



Contribution ID: 163

Type: Oral (Non-Student) / orale (non-étudiant)

Evaluation of SiPMs for PET Imaging and Personal Radiation Detection

Friday 20 June 2014 09:15 (15 minutes)

Silicon photomultipliers (SiPMs) are novel photo detectors that have great potential as an alternative to classical photomultipliers for many applications of nuclear physics as well as health and safety sectors. Our group has recently embarked into the development of modular and flexible detector solutions for Positron Emission Tomography (PET) detection arising from radioisotope uptake in plants, as well as development of compact, inexpensive personal radiation detectors for first responders. In this work, we evaluate gain and noise characteristics of SiPM detectors at different temperatures that is essential for low-background measurements as well as for detectors operation in outdoor conditions. Our special attention is focused on the evaluation techniques that are suitable for the arrays of SiPMs in the situation when photopeak-based methods are not available.

Author: SEMENOV, Andrei

Co-author: PAPANDREOU, Zisis (University of Regina)

Presenter: SEMENOV, Andrei

Session Classification: (F1-4) Nuclear Safety -DNP-DIAP / Sureté nucléaire - DPN-DPIA

Track Classification: Nuclear Physics / Physique nucléaire (DNP-DPN)