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Characterization of P-Type Point-Contact Detectors for the Majorana Demonstrator Project¹ JAMES MULLIGAN, Undergraduate (University of Washington) — The Majorana Demonstrator is an experiment that will search for neutrinoless double beta decay in 76-Ge. Canberra's Broad Energy Germanium Detectors (BEGes) are commercial high purity germanium p-type point contact detectors that are of interest to the Majorana Demonstrator experiment. Point contact detectors have the ability to distinguish single-site events from multiple-site events and can use this capability to reject gamma-ray backgrounds in the detectors. Several detailed characterizations were performed on modified BEGe detectors, including analysis of multi-site interactions and investigation of performance as a function of bias voltage. Coincidence data were also taken using a scintillation detector in order to characterize the drift time of pulses from the germanium detector.

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