Contribution ID: **38** Type: **not specified**

Irradiation studies of p-Si using Schottky Diode and PN junction

Tuesday 29 November 2022 10:10 (20 minutes)

Irradiation damages of the n-type silicon have been investigated for a long time, but not for the p-type silicon. This study is to investigate and improve the modeling and understanding of irradiation damage of epitaxial p-type silicon using Schottky diodes and pn junctions exposed to high neutron fluence up to 1e16 1 MeV n_eq/cmˆ2. This is a continuation of an ongoing project.

This talk will summarize and present the latest test results on IV, CV and CCE using lasers of the epitaxial p-type Schottky diodes and PN junctions. Description of improved test setup that allows the automatic scanning of the laser beam also at different temperatures of the samples will be given. Details of DLTS results on irradiated and non-irradiated devices will be given and differences between Schottky and PN junctions will also be highlighted.

Author: ZHANG, Dengfeng (University of Sheffield (GB))

Co-authors: MALIK, Adnan (STFC-RAL); MCCORMICK, Angela (Carleton University); KLEIN, Christoph Thomas (Carleton University (CA)); TARR, Garry (Carleton University); VILLANI, Giulio (STFC-RAL); Dr KURTH, Matthew Glenn (Institute of High Energy Physics (CN)); VANDUSEN, Rob (Carleton University); AITON, Rodney (Carleton University); KOFFAS, Thomas (Carleton University (CA)); CHEN, Yebo (Chinese Academy of Sciences (CN))

Presenter: ZHANG, Dengfeng (University of Sheffield (GB))

Session Classification: Defect and Material Characterization