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Preliminary results of bulk damage study in gamma irradiated n-in-p silicon strip sensors

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We present preliminary results of the TID bulk damage study in gamma-irradiated n-in-p silicon strip sensors. The sensors were irradiated by a high-flux ^{60}Co gamma rays up to a total dose of 300 Mrad in approximate charged particle equilibrium.

The study was performed on high-rho silicon sensors with initial resistivities of 4 and 17 k Ωcm .

The properties of sensors were characterized before and after irradiation using I-V and C-V measurements and the effective dopant concentration was extracted from these measurements. It was observed that the full depletion voltage and effective doping concentration decreases with increasing TID.

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