

Defect characterisation after electron irradiation and overview of acceptor removal in Boron doped Si

Monday, 18 November 2019 13:30 (20 minutes)

Radiation induced acceptor removal effect leads to the performance changes (mostly degradation) in LGADs, CMOS sensors and standard p-type Si detectors. Microscopic understanding of this effect is still incomplete. In the framework of on-going acceptor removal project defect characterisation studies were performed on electron irradiated PiN diodes of 10 and 50 Ω -cm resistivity irradiated with $5E+14$ and $2E+14$ neq/cm², respectively. These results will be discussed in correlation with the macroscopic changes in N_{eff} and I_{leak} . An overview of existing data for different types of irradiation, devices and material and parametrization of acceptor removal will be reviewed as well.

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Session Classification: Defect Characterization