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The COBRA Extended Demonstrator

The COBRA collaboration aims to search for $0\nu\beta\beta$-decay, a lepton-number violating process which could provide information about new physics beyond the Standard Model. For this COBRA uses CdZnTe room-temperature semiconductor detectors in a low-background environment at the LNGS in Italy.
The COBRA demonstrator setup has recently been upgraded to the extended demonstrator (XDEM), using six times larger detectors with a guard-ring to veto signals from surface contaminations. These improvements, and a cleaner handling of the detectors, aim to reduce the specific backgrounds found in the demonstrator phase.
This contribution will give an overview about the evaluation of the new detectors in overground laboratories, including the measurement of key parameters like the ideal working point, the efficiency and the energy resolution of each detector. Results from the commissioning of the XDEM into the LNGS setup and the current status of the experiment will also be presented.

Authorship annotation

for the COBRA collaboration

Session and Location

Monday Session, Poster Wall #65 (Auditorium Gallery Right)

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yes

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