/53/contributions/822/>. **Invited** talk at the Center for Center for Theoretical Underground Physics and Related Areas (CETUP\*) workshop, Lead SD, July 2023.
- [36] “Here Comes the Sun: Solar Parameters in Long-Baseline Accelerator Neutrino Oscillations.”  
<https://indico.cern.ch/event/1218225/contributions/5384272/>. Talk at Pheno, Pittsburgh, May 2023.
- [37] “Light Sterile Neutrinos: A Modern Picture and a Model to Evade Cosmology.”  
<https://indico.cern.ch/event/1258338/contributions/5307365/>. **Invited** talk at University of Cape Town, April 2023.

- [38] “Knowns and Unknowns in Neutrinos.”. **Invited** colloquium at University of Wisconsin, Madison, April 2023.
- [39] “Neutrinos at Snowmass.”. **Invited** seminar at Kings College London, January 2023.
- [40] “Knowns and Unknowns in Neutrinos.”. **Invited** colloquium at Stony Brook University, New York, October 2022.
- [41] “Light (Fermionic?) Dark Matter.”   
<https://indico.cern.ch/event/1189979/contributions/5012521/>. **Invited** talk at the International Conference on Neutrinos and Dark Matter in Egypt, October 2022.
- [42] “Connecting the Extremes: A Story of Supermassive Black Holes and Ultralight Dark Matter.”. **Invited** talk at Dark Matter in Compact Objects, Stars, and in Low Energy Experiments at INT, Seattle, August 2022.
- [43] “Tau Neutrinos: from GeV to EeV.”   
<https://indico.fnal.gov/event/22303/contributions/246362/>. **Invited** talk at Snowmass, Seattle, July 2022.
- [44] “Sterile neutrinos at 1 eV.”   
[https://www.mpi-hd.mpg.de/lin/seminar\\_theory.en.php](https://www.mpi-hd.mpg.de/lin/seminar_theory.en.php). **Invited** seminar at MPI Heidelberg, July 2022.
- [45] “Connecting the Extremes: Story of Supermassive Black Holes and Ultralight Dark Matter.” <https://n3as.berkeley.edu/p/event/su22-jun14/>. **Invited** seminar at UC Berkeley via N3AS, June 2022.
- [46] “Connecting the Extremes: Story of Supermassive Black Holes and Ultralight Dark Matter.” <https://theory.tifr.res.in/~sotu/previous.php>. **Invited** seminar at Tata Institute of Fundamental Research, India, June 2022.
- [47] “Flavor mixing, CP violation, and Unitarity.”   
[https://neutrino2022.org/program/detail\\_program](https://neutrino2022.org/program/detail_program). **Invited** plenary talk at Neutrino 2022, Seoul Korea, June 2022.
- [48] “CP Violation at Long-Baseline Neutrino Experiments.”   
<https://indico.cern.ch/event/1125426/contributions/4868720/>. **Invited** plenary talk at the Mitchell Conference on Collider, Dark Matter, and Neutrino Physics; Texas A&M, College Station TX, May 2022.
- [49] “Neutrino Theory Overview.”   
<https://indico.sanfordlab.org/event/28/contributions/310/>. **Invited** plenary talk at the Conference on Science at the Sanford Underground Research Facility (CoSSURF), May 2022.

