

## Latest result from the CUORE experiment

*Friday 10 May 2024 14:00 (20 minutes)*

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  $\text{TeO}_2$  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  $\text{TeO}_2$  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  $^{130}\text{Te}$ . 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 (if any)

CUORE

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