

Annealing effects in n+p strip detectors irradiated with high neutron fluences

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Miniature p-type strip detectors were irradiated with reactor neutrons to fluences in the range from 2×10^{14} neq/cm² to 5×10^{15} neq/cm². Collected charge was measured with signals caused by fast electrons from Sr90 source and read out by SCT128A chip. Collected charge and leakage current was measured up to high bias voltages (1400 V) at which signs of charge multiplication can be observed. Detectors were submitted to successive annealing steps at 60°C up to total time of 5040 minutes. Increase of collected charge after long annealing times was measured at high bias voltages. A similar effect was observed in the leakage current, which at high voltages increased with reverse-annealing time.

Author: MANDIC, Igor (University of Ljubljana)

Presenter: MANDIC, Igor (University of Ljubljana)

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