- [50] “Nu physics: Theory and practice.” <https://indico.cern.ch/event/1089132/contributions/4863585/>. **Invited** plenary talk at the Phenomenology Symposium, Pittsburgh, May 2022.
- [51] “CP Violation at Long-Baseline Neutrino Experiments.” <https://lawphysics.wordpress.com/2022/04/20/w131-peter-denton-cp-violation-at-long-> **Invited** seminar in the Latin American Webinar Physics series, April 2022.
- [52] “CP Violation at Long-Baseline Neutrino Experiments.”. **Invited** seminar at Harvard, April 2022.
- [53] “Connecting the Extremes: Story of Supermassive Black Holes and Ultralight Dark Matter.”. **Invited** seminar at MIT, April 2022.
- [54] “New Perspectives on Atmospheric Neutrinos.”. **Invited** seminar at INFN Torino, March 2022.
- [55] “Tau Neutrino Identification at IceCube for Unitary Violation Tests.” <https://indico.cern.ch/event/1103445/contributions/4724172/>. Talk at Snowmass BSM neutrino workshop, February 2022.
- [56] “Neutrinos and Cosmic Rays at Snowmass.” <https://indico.bnl.gov/event/13887/>. Talk at BNL Snowmass Retreat, December 2021.
- [57] “Astrophysical Neutrino Decay.” <https://indico.ipmu.jp/event/397/contributions/6390/>. **Invited** talk at Dark Sectors of Astroparticle Physics at IPMU, Japan December 2021.
- [58] “Neutrino Oscillations at FPF.” <https://indico.cern.ch/event/1076733/contributions/4577119/>. Talk at Third Forward Physics Facility October 2021.
- [59] “Astrophysical Neutrino Decay.” <https://indico.ific.uv.es/event/6178/contributions/15526/>. Talk at TAUP August 2021.
- [60] “Astrophysical Neutrino Decay.” <https://indico.desy.de/event/28202/contributions/105961/>. Talk at EPS-HEP July 2021.
- [61] “CP-Violating Neutrino Non-Standard Interactions in Long-Baseline-Accelerator Data.” <https://indico.cern.ch/event/1034469/contributions/4430079/>. Talk at DPF at FSU July 2021.
- [62] “CP-Violating Neutrino Non-Standard Interactions in Long-Baseline-Accelerator Data.” <https://indico.ibs.re.kr/event/357/timetable/>. Talk at PASCOS in IBS Koreas June 2021.

- [63] “CP-Violating Neutrino Non-Standard Interactions in Long-Baseline-Accelerator Data.” <https://indico.cern.ch/event/982783/contributions/4362341/>. Talk at Pheno May 2021.
- [64] “Neutrino Oscillations in Matter and Linear Algebra.”. **Invited** colloquium at Illinois Institute of Technology April 2021.
- [65] “CP Violation at Long-Baseline Neutrino Experiments.”. **Invited** seminar at Michigan State University March 2021.
- [66] “Astrophysical Neutrino Decay.”  
<https://agenda.infn.it/event/24250/contributions/129755/>. Talk at the XIX International Workshop on Neutrino Telescopes February 2021.
- [67] “CP Violation at Long-Baseline Neutrino Experiments.”  
<https://indico.cern.ch/event/1001277/>. **Invited** seminar at Sydney CPPC February 2021.
- [68] “Ultralight Fermionic Dark Matter.”. **Invited** talk at Asymptotic Safety and Dark Matter workshop at OSU December 2020.
- [69] “Ultralight Fermionic Dark Matter.” <https://www.ictp-saifr.org/dmw2020/>. Talk at 3rd South American Dark Matter Workshop at ICTP in Sao Paulo December 2020.
- [70] “3+1+NSI and CP Violation.”. **Invited** seminar at KIAS November 2020.
- [71] “CP Violation at Long-Baseline Neutrino Experiments.”  
<https://indico.bnl.gov/event/8008/>. Talk at BNL HET Group October 2020.
- [72] “CP Violation at Long-Baseline Neutrino Experiments.”  
<https://npc.fnal.gov/neutrino-seminar-series/>. **Invited** Neutrino Physics Center seminar October 2020 at Fermilab.
- [73] “The Lightest Dark Matter.”. **Invited** seminar October 2020 at University of Sussex.
- [74] “Astrophysical Neutrino Decay.”  
<https://indico.cern.ch/event/868940/contributions/3899680/>. Talk at ICHEP July 2020 in Prague (virtual).
- [75] “Visible Decay of Astrophysical Neutrinos.”  
<https://indico.bnl.gov/event/7985/>. Talk at BNL HET Group May 2020.
- [76] “Ultralight Boson Dark Matter Constraints from Superradiance Leveraging the Event Horizon Telescope Collaboration’s Observations of M87\*.”  
<https://indico.cern.ch/event/858682/contributions/3837326/>. Talk at Pheno May 2020 in Pittsburgh, PA (virtual).
- [77] “Beyond the Standard Model physics with accelerator neutrino experiments.”  
<https://aps-april.onlineeventpro.freeman.com/sessions/15336169/subsession/25117238/>  
**Invited** plenary at APS April Meeting 2020 (virtual).

