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Status of the GERDA Phase II experiment.

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The GERDA (GERmanium Detector Array) experiment, located at the Laboratori Nazionali del Gran Sasso (LNGS) in Italy, is one of the leading experiments searching for neutrinoless double beta decay (0νββ). Bare semiconductor detectors made of germanium enriched in Ge-76 isotope are operated in a cryostat filled with liquid argon. In Phase II of the experiment 35.6 kg of enriched germanium detectors are deployed. Application of active background rejection methods, such as a liquid argon scintillation light read-out and pulse shape discrimination of detector signals, allowed to reduce the background index to less than 10ˆ-3 cts/(keV·kg·yr). The half-life sensitivity for 0νββ decay achieved by GERDA Phase II overpassed 10ˆ26 years first time ever. Recently the hardware upgrade of the experiment has been performed. At the conference the status of GERDA Phase II after the upgrade will be presented.

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