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Experiments in DIY TCAD

Friday 24 May 2024 10:25 (25 minutes)

Over the last few years in the OPMD group we have been experimenting with developing our own “in house” semiconductor solver. Work is still in the early stages but we currently have a drift-diffusion solver capable of handling 2D devices, and with ability to implement various mobility and generation/recombination models. The simulator is all based on open source libraries, in particular the DUNE framework (https://dune-project.org/). It was developed originally to simulate charge packet shapes in CCD detectors but has applications also in particle physics detectors.

We will present the developments of our simulator including lessons learned about how to implement semiconductor solvers for others who may be interested, some results on the usual device structures, and the possibility of integrating our simulator with allpix^2, ESA pyxel, and other frameworks to provide electric field structure information

Will the talk be given in person or remotely?

In person

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Session Classification: New features and developments

Track Classification: Developments