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【354】 Background free search for neutrinoless double beta decay with the GERDA experiment

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The main goal of the GERmanium Detector Array (GERDA) is the search for neutrinoless double beta decay (0nbb).

Its existence would imply the violation of lepton number conservation and reveal the neutrino's nature.

In GERDA, detectors made from enriched germanium-76 with a total mass of 35.6 kg are operated in liquid argon (LAr).

Germanium-76 is one of the few candidate isotopes for 0nbb,

and the detectors reach an outstanding energy resolution and purity.

Instrumenting the cryostat with photomultiplier tubes, the scintillation properties of LAr

can be exploited for active background suppression, to reach an unprecedented low background.

We present the latest results on the performance and half-life measurements.

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