- [78] “LMA-Dark: Large New Physics Effects in Neutrino Oscillations.” <https://indico.bnl.gov/event/7665/>. Talk at BNL HET Group February 2020.
- [79] “Motivation for neutrino precision in oscillations.” <https://indico.bnl.gov/event/7282/>. **Invited** talk at BNL Snowmass Intensity Frontier & Astrophysics Workshop February 2020.
- [80] “Recent results in neutrino oscillation theory.” <https://www.physics.umass.edu/events/2019-11-15-recent-results-neutrino-oscillation> **Invited** seminar at UMass Amherst November 2019.
- [81] “Realizing the physics goals at DUNE.” <https://indico.fnal.gov/event/21535/other-view>. **Invited** talk at Modules Of Opportunity for DUNE workshop at BNL November 2019.
- [82] “Recent results in neutrino oscillation theory.” <https://physics.osu.edu/events/high-energy-physics-seminar-peter-dentonbrookahaven> **Invited** seminar at OSU November 2019.
- [83] “New physics probes in future neutrino experiments.” <https://indico.bnl.gov/event/6652/>. **Invited** colloquium at BNL October 2019.
- [84] “Recent results in neutrino oscillation theory.” <https://indico.cern.ch/event/800930/contributions/3557081/>. Talk at CERN Neutrino Platform October 2019.
- [85] “Neutrino theory in the coming years.” <https://indico.bnl.gov/event/6710/>. **Invited** talk at BNL Snowmass Discussion October 2019.
- [86] “Recent results in neutrino oscillation theory.” <https://theory.fnal.gov/events/event/tbd-neutrinos/>. **Invited** theory seminar at Fermilab September 2019.
- [87] “Exact neutrino oscillation probabilities in matter.” <https://indico.ific.uv.es/event/3649/contributions/11349/>. Talk given at TomFest at Vanderbilt August 2019.
- [88] “Neutrino oscillation probabilities in matter.” <https://indico.cern.ch/event/782953/contributions/3444777/>. Talk given at the 2019 DPF meeting at Northeastern July 2019.
- [89] “Neutrino self interactions in the early universe.” <https://indico.cern.ch/event/812851/contributions/3432032/>. **Invited** talk at NTN NSI Workshop at Wash U May 2019.
- [90] “Partial neutrino decay resolves icecube’s track and cascade tension.” <https://indico.bnl.gov/event/5875/>. Talk at BNL HET Group May 2019.

- [91] “Neutrino Oscillation Probabilities in Matter.” <http://theory.physics.uci.edu/seminars.html>. **Invited** seminar at UC Irvine May 2019.
- [92] “Neutrino Oscillation Probabilities in Matter.” <http://www.theory.caltech.edu/people/carol/seminar.html>. Seminar at Caltech May 2019.
- [93] “Partial Neutrino Decay Addresses the Track – Cascade Tension at IceCube.” <https://indico.cern.ch/event/777988/contributions/3410555/>. Talk at Pheno May 2019 in Pittsburgh, PA.
- [94] “Neutrino Oscillation Probabilities in Matter.” <https://www.phys.psu.edu/seminars/all-seminars>. **Invited** seminar at Penn State April 2019.
- [95] “Neutrino Oscillation Probabilities in Matter.” <https://www.phys.vt.edu/Talks/NeutrinoPhysicsSeminar.html>. **Invited** seminar at Virginia Tech February 2019.
- [96] “Analytic and Compact Expressions for Neutrino Oscillations in Matter.” <https://dx.doi.org/10.5281/zenodo.2642372>. **Invited** talk at PONDD workshop at Fermilab December 2018.
- [97] “Finding the Unexpected in IceCube.”. **Invited** N-Talk at Niels Bohr International Academy September 2018 in Copenhagen.
- [98] “High Energy Neutrino Parameter Estimation.”. **Invited** talk at GRAND workshop at IAP August 2018.
- [99] “New Neutrino Interactions: Breaking Degeneracies and Relaxing Sterile Tensions.”. **Invited** seminar at BNL August 2018.
- [100] “Analytic and compact perturbative expressions for neutrino oscillations in matter.” <https://indico.cern.ch/event/686555/contributions/2977525/>. Talk at the International Conference of High Energy Physics (ICHEP) July 2018 in Seoul.
- [101] “Gamma Ray Bursts, Supernovae, Neutrinos, and IceCube.”. **Invited** talk at IIHE April 2018 in Brussels.
- [102] “Gamma Ray Bursts, Supernovae, Neutrinos, and IceCube.”. **Invited** talk at DESY January 2018 in Zeuthen.
- [103] “Gamma Ray Bursts, Supernovae, Neutrinos, and IceCube.”. **Invited** talk at Arizona State University January 2018.
- [104] “Supernova - Gamma Ray Burst - Neutrino Connection.”. **Invited** SUPER-STARS talk at DARK Cosmology Center November 2017 in Copenhagen.

