

Determination of strip detector properties by using Edge-TCT

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Transient Current Technique (TCT) was used to evaluate p-type silicon micro-strip detectors. A pulsed IR laser focused to a spot of to 6 μm illuminated the detector edge so that the beam was parallel with the surface and perpendicular to the strips. In that way electron hole pairs were created at known depth in the detector. Scans over the entire detector thickness with 0.5 μm resolution were performed. For each laser beam position the induced current shape is measured for one of the strips. The charge collection efficiency was studied as a function of laser position (depth of carrier generation), voltage, integration time. Determination of electric field profiles without relying on precise values of effective trapping times will be discussed.

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