

An enriched Mo-100 powder measurement by a HPGe array detector

Friday, July 6, 2018 8:15 PM (15 minutes)

The AMoRE (Advanced Mo based Rare decay Experiment) phase-II needs ultra pure crystals with low radioactive contamination (< 2 micro Bq/kg of ^{228}Th) to achieve the zero background level in the ROI (Region of Interest) of the neutrinoless double decay from the Mo-100. The raw material of the crystals, enriched Mo-100 powder, has to have low contamination (< 20 micro Bq/kg of ^{228}Th). An array of 14 HPGe detectors (70%) was constructed at the Yangyang underground laboratory in spring 2017 for measuring small amount of radioactive isotopes, such as ^{238}U and ^{232}Th . Activities of various radioactive isotopes in a sample of Mo-100 powders measured with data taken for about 3 months together with background data for about 2 months will be presented in this poster.

Primary author: Ms PARK, Su-yeon

Co-authors: Mr KIM, Yeongduk; Mr INSIK, Hahn; Mr LEE, Moohyeon; Mr KANG, Woongu; Ms LEE, Eunkyung; Ms KIM, Gowoon; Mr LEONARD, Douglas

Presenter: Ms PARK, Su-yeon

Session Classification: POSTER