

## TCAD simulations of CMOS Hi-Res MAPS detectors

*Monday 5 June 2017 14:50 (20 minutes)*

I will present results of Synopsys TCAD simulations of OVERMOS, a MAPS CMOS detector based on high resistivity substrate. Following a short description of the main features of OVERMOS, I will describe experimental results of initial test structures and comparisons with TCAD simulation results, both for standard and neutron irradiated devices. I will then describe a proposed fabrication of test structures Schottky diodes to investigate radiation effects on silicon substrates of doping levels in the range  $1e13 - 1e17 \text{ cm}^{-3}$ , as typically found in CMOS technology.

**Authors:** Dr VILLANI, E.Giulio (STFC Rutherford Appleton Laboratory); Dr WILSON, Fergus; Dr ZHANG, Zhige; Dr DOPKE, Jens; Dr SEDGWICK, Iain; Dr FRENCH, Marcus; Dr SELLER, Paul; MCMAHON, Stephen; Dr WORM, Steve; Dr XIU, Qing Lei; Dr LIANG, Zhijun

**Presenter:** Dr VILLANI, E.Giulio (STFC Rutherford Appleton Laboratory)

**Session Classification:** Device simulation