

Radiation hardness studies of neutron and proton irradiated CMOS sensors fabricated in the ams H18 high voltage process

Wednesday, December 2, 2015 2:20 PM (20 minutes)

High voltage CMOS detectors (HVCMOSv3), fabricated in the ams H18 high voltage process, with a substrate resistivity of $10\Omega \cdot \text{cm}$ were irradiated with 24 GeV/c protons up to a fluence of $7 \times 10^{15} \text{ n}_{eq}/\text{cm}^2$ and thermal neutrons up to a fluence of $2 \times 10^{16} \text{ n}_{eq}/\text{cm}^2$. The detectors were characterized using edge-TCT. Both, the collected charge and the depletion depth increased after irradiation, showing a beneficial effect of irradiation on low resistivity silicon.

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Session Classification: CMOS sensors and Sensor Producers