

First CCE and TCT measurements on irradiated diodes of the CMS-HPK-Campaign

Tuesday 24 May 2011 09:40 (20 minutes)

In a large campaign started by the CMS collaboration to identify the future silicon sensor technology baseline for a new tracker for the high-luminosity phase of LHC, a first set of floatzone diodes was irradiated to a fluence of 10^{14} neq/cm² with protons, neutrons and mixed exposure. Measurements of leakage current, depletion voltage and charge collection efficiency with an infrared Laser on some of the irradiated diodes were made in order to get good understanding of the ordered material and to get a first impression of the material performance after irradiation. In addition, trapping times calculated with the charge correction method were gathered from TCT measurements with a red Laser for 320µm thick diodes.

Author: EBER, Robert (Institut für Experimentelle Kernphysik, KIT)

Co-authors: DIERLAMM, A. (Institut für Experimentelle Kernphysik, KIT); SCHARF, Ch. (Universität Hamburg, Institut für Experimentalphysik); STECK, Pia (Institut für Experimentelle Kernphysik, KIT); MÜLLER, Th. (Institut für Experimentelle Kernphysik, KIT); PÖHLSSEN, Th. (Universität Hamburg, Institut für Experimentalphysik); DE BOER, W. (Institut für Experimentelle Kernphysik, KIT)

Presenter: EBER, Robert (Institut für Experimentelle Kernphysik, KIT)

Session Classification: Detector Characterization