Contribution ID: **44** Type: **not specified**

Verification of applying the current gamma-ray imaging techniques for discrimination of accelerator magnet activation

Tuesday, 24 September 2019 14:00 (30 minutes)

Gamma-ray imaging technique that rapidly prevailed in Japan after Fukushima Dai-ichi Nuclear Power Plant accident is expected to be powerful tool for detection of activated area and generated nuclides on an accelerator magnet. Although, Co-60 which emits high energy (1173, and 1333 keV) photons is principal nuclides for activated magnet, most of current techniques aim detection of 137Cs which emits 662 keV photon. Moreover, strong radiations from beam lines disturb to identify the source location. In this study, we experimentally investigated the effectiveness of current imaging technique for the identification of activated areas and generated nuclides in the accelerator magnet, with representative commercially available devices. Fundamental studies by using the magnet moved from the beamline to the low-background environment were conducted, then measurements at the actual beamline were conducted to investigate the effects under high background environment. In the presentation, we will report on the series of experimental results, particularly focusing on “Detection of gamma rays of Co-60”, and “Identification of the radiation source location (activated area)”.

Presenter: YOSHIDA, Go

Session Classification: Session 5