

Charge collection measurements on MICRON RD50 strip detectors and diodes irradiated with protons, pions and neutrons

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The systematic studies of charge collection were performed on strip and pad detectors of n and p type produced on Fz and MCz silicon. The detectors were irradiated with 24 GeV protons, 200 MeV pions and reactor neutrons up to equivalent fluences of $1.2 \times 10^{15} \text{ cm}^{-2}$. It was shown that to a larger extent the CCE is determined by V_{fd} for both strips and pads. Although strip detectors perform better in terms of CCE particularly at lower voltages, but the Q-V plots are similar. The correlation of V_{fd} from C-V and Q-V agrees well. Charged hadrons appear more damaging for CCE at the same equivalent fluence.

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