

Abstract Submitted
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Analysis of the first data from the CUORE $0\nu\beta\beta$ decay search¹

ALEXEY DROBIZHEV, University of California Berkeley, Lawrence Berkeley National Laboratory, CUORE COLLABORATION — CUORE—the Cryogenic Underground Observatory for Rare Events—is an experiment based at the Gran Sasso National Laboratories in Italy, searching for the neutrinoless double beta ($0\nu\beta\beta$) decay of ^{130}Te . A ton-scale bolometer consisting of 988 $5\times 5\times 5$ cm³ TeO₂ crystals operated at ~ 10 mK temperatures, CUORE began taking physics data in the spring of 2017. It is expected to achieve a 9×10^{25} year ^{130}Te half life sensitivity (90% C.L.) after a 5 year live time. We present an analysis of early data from the experiment, focusing on spectral line shape, resolution and background performance, as well as preliminary $0\nu\beta\beta$ results.

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