

Studies of LGAD diodes in Ljubljana (an update)

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A large set of diodes was characterized before irradiations and after neutron irradiations with different techniques CV/IV/TCT/CCE. It was found that large spread of device leakage current before irradiation has no impact on gain (constant within 15% for all samples) of the devices, but it does on noise. The excess current seem no to be related to the bulk current and there are indications that it evenly distributed over the surface.

Irradiations decrease the gain significantly for both high and low gain devices. As the decrease of electric field in the multiplication layer may be due to removal of shallow acceptor a set of simple diodes with different resistivities was irradiated and parameters of acceptor removal studied.

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