



Contribution ID: 278

Type: Poster

Operation of Liquid Xenon Gamma-Ray Detector for MEG II Experiment Physics Run in 2022

Tuesday, 18 October 2022 16:29 (1 minute)

The MEG II experiment searches for $\mu \rightarrow e\gamma$ decay which is one of the charged lepton flavor violation decays. The discovery of this decay will be clear evidence of new physics beyond the Standard Model. The liquid xenon (LXe) gamma-ray detector is one of the subdetectors in the MEG II experiment. It measures the energy, position and timing of the gamma-ray from $\mu \rightarrow e\gamma$. The LXe scintillation light is read out by 4092 VUV-sensitive SiPMs and 668 PMTs.

This poster will report on the operation of the LXe detector in the 2022 physics run. Parameters such as a gain and a photon detection efficiency of the photosensors need to be monitored continuously as they fluctuate over the beamtime. The current status and the outlook of the LXe detector will be reported.

Fluctuations of the gain of the photon sensors due to the opening and closing a beam blocker have been observed. The sensors can be calibrated more accurately by taking this fluctuation into account. The current status of the calibration that takes into account the sensor response variation caused by the opening and closing of the beam blocker will be also reported.

Primary author: MATSUSHITA, Ayaka (The University of Tokyo)

Co-authors: BAN, Sei (The University of Tokyo); IKEDA, Fumihito (The University of Tokyo); IWAMOTO, Toshiyuki (The University of Tokyo); KOBAYASHI, Satoru (The University of Tokyo); MORI, Toshinori (The University of Tokyo); OOTANI, Wataru (The University of Tokyo); OYA, Atsushi (The University of Tokyo); UCHIYAMA, Yusuke (The University of Tokyo); YAMAMOTO, Kensuke (The University of Tokyo); YONEMOTO, Taku (The University of Tokyo)

Presenter: MATSUSHITA, Ayaka (The University of Tokyo)

Session Classification: BBQ - Drinks & Posters