

Calculation of the effective space charge profile of a detector using TRACS

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We present a new software that aims to calculate the effective space charge distribution of a silicon detector. The software uses TRACS (TRAnsient Current Simulator) to simulate the induced transients currents in a detector under edge-TCT illumination. Inside TRACS a $N_{eff}(z)$ profile is assumed. The parameters of the profile are extracted from a fit of measured transient currents to the simulation. Since this is a CPU demanding process, TRACS was parallelized and is ran in a multicore machine. This new TRACS version with fitting capabilities are available in the CERN-cloud service.

Author: CALVO PINTO, Julio (CERN)

Co-authors: VILA ALVAREZ, Ivan (Universidad de Cantabria (ES)); FERNANDEZ GARCIA, Marcos (Universidad de Cantabria (ES)); MOLL, Michael (CERN)

Presenter: CALVO PINTO, Julio (CERN)

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