

# TRACS: Transient Current Simulator

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## **TRACS: Transient Current Simulator**

An extensible open-source C++ software for the simulation of the drift dynamics of electrons and holes drift in semiconductor detectors of complex geometries has been developed in order to understand transient currents and charge collection efficiencies of arbitrary charge distributions. The simulation makes use of Ramo's theorem to obtain induced currents in the electrodes. Efficient open source C++ numerical libraries are used to obtain the electric and weighting field using finite-element methods and to simulate the carrier transport. A graphical user interface is also provided. The tool has already been proved useful to model laser induced transient currents.

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