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LEGEND - The Large Enriched Germanium Experiment for Neutrinoless Double Beta Decay

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LEGEND is the successor of the GERDA and MAJORANA DEMONSTRATOR experiments searching for neutrinoless double beta decay. An observation would imply both the Majorana nature of neutrinos and the violation of lepton number conservation, with important consequences for the understanding of the neutrino mass scale, and the matter-antimatter asymmetry in the Universe. The first experimental phase, currently under construction at LNGS, will increase the discovery sensitivity to half-lives of more than 10^{27} yr by employing 200 kg of high-purity Ge detectors enriched in the isotope Ge-76. In a second stage with around 1000 kg of enriched detectors, the ultimate goal of a discovery sensitivity exceeding 10^{28} yr will be reachable.

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