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GERDA commissioning results and summary of double beta decay projects

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The Germanium Detector Array (GERDA) experiment searches for neutrinoless double beta decay of Ge-76, a test of whether neutrinos are identical with their anti-particles, i.e. of Majorana type, or distinct from them, i.e. of Dirac type. Neutrinoless double beta decay could not only establish the charge-conjugation character of neutrinos, but also place a limit on the effective neutrino mass and probe the neutrino mass hierarchy.

Germanium crystals enriched in Ge-76, acting as source and detector, will be submerged in an ultra-pure cryogenic liquid that serves as cooling medium and shields against radiation. This allows for a background reduction of up to two orders of magnitude better than earlier experiments. The status of the GERDA experiment, installed in hall A of the underground laboratory of LNGS (INFN, Italy), will be presented. The expected performance will be compared to other neutrinoless double beta decay searches that start commissioning in the near future.

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Classification de Session: Neutrinos - Precision tests - Cosmology

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