Simulation of Double Junction in Irradiated Detectors Using Silvaco TCAD

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A simulation of a simple pad silicon detector and strip detector containing two defects: deep donor (Ev+0.48 eV) and deep acceptor (Ec-0.595 eV) was performed using Silvaco TCAD software package. The sensor modeling parameters were taken from the RD50 Detector Simulation Group task. The electric field distributions at different reverse bi-ases, fluences and detector operational temperatures are simulated. The predicted behavior of detector after irradiation has been achieved. The results of the simulation are compared with modelled data provided by V.Eremin.

Author: Mrs GOLOVLEVA, Maria (Lappeenranta Univ. of Technology)

Co-author: Prof. TUUVA, Tuure (Lappeenranta Univ. of Technology)

Presenter: Mrs GOLOVLEVA, Maria (Lappeenranta Univ. of Technology)

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