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Annealing studies on defects after neutron irradiation in different silicon material

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Isothermal annealing studies at 60° C and 300° C were performed on thin FZ, MCz and EPI-DO n-type silicon diodes after irradiation with reactor neutrons. Deep level transient spectroscopy (DLTS) was used to follow the evolution of defect levels while C/V and I/V characteristics were taken to determine the electrical properties (depletion voltage and leakage current) of the detectors. A possible correlation between the evolution of cluster related DLTS-signals and the current annealing was studied. Further results obtained by DLTS-measurements concerning the annealing behaviour of defect levels in the different materials will be presented and discussed.

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