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Update on Radiation damage investigation of epitaxial P-type Silicon using Schottky diodes

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This project focuses on the investigation of radiation damage of epitaxial P-type silicon.

Various test structures consisting of Schottky diodes and p junctions of different sizes and flavors have been fabricated at different facilities, including RAL and Carleton University.

The structures are fabricated on 6 inch wafers of various doping (1e13, 1e14, 1e15, 1e16, and 1e17 B cm-3) and 50 um thick epitaxial layer.

Test updates on the second batch of fabricated Schottky devices at RAL with high and medium resistivity wafers will be given. IV in the reverse and forward region, along with CV measurements of non-irradiated and n-irradiated devices will be shown.

Charge collection test results of irradiated and non-irradiated devices, using an improved laser system that allows testing at temperature down to -20 C will be shown. Details of the Laser setup will be given.

Update on TCAD scripts for the simulation of the devices will be presented as well.

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