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Status of the AMORE double beta decay experiment (15' + 5')

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The AMoRE (Advanced Mo-based Rare process Experiment) project is an international collaboration experiment searching for neutrinoless double beta decay of Mo-100 using a cryogenic technique with Mo-100 enriched and Ca-48 depleted calcium molybdate (48deplCa100MoO4) crystal scintillators. A pilot experiment is running with 1.5 kg of 48deplCa100MoO4 crystals in simultaneous heat and light detection at the Yangyang underground laboratory. Significant improvement of effective Majorana neutrino mass sensitivity at the level of inverted hierarchy of neutrino mass, ˜20 meV, could be achieved by AMoRE-II with 200 kg of 48deplCa100MoO4 crystals. An overview of the AMoRE project and status of the pilot experiment will be presented.

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