

Simulation of surface radiation defects leakage current SiPM using Synopsys TCAD

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Silicon photomultipliers (SiPM) are very promising semiconductor photon sensitive devices with high gain. However, the possibility of using SiPMs in some areas is limited by radiation tolerance.

Synopsys TCAD software allows simulating of microelectronic devices and their physical characteristics.

Simulating of manufacturing technology of SiPMs has been made. Experimental samples were produced and then irradiated with different doses of X-rays with energy $E \approx 12$ keV. For the investigation of effects of radiation IV curves of devices were measured before and after irradiation and compared with results obtained from simulation.

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Presentation type

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