



Contribution ID: 107

Type: **not specified**

Search for Neutrino Less Double Beta Decay with Majorana Demonstrator

Tuesday, 12 July 2016 15:35 (20 minutes)

Lepton-number violating neutrinoless double-beta decay plays a major role in determining neutrino properties. If the neutrino has a Majorana nature, detection of neutrinoless double beta decay may provide insight into the neutrino mass. The MAJORANA Collaboration is constructing an ultra-low background, modular high-purity Ge detector array to search for this decay in ^{76}Ge . Located at the 4850-ft level of the Sanford Underground Research Facility, the Demonstrator detector assembly has the goal to show the feasibility of achieving background rates necessary for future ton-scale experiments. After the first commissioning phase last year, more than half of the detectors are in their final configuration. This talk will give a short introduction to the experiment, the current status of the Demonstrator, as well as plans for the future. This material is based upon work supported by the U.S. Department of Energy, Office of Science, Office of Nuclear Physics, the Particle Astrophysics Program of the National Science Foundation, and the Sanford Underground Research Facility.

Summary

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Session Classification: Parallel I

Track Classification: Neutrino Physics