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Energy Calibration and Determination for the MAJORANA DEMONSTRATOR Experiment[1] TUPENDRA OLI, University of South Dakota, MAJORANA COLLABORATION — The MAJORANA DEMONSTRATOR experiment is searching for neutrinoless double-beta decay ($0\nu\beta\beta$) in ^{76}Ge. Currently operating at the $4850'$ level of the Sanford Underground Research Facility in Lead SD, the DEMONSTRATOR consists of two modular arrays with 44 kg of p-type point contact (PPC) high purity Germanium (HPGe) detectors, of which 30 kg is enriched to 88% in ^{76}Ge. After a recent hardware upgrade and detector swap, the array now includes four (6.7 kg) of the larger inverted-coaxial point-contact (ICPC) detectors planned for the next-generation LEGEND experiment. The MAJORANA DEMONSTRATOR has achieved the best energy resolution of any current generation $0\nu\beta\beta$ experiment, which is 2.5 keV FWHM at the 2039 keV Q-value. Such an excellent energy resolution plays a key role in rare event searches and it is achieved through regular ^{228}Th calibrations and well-developed energy determination methods. In this talk, I will discuss the DEMONSTRATOR$'$s energy calibration process, with a focus on the energy determination methods.

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