

Gamma Irradiation of sLHC Prototype Silicon Strip Detectors and Test Structures of the SMART Collaboration

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For the SMART Collaboration

For the future luminosity upgrade proposed for the Large Hadron Collider (LHC) silicon strip detectors (SSD) and test structures were fabricated on various high-resistivity substrates (p-type MCz and FZ, n-type FZ) within the INFN funded SMART project. They were irradiated with ^{60}Co to test total dose (TID) effects, in order to study the impact of surface radiation damage on the detector properties (interstrip capacitance and resistance, break-down voltage). Selected results from the pre-rad and post-rad characterization of detectors and test structures will be presented at the conference, in particular interstrip capacitance, break-down voltage, flatband voltage and oxide charge.