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Dopping profile Simulations and measurements

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N-in-N, N-in-P and p-Spray implants with varied parameters are simulated and compared with Secondary Ion Mass Spectroscopy measurements in an attempt to understand device characteristics and calibrate the simulation framework. A very good agreement is observed for the intermediate and high doses, while corrections are implemented for measurements performed through the screen oxide layer. Using 3D TCAD simulations, the entire range of possible parameter phase space has been covered, in an attempt to respond to demonstrate validity for different sensor nature.
An irradiation Campaign is undertaken and measured samples are currently under photon bombardment. Using extensive simulations couple with post-irradiation measurement, one could understand dopant behavior and irradiation defects in the bulk, while all samples will be laboratory measured to confirm any obtained result
A second irradiation under neutrons is also planned with the interest of distinguish different kind of defect in each case.

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