Contribution ID: **10**   Type: **Standard (20 min including discussion)**

Comparisson of different non-commercial detector simulation packages

Thursday 3 December 2015 15:30 (20 minutes)

Simulation tools designed for charge collection studies were developed by different groups within rd50. These tools solve Poisson equation for a given space charge (rather than calculating it from microscopic defects). Unlike commercial packages they allow for fast simulation of drift and diffusion of generated charges allowing Monte Carlo approach on studies of detector performance. They are also ideal for simulations of TCT measurements. In order to assure reliable comparison of simulations with measurements different simulations packages were cross-calibrated by comparison of induced currents in simple well known structures. A reasonable agreement has been found with small differences usually arising from different mobility parameterizations.

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Session Classification: Simulations