

Band gap energy modelisation in Silvaco TCAD Atlas Device simulator

Tuesday 21 November 2017 14:00 (20 minutes)

The advantages TCAD based studies offer during the development of semiconductor sensors are multiple: they are predictive, they provide insight and they capture and visualise theoretical knowledge.

In this talk I will report on Silvaco TCAD Atlas Device simulator, in particular about the modelisation of the most fundamental semiconductor

physics parameters in that tool, the band gap energy E_g .

The effect of its value on the reverse current and on the diode current scaling with temperature in forward and reverse bias will be discussed,

for both unirradiated and irradiated bulks.

The goal of the report is to provide a solid basis for discussion on Silvaco TCAD tools and its predictions.

Primary author: BOMBEN, Marco (LPNHE & Université Paris Diderot, Paris (FR))

Presenter: BOMBEN, Marco (LPNHE & Université Paris Diderot, Paris (FR))

Session Classification: Device simulation