2nd Allpix Squared User Workshop



Contribution ID: 5

Type: not specified

Modeling of charge trapping after radiation damage in Allpix Squared

Thursday 19 August 2021 13:20 (20 minutes)

Radiation damage in silicon causes changes in the full depletion voltage, leakage current, and causes trapping of electric charge. This results in a decreased performance in silicon detectors as a result of decreased charge collection efficiency. At the large hadron collider, unprecedented levels of radiation will be seen by the next pixel detectors to be installed in the four large LHC experiments. To model signal in such pixel detectors after radiation damage using Allpix Squared, trapping is implemented on the level of charge propagation in Allpix Squared. The method and an usage are presented, as well as some first results.

Authors: SONNEVELD, Jory (Nikhef National institute for subatomic physics (NL)); ZHANG, Sinuo (University of Bonn (DE))

Presenter: SONNEVELD, Jory (Nikhef National institute for subatomic physics (NL))

Session Classification: New Features / Under Development

Track Classification: New Features