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## TCT Study on the effect of epitaxial graphene contacts in SiC detectors

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Silicon Carbide has interesting properties for high temperature, high radiation environment and timing radiation detector applications due to its thermal conductivity ( $3.7 \text{ W}/(\text{cm}\cdot^\circ\text{C})$ ), atomic displacement threshold (22-35 eV) and high saturation velocity ( $2.2\text{e}7 \text{ cm/s}$ ). Silicon Carbide detector diodes have been fabricated in IMB-CNM with epitaxially-grown graphene onto Silicon Carbide (EG-SiC) as interface between the implant and the readout electrode, useful for e.g. heavy ion detection by removing metallisation in the active area. In this contribution, the effect of EG in a SiC PiN diode is studied as compared to a SiC sample without graphene by means of the Transient Current Technique.

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