



Contribution ID: 1

Type: **Talk**

Latest results from the CUORE experiment

Friday, 4 October 2024 12:10 (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 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 latest results of CUORE, based on the full available statistics and on new, significant enhancements of the data processing chain and high-level analysis.

Primary author: DELL'ORO, Stefano (Università di Milano-Bicocca)

Presenter: DELL'ORO, Stefano (Università di Milano-Bicocca)

Session Classification: Experiments Background, Models & Simulations