

LGAD irradiated with $1e19$ 1MeV n/cm² - HRTEM annealing studies up to 350 oC

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High Resolution Transmission Electron Microscopy (HRTEM) is a milestone in the imaging of structural defects. A LGAD sample irradiated at a fluence of $1e19$ 1MeV neutrons/cm² has been investigated with a JEOL 2100 system, equipped with high resolution polar piece. Structural changes subsequent to a 30 min isochronous thermal treatment @150C, 200C, 250C, 200C and 350C respectively have been followed via HRTEM.

Point defects (vacancies and/or interstitials) or very small clusters of point defects have been observed to organize along well defined tracks. From a qualitative perspective, this aspect was found to be common along the whole series. However, starting from 250C, significantly larger clusters of defects started to be randomly observed.

Heading

Authors: Dr KUNCSEK, Andrei (National Institute of Materials Physics); PINTILIE, Ioana (NIMP Bucharest--Magurele, Romania)

Presenter: Dr KUNCSEK, Andrei (National Institute of Materials Physics)

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