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Results from CUORE-0 and a Status Report on CUORE

Wednesday, 5 August 2015 14:00 (25 minutes)

The CUORE (Cryogenic Underground Observatory for Rare Events) experiment aims to look for neutrinoless double beta decay in 130Te with 750 kg of tellurium oxide bolometers, with a projected sensitivity reaching the inverted mass hierarchy region. CUORE is presently at final stage of construction at Labortori Nazionali del Gran Sasso (LNGS, Italy). In order to demnostrate the performances of the upcoming CUORE experiment CUORE-0, a single CUORE-equivalent tower (52 TeO2 bolometers) built using the same protocols developed for the complete experiment, started taking data at LNGS in spring 2013. In this talk we will present the latest neutrinoless double beta decay results from CUORE-0 and discuss how its background and energy resolution support the CUORE target sensitivity. We will also summarize the status of CUORE and some current R&D activities on bolometers for extending the sensitivity of next-generation double-beta decay experiments.

Oral or Poster Presentation

Oral

Primary authors: OUELLET, Jonathan (U); Prof. GUTIERREZ, Thomas (CUORE Collaboration)

Presenter: OUELLET, Jonathan (U)

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