Contribution ID: **60** Type: **Invited Talk**

Radiation damage models, comparison and perfomance of TCAD simulation

Thursday 29 September 2016 16:00 (22 minutes)

The simulations of radiation damage effects in silicon detectors from the properties of the lattice defects has long been one of the important tasks of CERN-RD50 collaboration. As calculations often don't converge with full set of the indentified defects the simulations include either reduced number of defects or more often effective defects. Several different models were presented in the past, which gave reasonable agreement with the limited number of measured data, however often failing to describe a broader set of measurements of collected charge, leakage current and full depletion voltage. The models used within RD50 will be presented together with the comparisson of different simulation tools. A special empahasis will be given to practical aspects of simulations. Finaly the device model based on measurements whose parameters should be used as anchor points for simulations of heavly irradiated silicon detectors will be described.

Author: KRAMBERGER, Gregor (Jozef Stefan Institute (SI))

Presenter: KRAMBERGER, Gregor (Jozef Stefan Institute (SI))

Session Classification: B13-Radiation hardness and simulations

Track Classification: Radiation hardness and simulation