Contribution ID: **25** Type: **not specified**

RADIATION DEFECT TRANSFORMATIONS UNDER ANNEALING OF P-TYPE SILICON

Wednesday, 14 November 2012 14:40 (20 minutes)

Comparative studies of radiation defect annealing in p-type silicon diodes made by different producers have been performed. We have studied as pure silicon so silicon-germanium diodes. Radiation defects have been produced by irradiation with electrons and alpha-particles at different temperatures.
It has been found that under annealing at temperatures >250 ⊠C the concentration of interstitial carbon-interstitial oxygen complex grows up to 50 % in diodes with the highest resistivity. Germanium doping influences annealing behavior of vacancy-type defects but not interstitial-type defects. Direct current injection essentially lowers annealing temperature not only for primary defects but for other secondary interstitial defects and some of their complexes also. Tentative explanations of these observations are presented.

Primary author: Dr MAKARENKO, Leonid (Belarusian state University)

Co-authors: KORSHUNOV, F.P. (Scientific-Practical Materials Research Centre of NAS of Belarus, Minsk, Belarus); MOLL, Michael (CERN); ABROSIMOV, N.V. (Leibniz Institute for Crystal Growth, Berlin, Germany); LASTOVSKI, S.B. (Scientific-Practical Materials Research Centre of NAS of Belarus, Minsk, Belarus)

Presenter: Dr MAKARENKO, Leonid (Belarusian state University)

Session Classification: Defect and Material Characterization

Track Classification: Microscopic Defects and Material Characterization