

Abstract Submitted  
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**First Production Detectors for the MAJORANA Experiment**

VICTOR GEHMAN, Los Alamos National Laboratory, MAJORANA COLLABORATION — The MAJORANA experiment is a next-generation search for  $0\nu\beta\beta$  in  $^{76}\text{Ge}$ . The MAJORANA collaboration is focused on fielding 60 kg of HPGe detectors as research and development (particularly the demonstration background levels) for a 1000-kilogram search. To this end, the MAJORANA collaboration has purchased the first eighteen detectors for its DEMONSTRATOR phase from Canberra. The detectors are based on “Broad Energy Germanium” (BEGe) detectors, made from  $\text{natGe}$  and are roughly 600 grams each. BEGes have low electronic noise, which leads to excellent energy resolution and sub-keV energy threshold. BEGes also require that electron-hole pairs drift over much longer distances than in semi-coaxial HPGe detectors. Long drift times lead to reliable separation of single-site signals from multi-site backgrounds with pulse shape analysis. The performance of BEGe detectors make them a powerful technology in the search for  $0\nu\beta\beta$ . We plan to populate half of the DEMONSTRATOR array with natural germanium detectors, and the other half with germanium enriched to 86% in  $^{76}\text{Ge}$ . Here, we will present acceptance and characterization tests performed on these first eighteen detectors. In particular, we will focus on: energy resolution, leakage current, capacitance, charge collection and pulse shapes from single and multi-site events.

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