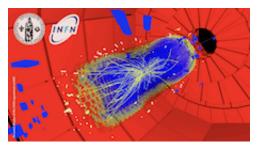
## RD11 - 10th International Conference on Large Scale Applications and Radiation Hardness of Semiconductor Detectors



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Type: Talk

## Silicon Sensor Developments for the CMS Tracker Upgrade

Thursday, 7 July 2011 10:00 (20 minutes)

CMS started a campaign to identify the future silicon sensor technology baseline for a new Tracker for the highluminosity phase of LHC. We ordered a large variety of 6"wafers in different thicknesses and technologies at HPK. Thicknesses ranging from 50µm to 300µm are explored on floatzone, magnetic Czochralski and epitaxial material both in n-in-p and p-in-n versions. P-stop and p-spray are explored as isolation technology for the nin-p type sensors as well as the feasibility of double metal routing on 6"wafers. Each wafer contains different structures to answer different questions, e.g. geometry, Lorentz angle, radiation tolerance, annealing behavior, read-out schemes. Dedicated process test-structures, as well as diodes, mini-sensors, long and very short strip sensors and real pixel sensors have been designed for this evaluation. This contribution provides an overview of the individual structures and their characteristics and summarizes interesting measurements performed so far.

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