

## Pixel Detector Developments for Tracker Upgrades of the High Luminosity LHC

*Wednesday, May 24, 2017 5:24 PM (18 minutes)*

The talk will report on the INFN ATLAS-CMS joint research activity in collaboration with FBK, which is aiming at the development of new pixel detectors for the LHC Phase-2 upgrades. The talk will cover the main aspects of the research program, starting from the sensor design and fabrication technology, with an outlook on the future steps using both Silicon On Insulator (SOI) and Direct Wafer Bonded (DWB) wafers. The RD covers both planar and 3D, made with columnar technology, pixel devices. All sensors are low thickness n-in-p type, as this is the mainstream foreseen for the HL-LHC pixel upgrades. Results from device characterization measurements will be shown. Hybrid modules, with 100 $\mu$ m and 130 $\mu$ m active thickness, connected to the PSI46dig readout chip, have been tested on beam test experiments. Most recent results from test beams will be presented.

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