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## Two Photon Absorption-TCT of irradiated LGADs

Low Gain Avalanche Diodes (LGAD) with different implantation dose and irradiated with 24 GeV/c protons at CERN-PS up to a fluence of  $1 \times 10^{14}$  1 MeV neutron equivalent will be presented. The results of these measurements support the interpretation of a double junction effect as the primary responsible for the reduction of gain observed in these devices. The shape and magnitude of electric field was calculated profiting from the point-like spatial resolution of this technique. This method was also applied to PIN diodes of different runs.

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