Contribution ID: **49** Type: **Invited**

Neutrinoless double beta decay: An overview of the different experiments and latest results from GERDA

Thursday, 8 December 2016 18:00 (45 minutes)

The Standard Model of particle physics cannot explain the dominance of matter over anti-matter in our Universe. In many model extensions this is a very natural consequence of neutrinos being their own anti-particles (Majorana particles) which implies that a lepton number violating radioactive decay named neutrinoless double beta ($0\nu\beta\beta$) decay should exist. The detection of this extremely rare hypothetical process requires utmost suppression of any kind of backgrounds. In this talk I will summarize the current experimental projects and future perspectives. Special emphasis will be given to the latest results from the GERDA experiment that will be background-free up to its design exposure.

Presenter: SCHOENERT, Stefan