



Contribution ID: 890

Type: Parallel Session Talk

Development of ultra-light pixelated systems based on CMOS sensors for future high precision vertex detectors

Saturday, 24 July 2010 16:35 (15 minutes)

CMOS pixel sensors have demonstrated attractive performances in terms of spatial resolution and material budget. The recent emergence of high resistivity substrates in mass production CMOS processes has originated particularly high signal-to-noise ratios and improved the non-ionising radiation tolerance to fluences close to 10^{14} Neq/cm². These achievements, obtained with MIMOSA sensors developed at IPHC (Strasbourg) and IRFU (Saclay) will be overviewed and put in perspective of the numerous applications of the sensors. These include collider experiments at RHIC, LHC, ILC and CLIC. The development of ultra-light ladders composed of these sensors and featuring 0.1% to 0.3% of radiation length, will be summarised. The contribution to the conference will also address the evolution of these pixelated systems, including on-going R&D on multi-tier sensors exploiting vertical integration technologies.

Primary author: WINTER, Marc (Institut Pluridisciplinaire Hubert Curien)

Presenter: WINTER, Marc (Institut Pluridisciplinaire Hubert Curien)

Session Classification: 13 - Advances in Instrumentation and Computing for HEP

Track Classification: 13 - Advances in Instrumentation and Computing for HEP