

Large Enriched Germanium Experiment for Neutrinoless Double-Beta Decay (LEGEND)

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LEGEND is a proposed 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 detector installation at the Gran Sasso underground laboratory (Laboratori Nazionale del Gran Sasso, LNGS) will start in 2020. With a background index in the signal region of interest around $Q_{\beta\beta} = 2039$ keV of 0.6 cts / FWHM / ton / year and a data-taking period of 5 years, LEGEND-200 is expected to achieve a half-life sensitivity of 10^{27} years.

In this contribution, I will present the current status of LEGEND-200 and discuss ongoing R&D efforts to overcome the experimental challenges presented by LEGEND-1000.

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