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Recent results of the AMoRE-pilot experiment, a search for neutrinoless double beta decay of Mo-100

The Advanced Mo-based Rare Process Experiment (AMoRE) is a search for neutrinoless double beta decay of ¹⁰⁰Mo in calcium molybdate (CaMoO₄) crystals, made of Molybdenum enriched on ¹⁰⁰Mo (\ge 95%) and Calcium depleted on ⁴⁸Ca isotopes (\le 0.002%), by using cryogenic detectors.

The ongoing pilot-phase experiment at the YangYang underground laboratory consists of a number of commissioning runs using six ⁴⁰Ca¹⁰⁰MoO₄ crystals of a total mass ~1.9 kg.

In parallel, the fist phase of the AMoRE experiment with about 5 kg of CaMoO₄ crystals and additional R&D crystals is in preparation.

The background data of the AMoRE-pilot were analyzed and compared with Monte Carlo simulation results to identify their background sources.

In this presentation, the background modeling results will be presented and discussed.

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