Contribution ID: **162** Type: **Contributed talk**

Initial Results from the MAJORANA DEMONSTRATOR

Monday, 24 July 2017 16:00 (15 minutes)

The MAJORANA Collaboration has assembled an array of high purity Ge detectors to search for neutrinoless double-beta decay in ^{76}Ge with the goal of establishing the required background and scalability of a Ge-based next-generation tonne-scale experiment. The MAJORANA DEMONSTRATOR consists of 44 kg of high-purity Ge (HPGe) detectors (30 kg enriched in ^{76}Ge) with a low-noise p-type point contact (PPC) geometry. The detectors are split between two modules which are contained in a single lead and high-purity copper shield at the Sanford Underground Research Facility in Lead, South Dakota. Following a commissioning run that started in June 2015, the full detector array has been acquiring data since August 2016. We will discuss the status of the MAJORANA DEMONSTRATOR and initial results from the first physics run; including current background estimates, exotic low-energy physics searches, projections on the physics reach of the DEMONSTRATOR, and implications for a tonne-scale Ge based neutrinoless double-beta decay search.

Primary author: CALDWELL, Thomas (University of North Carolina)

Presenter: CALDWELL, Thomas (University of North Carolina)

Session Classification: Neutrino Parallel

Track Classification: Neutrinos