

## Edge-TCT studies of heavily irradiated strip detectors

*Thursday, 1 March 2012 09:55 (25 minutes)*

Effects of long term annealing on charge collection properties of miniature p-type micro-strip detectors, 300 and 150  $\mu\text{m}$  in thickness, irradiated to fluences of 1016 and  $5 \cdot 10^{15}$  neq/cm<sup>2</sup> with reactor neutrons respectively, were examined by using the Transient Current Technique with Edge-on laser injection (Edge-TCT). The detectors were annealed at 60°C in steps to an accumulated time of 10240 min and 20480 min respectively. Large increase of measured charge was observed even at low bias voltages at late annealing stages. Long term annealing causes build up of negative space charge at the n<sup>+</sup>-p junction, which is located near the strips, consequently resulting in very high electric fields, sufficient for initiating the process of impact ionization, leading to charge multiplication. The increase of charge collection is correlated with the increase of leakage current.

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**Session Classification:** Planar Detectors