- [105] “Gamma Ray Bursts, Supernovae, Neutrinos, and IceCube.”. **Invited** N-Talk at Niels Bohr International Academy November 2017 in Copenhagen.
- [106] “Analytic and compact perturbative expressions for neutrino oscillations in matter.”. **Invited** seminar at Campinas State University October 2017.
- [107] “COHERENT and the LMA-Dark NSI Solution.”  
<https://indico.uu.se/event/324/session/20/contribution/182>. **Invited** talk at the NUFACt 2017 workshop September 2017 in Uppsala.
- [108] “What We Can Tell About the Sources of IceCube’s Neutrinos, and What IceCube Can Tell Us About Gamma Ray Bursts.”  
<http://astro.fnal.gov/events/event/tbd-35/>. Astrophysics theory seminar at Fermilab August 2017 in Batavia, IL.
- [109] “The Galactic Contribution to IceCube’s Astrophysical Neutrino Flux.”  
<https://indico.cern.ch/event/615891/contributions/2608935/>. Talk at TeV Particle Astrophysics at CCAPP in Columbus, OH.
- [110] “Finding Anisotropies in Cosmic Rays and Neutrinos.”  
<http://nbia.nbi.ku.dk/nbia-seminars/nbia-seminar-peter-denton/>. **Invited** seminar at the Niels Bohr International Academy astroparticle seminar April 2017 in Copenhagen.
- [111] “Analytic and compact perturbative expressions for neutrino oscillations in matter.”. Talk at the Center of Excellence for Particle Physics at the Terascale at the University of Melbourne December 2016.
- [112] “Spherical Harmonics as a Tool for Finding Anisotropies in UHECR and Astrophysical Neutrino Fluxes.”. **Invited** talk at the Danish Astroparticle Physics Meeting October 2016 in Odense.
- [113] “The Standard Neutrino Oscillation Parameters and a Surprising Alternative Solution.”. **Invited** N-Talk at Niels Bohr International Academy September 2016 in Copenhagen.
- [114] “Analytic and compact perturbative expressions for neutrino oscillations in matter.”  
<https://indico.cern.ch/event/432527/contributions/1071859/>. Talk at the International Conference of High Energy Physics (ICHEP) August 2016 in Chicago, IL.
- [115] “Analytic and compact perturbative expressions for neutrino oscillations in matter.”  
<http://theory.fnal.gov/seminars/seminars.html>. **Invited** talk at the Fermilab theory seminar July 2016 in Batavia, IL.
- [116] “Methods for Probing New Physics at High Energies.”  
<https://events.vanderbilt.edu/index.php?eID=90084>. Successful dissertation defense at Vanderbilt University June 2016 in Nashville, TN.

- [117] “Analytic and compact perturbative expressions for neutrino oscillations in matter.” <http://www.ccsem.infn.it/issp2016/index.html>. Talk at the International School of Subnuclear Physics May 2016 in Erice, Sicily.
- [118] “Analytic and compact perturbative expressions for neutrino oscillations in matter.” <https://indico.cern.ch/event/489180/contributions/2158195/>. Talk at Pheno May 2016 in Pittsburgh, PA.
- [119] “Cosmic Ray Anisotropy with Partial Sky Exposure.”. **Invited** seminar November 2015 at CCAPP.
- [120] “The Effect of a Maximum Lepton Energy on the Stability of Pions and Cosmic Ray Physics.” <http://meetings.aps.org/link/BAPS.2015.APR.M14.1>. Talk at the APS April meeting 2015 in Baltimore, MD.
- [121] “Particle Physics at the Highest Energies.”. **Invited** seminar December 2014 at the University of Wisconsin – Madison.
- [122] “Sensitivity of orbiting JEM-EUSO to large-scale cosmic-ray anisotropies.”. Talk at the Cosmic Ray Anisotropy Workshop September 2013 in Madison, WI.
- [123] “Using dispersion relations to look for new physics in pp elastic scattering at the LHC.” <http://meetings.aps.org/link/BAPS.2013.APR.H12.8>. Talk at the APS April meeting 2013 in Denver, CO.

