

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

Wednesday 13 November 2013 11:41 (20 minutes)

A clear understanding of the underlying physics is essential for the evaluation of detectors in high energy physics. For this purpose 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. In addition to the characteristics of leakage current (IV), capacitance (CV) and effective doping concentration (Neff) dependent on the fluence and the temperature, signals of the transient current technique (TCT) were systematically analysed to investigate the charge collection efficiency (CCE) using red and IR Laser illumination. Results and further plans of these studies will be presented.

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Session Classification: Defect and Pad Detector Characterization