



Contribution ID: 124

Type: Oral

Test beam characterization of irradiated 3D pixel sensors

Wednesday 10 July 2019 11:45 (15 minutes)

Due to its large instantaneous luminosity, the future HL-LHC upgrade is going to set strong requirements on the radiation hardness of the CMS detector inner tracker. The 3D pixel technology, with its superior radiation hardness, complies with these extreme conditions.

A full study and characterization of pixelated 3D sensors fabricated by CNM and FBK is presented here. The sensors were bump bonded to the RD53A and ROC4SENS readout chips and measured at several LHC SPS and DESY test beams. Results on hit efficiency, cluster size and hit position residuals for fresh and irradiated samples are presented. The response against bias voltage and temperature is also considered.

Author: GARCIA ALONSO, Andrea (Universidad de Cantabria and CSIC (ES))

Presenter: GARCIA ALONSO, Andrea (Universidad de Cantabria and CSIC (ES))

Session Classification: Silicon, Pixel, chair: Val O'Shea

Track Classification: general