Contribution ID: **12** Type: **not specified**

Cluster related hole traps with enhanced-electric-field-emission- the source for long term annealing in hadron irradiated silicon diodes -

Tuesday 13 November 2007 13:50 (20 minutes)

Cluster related defects were investigated by the Thermally Stimulated Current (TSC) method in neutron irradiated n-type Si diodes during 80C annealing. Three hole traps proved to have an electric-field-enhanced emission characteristic for Coulombic wells. Their zero field emission rates were obtained describing the TSC peaks with the three-dimensional Poole Frenkel formalism when accounting for the spatial distribution of the diodes electric field. As acceptors in the lower half of the gap these centers have a direct impact on the effective doping of the n-type diodes. They are revealed as causing the long-term annealing effects.

Primary author: PINTILIE, Ioana (NIMP Bucharest)

Co-authors: FRETWURST, Eckhart (Hamburg University, Institute for Experimental Physics); LINDSTROEM, Gunnar (Hamburg University, Institute for Experimental Physics)

Presenter: PINTILIE, Ioana (NIMP Bucharest)

Session Classification: Defect and Material Characterization & New Materials

Track Classification: Defect and Material Characterization