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Searching for neutrinoless double beta decay with LEGEND experiment

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The search for neutrinoless double beta ($0\nu\beta\beta$) decay is important because its discovery would reveal a lepton-number violating process and its connection to the origin of the neutrinos masses.

The LEGEND collaboration follows the GERDA and MAJORANA Demonstrator collaborations with the mission to build a ton-scale ^{76}Ge based experiments. As a first phase, LEGEND-200 is being installed in the upgraded GERDA infrastructure at Laboratori Nazionali del Gran Sasso of INFN. It is based on 200 kg of High-Purity Germanium (HPGe) detectors and aims to reach a discovery sensitivity on the $0\nu\beta\beta$ half-life of 10^{27} years. LEGEND-1000 will rely on novel high-mass HPGe detectors and several other novel techniques to be tested in LEGEND-200. An overview of the LEGEND-200 setup and its installation status will be provided.

In-person participation

Yes

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