Contribution ID : **259** Type : **Poster new technologies**

Study of Photon Transport and SiPM in External Electrical Field in nEXO

Authorship annotation

Session and Location

Monday Session, Poster Wall #99 (Auditorium Gallery Left)

Abstract content

The Enriched Xenon Observatory (EXO) is aiming to search for 0νββ decays of Xe-136 using a liquid xenon TPC. nEXO is the second phase of EXO with 5 tons of enriched liquid xenon TPC, which will employ ˜4 m2 of SiPM arrays to detect the 175nm scintillation light from xenon. Overall photon detection efficiency includes the light transport efficiency in TPC and the photo-detection efficiency of SiPM sensor units. In the past few years many efforts have worked to understand the light transport efficiency, especially with respect to the study of SiPM reflectivity at 175nm. In addition, since a fraction of SiPMs will operate in a high electrical field environment within TPC – up to 20 kV/cm. In this poster we will report on the requirements of the SiPM photo-detector system in nEXO, and the performance in different external electrical fields.

Poster included in proceedings:

yes

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