

Abstract Submitted
for the DNP19 Meeting of
The American Physical Society

A Study of Time Dependent Noise in the Majorana Demonstrator Waveforms¹ THOMAS MARSHALL, ANNA REINE, JOHN WILKERSON, University of North Carolina at Chapel Hill, MAJORANA COLLABORATION — The MAJORANA DEMONSTRATOR is an array of high purity germanium detectors searching for neutrinoless double-beta decay in ^{76}Ge and performing searches for beyond standard model (BSM) physics. The BSM searches are possible because of the DEMONSTRATOR's low trigger threshold, below 1 keV. Such low thresholds can be sensitive to changing noise conditions. Understanding the nature of this noise is critical to our ability to perform BSM searches. An analysis of the RMS of waveform baselines in DEMONSTRATOR data helps provide better understanding of the electronic noise conditions present in the experiment so that potential issues can be identified and resolved. I present a comparison of the baseline RMS distributions in individual detectors before and after changes in noise, including an investigation of how changing noise conditions are correlated between different detectors.

¹This material is supported by the U.S. Department of Energy, Office of Science, Office of Nuclear Physics, the Particle Astrophysics and Nuclear Physics Programs of the National Science Foundation, and the Sanford Underground Research Facility.

Thomas Marshall
University of North Carolina at Chapel Hill

Date submitted: 19 Jul 2019

Electronic form version 1.4