



Contribution ID: 283

Type: Poster

Characterization of Si Detectors through TCT Technique at Delhi University

Thursday, 28 May 2015 09:08 (0 minutes)

Transient Current Technique (TCT) is one of the important methods to characterize Silicon (Si) detectors and is based on the time evolution of the charge carriers generated when a laser light is shone on it. For red laser, charge is injected only to a small distance from the surface of the detector. For such a system, one of the charge carriers is collected faster than the readout time of the electronics and therefore, the effective signal at the electrodes is decided by the charge carriers that traverse throughout the active volume of the detector, giving insight to the electric field profile, drift velocity, effective doping density, etc. of the detector.

Delhi University is actively involved in the Si detector R&D and has recently installed a TCT setup consisting of a red laser system, a metal box, a SMU (Source Measuring Unit), a bias tee, and an amplifier. Measurements on a few Si pad detectors have been performed using the developed system, and the results have been found in good agreement with the CERN setup.

Collaboration

CMS at LHC and ILC

Primary author: Ms JAIN, Geetika (Delhi University)

Co-authors: Dr BHARDWAJ, Ashutosh (Delhi University); Dr LALWANI, Kavita (Delhi University); Dr RANJAN, Kirti (Delhi University); Mr DALAL, Ranjeet (Delhi University)

Presenter: Ms JAIN, Geetika (Delhi University)

Session Classification: Solid State Detectors - Poster Session

Track Classification: S6 - Solid State Detectors