

Systematic investigation of p-irradiated Micron pad detectors of different silicon materials

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For the evaluation of a detector in high energy physics the deep understanding of the underlying physics is essential. Micron detectors of different silicon types (FZ, MCz, n-bulk, p-bulk) provided by the RD50 collaboration have been irradiated with 24GeV protons at CERN PS up to fluences of 3×10^{16} neq/cm². After a first annealing of 80min at 60°C characteristics of the leakage current (IV), the capacitance (CV) and the effective doping concentration (Neff) were systematically analysed dependent on the fluence and the temperature. Furthermore signals of the transient current technique (TCT) are used to investigate the charge collection efficiency (CCE). Results of these studies will be presented in the talk.

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