## Lectures

- [1] “Neutrino Oscillations and Theory Biases.”. Lecture for students at the CETUP workshop in Lead SD, July 2023.
- [2] “Neutrino Oscillations and Theory Biases.” <https://indico.bnl.gov/event/19465/timetable/>. Lecture for students at BNL, June 2023.
- [3] “Neutrino Oscillations and Theory Biases.” <https://indico.bnl.gov/event/15829/timetable/>. Lecture for students at BNL, June 2022.
- [4] “Neutrino Oscillations.”. Two lectures for undergraduates at TIFR, May 2021.

## Notes

- [1] P. B. Denton, H. Minakata, and S. J. Parke, “Comment on 1801.10488v3,”. <https://zenodo.org/record/1177535>.

## Code

- [1] P. B. Denton and S. J. Parke, “NuFast-Earth.”.  
<https://github.com/PeterDenton/NuFast-Earth/>.
- [2] P. B. Denton and S. J. Parke, “NuFast-LBL.”.  
<https://github.com/PeterDenton/NuFast-LBL/>.
- [3] A. Abdullahi and P. B. Denton, “Astro-Nu-Decay.”.  
<https://github.com/PeterDenton/Astro-Nu-Decay>.
- [4] P. B. Denton, “Peterdenton/nu-pert-compare: v1.0.0,” Jan., 2019.  
<https://doi.org/10.5281/zenodo.2547029>.  
<https://github.com/PeterDenton/Nu-Pert-Compare>.
- [5] P. B. Denton, “ANA v1.0.0: Astrophysical Neutrino Anisotropy,” Mar., 2017.  
<https://doi.org/10.5281/zenodo.438675>.  
<https://github.com/PeterDenton/ANA>.
- [6] P. B. Denton, “Nu-Pert v0.2.2: Analytic and compact perturbative expressions for neutrino oscillations in matter,” June, 2016.  
<https://doi.org/10.5281/zenodo.54629>.  
<https://github.com/PeterDenton/Nu-Pert>.

## Miscellaneous

- [1] P. B. Denton\* *et al.*, “Neutrino Non-Standard Interactions.” Snowmass 2021: LOI, August, 2020.  
[https://www.snowmass21.org/docs/files/summaries/NF/SNOWMASS21-NF3\\_NF1-CF7\\_CF0-TF11\\_TF12.pdf](https://www.snowmass21.org/docs/files/summaries/NF/SNOWMASS21-NF3_NF1-CF7_CF0-TF11_TF12.pdf)  
\*Editor.
- [2] P. B. Denton\* and S. J. Parke, “Direct Probes of the Matter Effect in Neutrino Oscillations.” Snowmass 2021: LOI, August, 2020.  
[https://www.snowmass21.org/docs/files/summaries/NF/SNOWMASS21-NF1\\_NF3-TF0\\_TF0\\_PeterDenton\\_SJParke.pdf](https://www.snowmass21.org/docs/files/summaries/NF/SNOWMASS21-NF1_NF3-TF0_TF0_PeterDenton_SJParke.pdf)  
\*Editor.
- [3] M. Bustamante\*, P. B. Denton\*, S. Wissel\*, *et al.*, “Ultra-High-Energy Neutrinos.” Snowmass 2021: LOI, August, 2020.  
[https://www.snowmass21.org/docs/files/summaries/NF/SNOWMASS21-NF4\\_NF6-CF7\\_CF3-TF9\\_TF10.pdf](https://www.snowmass21.org/docs/files/summaries/NF/SNOWMASS21-NF4_NF6-CF7_CF3-TF9_TF10.pdf)  
\*Editor.
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