

Front-End Electronics for LEGEND-200

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LEGEND (Large Enriched Germanium Experiment for Neutrinoless Double-Beta Decay) is a ton-scale ^{76}Ge -based neutrinoless double beta ($0\nu\beta\beta$) experimental program with discovery potential at a half-life greater than 10^{28} years.

The first 200-kg phase (LEGEND-200) is currently under construction and will start data taking in 2021. In order to achieve its projected half-life sensitivity of 10^{27} years, a background index in the signal region of interest around $Q_{\beta\beta} = 2039$ keV of only 0.6 cts / FWHM / ton / year will be required. A key to achieving this goal are the ultra-clean, low-noise front-end electronics used to read out the HPGe detectors. In this contribution, I will present the design and implementation of the front-end electronics for LEGEND-200 and discuss ongoing R&D efforts to develop novel readout electronics for the ton-scale phase of LEGEND(LEGEND-1000)

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