

Rare Low-Energy Event Searches with the MAJORANA DEMONSTRATOR

The MAJORANA DEMONSTRATOR is currently searching for neutrinoless double-beta decays in ^{76}Ge and will demonstrate the feasibility to deploy a tonne-scale experiment in a phased and modular fashion. It consists of two modular arrays of natural and ^{76}Ge -enriched germanium detectors totaling 44.1 kg, of which 29.7 kg is enriched, located at the 4850' level of the Sanford Underground Research Facility in Lead, South Dakota, USA. The low-backgrounds and low thresholds ($< 1\text{keV}$) achieved by the DEMONSTRATOR allow for additional rare-event searches at low-energies, e.g. searches for WIMPs, bosonic dark matter, and solar axions. In this work, we will present results and ongoing efforts related to rare-event searches and discuss the future reach of MAJORANA.

Authorship annotation

for the MAJORANA Collaboration

Session and Location

Monday Session, Poster Wall #60 (Auditorium Gallery Right)

Poster included in proceedings:

yes

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Track Classification: Poster (participating in poster prize competition)