



AMoRE neutrinoless double beta decay experiment using low temperature $^{40}\text{Ca}^{100}\text{MoO}_4$ calorimeters

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The AMoRE (Advanced Mo based Rare process Experiment) project is an international experiment to search for neutrinoless double beta decay of ^{100}Mo using scintillating crystals at low temperatures. The detector is composed of $^{40}\text{Ca}^{100}\text{MoO}_4$ crystals (depleted in ^{48}Ca and enriched in ^{100}Mo) in simultaneous measurement scheme for heat and light signals based on metallic magnetic calorimeter (MMC) technology. A pilot experiment (1.5 kg of $^{40}\text{Ca}^{100}\text{MoO}_4$ crystals equipped with 11 MMC channels ready to cool down in a dilution refrigerator) will run in 2015 at the 700-m deep Yangyang underground laboratory. Then the cryostat will house 10 kg of detectors with a final goal to carry out a large scale 200 kg experiment aimed to test the inverted neutrino mass scheme (an effective Majorana neutrino mass sensitivity of 20-50 meV). An overview and recent results of the project are presented.