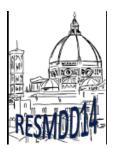
10th International Conference on Radiation Effects on Semiconductor Materials, Detectors and Devices



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3D Pixels for the AFP Experiment

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Silicon tracking detectors for forward physics experiments at the LHC will be located 210m away from the proton-proton interaction point, but only a few millimeters from the proton beam. The proximity to the beam is essential for the physics programs of these experiments (for example, AFP) as it directly increases the sensitivity of the experiment. Thus, there are two critical requirements for silicon pixel detectors. First, the dead region of the sensor has to be minimized. Second, the tracker has to be able to cope with a very inhomogeneous radiation distribution. Results of the characterization and beam test studies of inhomogeneously irradiated and slim-edged 3D pixel sensors produced at CNM-Barcelona and read out by the ATLAS front-end electronics will be presented.

Author: LOPEZ PAZ, Ivan (Universitat Autònoma de Barcelona (ES))

Co-authors: CAVALLARO, Emanuele (Universitat Autònoma de Barcelona (ES)); LANGE, Joern (IFAE Barcelona); GRIN-STEIN, Sebastian (IFAE/ICREA Barcelona)

Presenter: LOPEZ PAZ, Ivan (Universitat Autònoma de Barcelona (ES))

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