

Simulation and investigation of SiPM's surface leakage currents caused by radiation damage

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Silicon photomultipliers (SiPM) are very promising semiconductor single photon sensitive devices with high gain. One of the challenge of use these detectors in radiation environment such as high energy physics experiments is a radiation hardness.

Experimental samples were produced and then irradiated with different doses of X-rays with energy $E \approx 12$ keV. Simulation of these SiPMs was performed using Synopsys TCAD software. Current-voltage characteristics were measured and simulated for the low voltages. Correlation between different parts of SiPM structure and current-voltage characteristics will be presented.

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