

Status and perspectives of the COBRA experiment

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COBRA is a neutrinoless double-beta-decay experiment using an array of Cadmium-Zinc-Telluride semiconductor detectors, the isotope of interest being Cd-116 with a Q-value of 2814-keV. To investigate the experimental challenges of operating CdZnTe detectors in low background mode and to identify potential background components a demonstrator setup is operated at the Gran Sasso underground laboratory (LNGS) in Italy, while additional studies are proceeding in surface laboratories. The experiment consists of monolithic, calorimetric detectors of coplanar grid design (CPG detectors). These detectors have a size of $1 \times 1 \times 1, \text{cm}^3$ and are arranged in four 4×4 layers of which three are currently in operation. The last layer will be installed in September of this year.

An overview of the current status and future perspectives are given. Results of pulse-shape analyses are presented as well as background estimates from the data collected so far.

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