

## The large enriched germanium experiment for neutrinoless double beta decay (LEGEND)

The observation of neutrinoless double-beta decay would show that lepton number is violated, reveal that neutrinos are Majorana particles, A discovery-capable experiment covering the inverted hierarchy, with effective Majorana neutrino masses of 15-50 meV, will require a tonne-scale experiment with excellent energy resolution and extremely low backgrounds ( $\sim 0.1$  ct/(FWHM t yr)) in the region of interest. The  $^{76}\text{Ge}$  experiments GERDA and MAJORANA DEMONSTRATOR utilize highly enriched p-type point contact detectors with an excellent energy resolution at the ROI. Both experiments have achieved the lowest backgrounds. Building on this success, the LEGEND collaboration has been formed to pursue a tonne-scale experiment. The collaboration aims to develop a phased experimental program using existing resources as appropriate to expedite physics results. This poster will present the initial results from the MAJORANA and GERDA and the plan for the LEGEND program.

### Authorship annotation

LEGEND collaboration

### Session and Location

Monday Session, Poster Wall #51 (Auditorium Gallery Right)

### Poster included in proceedings:

yes

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**Track Classification:** Poster (participating in poster prize competition)