

Abstract Submitted  
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**Simulation-based Validation of Pulse Shape Discrimination for the Majorana Demonstrator**<sup>1</sup> BENJAMIN SHANKS, University of North Carolina at Chapel Hill, MAJORANA COLLABORATION — The MAJORANA DEMONSTRATOR, currently under construction at Sanford Underground Research Facility, will search for neutrinoless double beta decay ( $0\nu\beta\beta$ ) in  $^{76}\text{Ge}$ . Given the extremely long half-life of this decay, the experiment aims to reduce background to  $< 3$  counts/tonne-year in the 4-keV-wide region of interest. Because of the unique characteristics of the p-type point contact (PPC) detectors used in the DEMONSTRATOR, pulse shape analysis (PSA) can be used to discriminate candidate  $0\nu\beta\beta$  signal events from background gamma rays. A simulation framework has been written to validate the PSA algorithms. Described here are results of validation studies, comparing PSA results on simulated and experimental data.

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