

Abstract Submitted
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Overview of the LEGEND-200 Experiment Electronics¹ REBECCA CARNEY, Lawrence Berkeley National Lab, LEGEND COLLABORATION COLLABORATION — Building on the expertise of the GERDA and MAJORANA DEMONSTRATOR experiments, the Large Enriched Germanium Experiment for Neutrinoless double-beta Decay (LEGEND) collaboration is in the process of constructing the first of a two-phased experimental program, LEGEND-200, at Laboratori Nazionali del Gran Sasso in Italy.

To reach the design half-life sensitivity, $T_{1/2}^{0\nu} > 1.4 \times 10^{27}$ years, this 200 kg phase of the experiment has high radio-purity, low-noise front-end readout electronics placed close to the germanium detecting volume, read out via purpose-built low mass cables, and processed by dedicated hardware outside the LAr cryostat.

This talk will overview the LEGEND-200 electronics chain, from detector readout to digitization, highlighting the unique challenges and possibilities associated with a multi-phase, tonne-scale $0\nu\beta\beta$ solid-state experiment.

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