

Radiation damage models: comparison between Silvaco and Synopsys

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TCAD simulation has become a valuable tool in the design and understanding process of silicon sensors for high energy physics applications. The predictive power is limited by the uncertainties arising from different available semiconductor physics models but also from the simulation software itself.

In this talk we will present a comparison between Silvaco and Synopsys predictions for not-irradiated as well as irradiated structures. The irradiation models known as New Delhi and the latest version of the Perugia model will be used and compared in two dimensional simulations regarding observables like charge collection efficiency, current-voltage and capacity-voltage curves.

Authors: BEYER, Julien-Christopher (Max-Planck-Institut fur Physik (DE)); BOMBEN, Marco (LPNHE & Université Paris Diderot, Paris (FR)); MACCHIOLO, Anna (Max-Planck-Institut fur Physik (DE)); NISIUS, Richard (Max-Planck-Institut fur Physik (DE))

Presenter: BEYER, Julien-Christopher (Max-Planck-Institut fur Physik (DE))

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