

# 10th Anniversary "Trento" Workshop on Advanced Silicon Radiation Detectors

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## Doping profiles and radiation damage

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Radiation hardness constrains imposed by the High luminosity LHC upgrade, demand detailed modelling and simulation of substrate damage in the most basic level. In that direction, several implanted samples, which have undergone the first steps of the fabrication process, are simulated and measured. Results are then transposed to a diode test production of similar characteristics, fabricated using equivalent parameters. The samples are studied before and after proton irradiation up to doses as high as  $10^{16}$  neq/cm<sup>2</sup>, while a comparison of simulation and measurements pre and post irradiation is presented in an attempt to configure and calibrate a detailed model.

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