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## Publications

### Research profiles

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#### Journal articles

- 2021 M. A. Acero, et al. (NO $\nu$ A Collab.) Seasonal variation of multiple-muon cosmic ray air showers observed in the NOvA detector on the surface. Phys. Rev. D 104, 012014. DOI: 10.1103/Phys-RevD.104.012014
- 2020 P. Adamson, et al. (MINOS+ Collab.) Precision Constraints for Three-Flavor Neutrino Oscillations from the Full MINOS+ and MINOS Dataset. Phys. Rev. Lett. 125, 131802. DOI: 10.1103/PhysRevLett.125.131802
  - P. Adamson, *et al.* (MINOS+ Collab.) **Improved Constraints on Sterile Neutrino Mixing from Disappearance Searches in the MINOS, MINOS+, Daya Bay, and Bugey-3 Experiments**. Phys. Rev. Lett. **125**, 071801. DOI: 10.1103/PhysRevLett.125.071801
- 2019 M. A. Acero, et al. (NOνA Collab.) Observation of seasonal variation of atmospheric multiple-muon events in the NOvA Near Detector. Phys. Rev. D 99, 122004. DOI: 10.1103/Phys-RevD.99.122004
  - P. Adamson, et al. (MINOS+ Collab.) Search for Sterile Neutrinos in MINOS and MINOS+ Using a Two-Detector Fit. Phys. Rev. Lett. 122, 091803. DOI: 10.1103/PhysRevLett.122.091803
- 2018 M. A. Acero, et al. (NO $\nu$ A Collab.) New constraints on oscillation parameters from  $\nu_{\rm e}$  appearance and  $\nu_{\mu}$  disappearance in the NOvA experiment. Phys. Rev. D 98, 032012. DOI: 10.1103/Phys-RevD.98.032012
- 2017 P. Adamson, et al. (NOνA Collab.) Search for active-sterile neutrino mixing using neutral-current interactions in NOνA. Phys. Rev. D 96, 072006. DOI: 10.1103/PhysRevD.96.072006
  - P. Adamson, et al. (MINOS+ Collab.) Search for flavor-changing nonstandard neutrino interactions using  $\nu_e$  appearance in MINOS. Phys. Rev. D 95, 012005. DOI: 10.1103/PhysRevD.95.012005
  - P. Adamson, et al. (NO $\nu$ A Collab.) Measurement of the Neutrino Mixing Angle  $\theta_{23}$  in NOvA. Phys. Rev. Lett. 118, 151802. DOI: 10.1103/PhysRevLett.118.151802
  - P. Adamson, et al. (NO $\nu$ A Collab.) Constraints on Oscillation Parameters from  $\nu_e$  Appearance and  $\nu_\mu$  Disappearance in NO $\nu$ A. Phys. Rev. Lett. 118, 231801. DOI: 10.1103/PhysRevLett.118.231801
- **2016** P. Adamson, *et al.* (MINOS Collab.) **The NuMI neutrino beam**. Nucl. Instr. Meth. A **806**, 279-306. DOI: 10.1016/j.nima.2015.08.063
  - P. Adamson, et al. (NO $\nu$ A Collab.) First measurement of muon-neutrino disappearance in NO $\nu$ A. Phys. Rev. D **93**, 051104(R). DOI: 10.1103/PhysRevD.93.051104

- P. Adamson, et al. (MINOS Collab.) Measurement of the multiple-muon charge ratio in the MINOS Far Detector. Phys. Rev. D 93, 052017. DOI: 10.1103/PhysRevD.93.052017
- P. Adamson, et al. (NO $\nu$ A Collab.) First Measurement of Electron Neutrino Appearance in NOvA. Phys. Rev. Lett. **116**, 151806. DOI: 10.1103/PhysRevLett.116.151806
- P. Adamson, *et al.* (Daya Bay Collab., MINOS Collab.) **Limits on Active to Sterile Neutrino Oscillations from Disappearance Searches in the MINOS, Daya Bay, and Bugey-3 Experiments**. Phys. Rev. Lett. **117**, 151801. DOI: 10.1103/PhysRevLett.117.151801
- P. Adamson, et al. (MINOS Collab.) Search for Sterile Neutrinos Mixing with Muon Neutrinos in MINOS. Phys. Rev. Lett. 117, 151803. DOI: 10.1103/PhysRevLett.117.151803
- P. Adamson, et al. (MINOS Collab.) Measurement of single  $\pi^0$  production by coherent neutral-current  $\nu$ Fe interactions in the MINOS Near Detector. Phys. Rev. D **94**, 072006. DOI: 10.1103/PhysRevD.94.072006
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- 2015 P. Adamson, et al. (MINOS Collab.) Observation of seasonal variation of atmospheric multiple-muon events in the MINOS Near and Far Detectors. Phys. Rev. D 91, 112006. DOI: 10.1103/Phys-RevD.91.112006
  - P. Adamson, et al. (MINOS Collab.) Study of quasielastic scattering using charged-current  $\nu_{\mu}$ -iron interactions in the MINOS near detector. Phys. Rev. D **91**, 012005. DOI: 10.1103/Phys-RevD.91.012005
  - P. Adamson, et al. (MINOS Collab.) Precision measurement of the speed of propagation of neutrinos using the MINOS detectors. Phys. Rev. D 92, 052005. DOI: 10.1103/PhysRevD.92.052005
- 2014 P. Adamson, et al. (MINOS Collab.) Combined Analysis of  $\nu_{\mu}$  Disappearance and  $\nu_{\mu} \rightarrow \nu_{e}$  Appearance in MINOS Using Accelerator and Atmospheric Neutrinos. Phys. Rev. Lett. 112, 191801. DOI: 10.1103/PhysRevLett.112.191801
  - P. Adamson, *et al.* (MINOS Collab.) **Observation of muon intensity variations by season with the MINOS near detector**. Phys. Rev. D **90**, 012010. DOI: 10.1103/PhysRevD.90.012010
- 2013 P. Adamson, et al. (MINOS Collab.) Measurement of Neutrino and Antineutrino Oscillations Using Beam and Atmospheric Data in MINOS. Phys. Rev. Lett. 110, 251801. DOI: 10.1103/Phys-RevLett.110.251801

### **Proceedings**

- 2021 S. R. Johnson, S. C. Tognini, *et al.* Novel features and GPU performance analysis for EM particle transport in the Celeritas code. 25<sup>th</sup> International Conference on Computing in High Energy and Nuclear Physics (CHEP 2021). EPJ Web of Conferences 251, 03030. DOI: 10.1051/epjconf/202125103030
- **2020** T. M. Evans, S. R. Johnson, *et al.* **Celeritas—a nascent GPU detector simulation code**. Letter of Interest for Snowmass 2021.
- 2017 A. Habig, M. Goodman, P. Schreiner, S. C. Tognini, and R. A. Gomes. (On behalf of the NOνA Collaboration) Seasonal Variation of Multiple-Muon Events in MINOS and NOvA. 35<sup>th</sup> International Cosmic Ray Conference (ICRC), Bexco, Busan, Korea. DOI: 10.22323/1.301.0200
- 2012 S. C. Tognini and R. A. Gomes. Simulation of atmospheric temperature effects on cosmic ray muon flux. NuInt12: Eight International Workshop on Neutrino-Nucleus Interactions in the Few-GeV Region, Rio de Janeiro (RJ), Brazil. AIP Conf. Proc. 1663, 120015. DOI: 10.1063/1.4919521