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CERES: Cryogenic Experiment to Reconstruct Energy Systematics in TeO2 bolometers

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The Cryogenic Underground Observatory for Rare Events (CUORE) is an experiment searching for neutrinoless double beta decay in a ton-scale detector, located at the Gran Sasso National Laboratory in Italy. Utilizing a detector composed of TeO_2 crystals, CUORE operates at millikelvin temperatures to achieve sensitive measurements of temperature fluctuations from deposited energy.

A precise understanding of the energy systematics is vital for bolometric experiments. Recent studies of event topologies and energy resolution have indicated potential position-dependent effects in CUORE bolometers. In this poster, we present the design and latest results of a single-crystal experiment, CERES, to further investigate these phenomena.

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Collaboration you are representing

CUORE

Authors: Mr BRANDANI, Enzo (UC Berkeley); ZHU, Tong (UC Berkeley); Prof. KOLOMENSKY, Yury (UC Berkeley)

Presenter: ZHU, Tong (UC Berkeley)

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