

## LEGEND-1000 Overview

*martedì 18 giugno 2024 17:30 (2 ore)*

Building upon the LEGEND-200 experimental program, LEGEND-1000 is an upcoming ton-scale experiment in search of Neutrinoless Double Beta Decay ( $0\nu\beta\beta$ ). Consisting of over 300  $\sim 3$  kg germanium detectors surrounded by an instrumented liquid argon shield, L-1000 aims to make a 99.7% CL discovery of  $0\nu\beta\beta$  with sensitivity covering the full inverted neutrino mass ordering, a  $10^{28}$  yr half-life discovery potential after 10 years of exposure. We present the progress of the conceptual design of L-1000 and site preparation, and materials sourcing and deployment timeline. L-1000 will utilize 1000 kg of  $^{76}\text{Ge}$ -enriched high purity germanium (HPGe) semiconductor detectors, whose large mass is enabled by the inverted-coaxial point contact (ICPC) design. We review detector characterization efforts for L-1000, including avenues of characterization R&D.

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### Poster prize

Yes

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LEGEND Collaboration

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**Classifica Sessioni:** Poster session and reception 1

**Classificazione della track:** Neutrinoless Double Beta Decay