

Abstract Submitted
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The Majorana Neutrinoless Double-beta Decay Experiment.

REYCO HENNING, U. of North Carolina – Chapel Hill, MAJORANA COLLABORATION — Neutrinoless double-beta decay is the only practical process that probes the Majorana nature of the neutrino. The half-life of the decay could also provide a measurement of the absolute neutrino mass-scale. The Majorana experiment proposes to search for the neutrinoless double-beta decay of ^{76}Ge using an array of 86% enriched HPGe detectors. Majorana proposes to field 57 1.1 kg. detectors during its first phase. This talk will discuss the radio-pure materials, pulse-shape discrimination, crystal segmentation, time-correlation, a deep underground location and other techniques employed to reduce backgrounds in Majorana. This talk will cover the Majorana detector design and anticipated physics reach as well.

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