

Abstract Submitted  
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**Energy performance of the inverted-coaxial, point-contact detectors in the MAJORANA DEMONSTRATOR**<sup>1</sup> J.M. LOPEZ-CASTANO, Oak Ridge National Lab, MAJORANA COLLABORATION — The MAJORANA DEMONSTRATOR experiment is an array of p-type, point-contact (PPC) Ge detectors searching for neutrinoless double-beta decay in Ge-76 operating in a low background shield at the Sanford Underground Research Facility. MAJORANA has reported an unprecedented energy resolution of 2.5 keV FWHM and one of the lowest backgrounds at the double-beta decay  $Q$  value of 2039 keV. The DEMONSTRATOR's results to date derive from 30 kg of PPC detectors enriched in Ge-76. After a recent hardware upgrade and swap of detectors, the array includes four (6.7 kg) of the larger inverted-coaxial point-contact (ICPC) detectors planned for the next-generation LEGEND experiment. The excellent energy resolution achieved relies, in part, on correcting for the trapping of charge carriers from an ionization event that would otherwise degrade the measured energy. Charge trapping along the drift path is a greater concern in the larger ICPC detectors. Improved algorithms based on pulse shape characteristics are developed to apply a charge trapping correction to the ICPC detectors and preserve their energy resolution potential. In this talk, we report on the improved charge trapping corrections and the energy performance of the ICPC detectors operating in the MAJORANA DEMONSTRATOR.

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