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# Defects formed in boron-doped Si diodes after high energy electron irradiation

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The performance and lifetime of silicon-based sensor devices operated in high radiation environment are essentially determined by the defects formed during the interaction of the high energy particles with the sensors. In p-type Si, for example, a significant deactivation of active boron is observed accompanied by the formation of boron-interstitial oxygen-interstitial (BiOi) defects.
In this talk we present defect studies using deep-level-transient-spectroscopy (DLTS) as well as thermally stimulated current technique (TSC) on electron irradiated p-type Si diodes of different resistivity (50 to 1000 Ωcm). The diodes were characterized directly after irradiation as well as after annealing. Changes in the defect concentrations will be presented and an overview of the introduction rates after electron irradiation compared to proton and neutron irradiation will be given.

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