
Contribution ID: **151** Type: **Oral Presentations**

# Neutrinoless double beta decay search with the AMoRE-II experiment

*Thursday, 7 September 2023 16:40 (20 minutes)*

Neutrinoless double beta decay search is a powerful tool to clarify the nature of neutrino as a Dirac or Majorana-type particle and probe the unknown neutrino mass.
Observing this decay means the lepton number violating process, which will help us understand the baryon asymmetric universe with the leptogenesis scenario.
The AMoRE collaboration has been searching for neutrinoless double beta decay of 100Mo with cryogenic calorimeters using scintillating molybdate crystals and MMC (metallic magnetic calorimeter) sensors. AMoRE-pilot and AMoRE-I phases of the experiment demonstrated the competitive potential for the search and the experiment is rapidly moving toward the AMoRE-II phase, which will exploit 100 kg of 100Mo isotopes ultimately. The AMoRE-II detector will consist of hundreds of cryogenic calorimeters and surrounding muon veto detectors made up of an array of plastic scintillators and water cherenkov detector. The material for the detector system has been carefully chosen and radiation shielding structure has been optimized to reach the background level of 10^-4 cnts/kg/keV/year around the region of the interest for the signal search. The new experiment will be built in Yemilab, the new underground laboratory located 1000 meter below Yemi mountain in Gangwon province, South Korea, which allows the large space and utilities for the experiment with significantly improved sensitivity. The recent result of AMoRE-I new limit and the overall status of the AMoRE-II experiment will be presented in the conference.

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**Session Classification:** G4