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Towards the LEGEND-1000 experiment: The search for Neutrinoless Double-Beta Decay in Ge at the tonne-scale

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The Large Enriched Germanium Experiment for Neutrinoless $\beta\beta$ decay (LEGEND) searches for $0\nu\beta\beta$ in the 76Ge isotope.

A discovery would reveal the Majorana nature of neutrinos and prove lepton number non-conservation. The proposed LEGEND-1000 phase consists of 1000 kg of enriched (>90%) Germanium detectors immersed in underground-sourced liquid argon, located at the underground facility LNGS in Italy.

For 10 years of the live-time the experiment aims to achieve a 3σ discovery sensitivity for the half-live of the $0\nu\beta\beta$ decay in Ge76 of at least 10^{18} years.

Summary

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Session Classification: Poster session leading into social dinner buffet