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The Majorana Neutrinoless Double-Beta Decay Program¹

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Neutrinoless double-beta decay searches play a major role in determining the nature of neutrinos, the existence of a lepton violating process, and the effective Majorana neutrino mass. The MAJORANA Collaboration is assembling an array of high purity Ge detectors to search for neutrinoless double-beta decay in ^{76}Ge . The MAJORANA DEMONSTRATOR, containing 40 kg (30 kg enriched in ^{76}Ge) of Ge detectors, is currently being constructed and commissioned at the Sanford Underground Research Facility in Lead, South Dakota. The initial goals are to demonstrate the required background and scalability of a Ge-based, tonne-scale experiment. The status and potential physics reach of the MAJORANA DEMONSTRATOR experiment will be presented.

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