

NEC'2019



Contribution ID: 216

Type: **Sectional**

Radiation Damage Studies of Silicon Photomultipliers in Neutrons Field of IBR-2

Thursday, 3 October 2019 09:00 (15 minutes)

It is reported on the study of radiation resistance of silicon photomultipliers (SiPM) produced by HAMA-MATSU. SiPM was irradiated in neutron fluxes of the reactor IBR-2 of JINR. The tested SiPM received fluence from 1012 up to 2×10^{14} of neutrons/cm². Irradiated detectors investigated using a radioactive source and laser flashes at a temperature of -300C. The measurements showed that the SiPM remain fully functional as photon detectors up to neutron fluence 2×10^{14} despite a significant increase in noise.

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Session Classification: Detector & Nuclear Electronics

Track Classification: Detector & Nuclear Electronics