

Towards the AMoRE II Experiment: Neutrinoless double-beta decay search with 100 kg of ^{100}Mo

Friday 19 July 2024 11:00 (15 minutes)

The AMoRE-II experiment is the next phase of the AMoRE project. Its aim is to search for neutrinoless double beta decay of ^{100}Mo isotopes. The experiment will use 100 kg of ^{100}Mo target nuclei enriched in more than 95%, which are mainly contained in hundreds of scintillating lithium molybdate crystal absorbers to use MMC (metallic magnetic calorimeter) sensors for a cryogenic calorimeter. The detectors' performance has significantly improved compared to the previous phases. We anticipate a background level of approximately 10^{-4} counts/keV/kg/year in the region of interest (ROI) by utilizing the low background detector material, an optimized shielding structure at Yemilab, the new underground laboratory with a 1000m overburden. We will present the overall effort to move towards the AMoRE-II phase

Alternate track

I read the instructions above

Yes

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