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Background Rejection through Pulse Shape Discrimination in the Majorana Demonstrator[1] WALTER PETTUS, University of Washington, MAJORANA COLLABORATION — The MAJORANA DEMONSTRATOR is an experiment searching for neutrinoless double beta decay in ^{76}Ge. It consists of two modular arrays totaling 44 kg of high purity Ge detectors operating at the 4850 level of the Sanford Underground Research Facility in South Dakota. The p-type point contact detector technology employed yields sharply-defined pulse characteristics that allow powerful rejection of background event populations. We detail the performance of multisite Compton-scattered gamma background rejection through the AvsE cut parameter, based on the amplitude of the current pulse relative to the total deposited energy. We discuss the systematics associated with this cut and demonstrate its impact on the scientific reach of the experiment.

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