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Latest results from the CUORE experiment

Thursday, 30 May 2024 08:39 (1 minute)

The Cryogenic Underground Observatory for Rare Events (CUORE) is the first bolometric experiment searching for $0\nu\beta\beta$ decay that has successfully reached the one-tonne mass scale. The detector, located at the LNGS in Italy, consists of an array of 988 TeO2 crystals arranged in a compact cylindrical structure of 19 towers. CUORE began its first physics data run in 2017 at a base temperature of about 10 mK and has been collecting data continuously since 2019, reaching a TeO2 exposure of 2 tonne-year in spring 2023. This is the largest amount of data ever acquired with a solid state cryogenic detector, which allows for further improvement in the CUORE sensitivity to $0\nu\beta\beta$ decay in 130Te. In this talk, we will present the new CUORE data release, based on the full available statistics and on new, significant enhancements of the data processing chain and high-level analysis.

Collaboration

Role of Submitter

The presenter will be selected later by the Collaboration

Primary author: CUORE, Speaker to be decided (CUORE Coll.)

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