



Contribution ID : 44

Type : **Oral talk**

Status and perspectives of the AMoRE experiment

Friday, 25 October 2024 16:45 (15)

AMoRE (Advanced Mo based Rare process Experiment) is an experiment to search for neutrinoless double-beta decay of ^{100}Mo using scintillating molybdate crystals with metallic magnetic calorimeters as low temperature sensors. The AMoRE-I, which is the first stage of the experiment was completed in April 2023 with the best result of a limit of $T_{0\nu 1/2} > 3.0 \times 10^{24}$ years at 90% C.L. AMoRE-II main phase experiment, using 157 kg of lithium molybdate crystals, will be installed at the Yemi underground laboratory (Yemilab), newly constructed at deeper (1 km overburden) and larger space with an experimental area of 2,600 m². The goal of AMoRE-II phase is to get a limit of $T_{0\nu 1/2} > 6 \times 10^{26}$ years at 90% C.L. which corresponds to an effective Majorana neutrino mass in the range of $m\beta\beta \leq (0.013 - 0.025)$ eV after 5 years of operation. The results from AMoRE-I and preparation of the AMoRE-II phase will be presented.

Primary author(s) : Dr. KORNOUKHOV, Vaily (MEPhI)

Presenter(s) : Dr. KORNOUKHOV, Vaily (MEPhI)

Session Classification : Neutrino

Track Classification : Neutrino physics