

NEW RESULTS OF THE SEARCH FOR NEUTRINOLESS DOUBLE BETA DECAY FROM GERDA PHASE II

Rumyantseva N. on behalf of the GERDA Collaboration

Joint Institute for Nuclear Research, Dubna, Russia

E-mail: rumyantseva.nads@gmail.com

The GERDA (GERmanium Detector Array) experiment [1], located at the Gran Sasso National underground laboratory in Italy, is one of the leading experiments for the search of $0\nu\beta\beta$ decay. GERDA operates with bare semiconductor detectors made of germanium with an enriched Ge-76 fraction in liquid argon. In Phase II of the experiment, 35.6 kg of enriched germanium detectors are used. The 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 the intended level of 10^{-3} cts/(keV·kg·yr). At the time of the conference the new results based on the analysis of more than 2 years of data taking in Phase II are going to be presented. So far the GERDA half-life sensitivity for $0\nu\beta\beta$ decay is one of the best amongst all competitors.

1. C.Bauer *et al.* // Nature. 2017. V.544. P.47.