

Abstract Submitted
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Alpha Background Rejection through Pulse Shape Discrimination in the MAJORANA DEMONSTRATOR¹ ALEXANDRU HOSTIUC, University of Washington, MAJORANA COLLABORATION — The MAJORANA DEMONSTRATOR is an experiment searching for neutrinoless double-beta decay in Ge-76. The experiment consists of two modular arrays with 44.8 kg of high purity Germanium detectors, 29.7 kg of which is enriched to 88% in Ge-76, operating at the 4850' level of the Sanford Underground Research Facility in Lead, South Dakota. P-type point contact detector technology allows for the identification and rejection of specific background event populations through an analysis of pulse shape characteristics. The DCR (delayed charge recovery) pulse shape parameter estimates the slope of an event's waveform after the rising edge to identify alpha-like events with a characteristic delayed charge collection component. We present the performance and improvements to our alpha background rejection with the DCR parameter, its systematics, and show its influence on the sensitivity of the experiment.

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