Contribution ID: **14** Type: **WG5 - Characterization techniques - facilities**

Fluence profiling at JSI TRIGA reactor irradiation facility

Tuesday 3 December 2024 12:00 (20 minutes)

We present the updated analysis of the fluence profile at the JSI TRIGA neutron reactor facility in Ljubljana. For the study, multi-pad Low-Gain Avalanche Diodes (LGADs) are used. The deactivation of acceptor doping in the gain layer implant due to the irradiation, typical of LGAD devices, is exploited to map the fluence profile inside the irradiation channels. The amount of active doping of the LGAD gain layer is extracted via capacitance-voltage measurements for each pad before and after irradiation to a fluence of 1.5×10^{15} n_{eq}/cm^2, providing a precise and prompt measurement of the fluence distribution over the LGAD sensor. Experimental results are compared to neutron fluence expectations calculated with Monte Carlo techniques.

Type of presentation (in-person/online)

in-person presentation

Type of presentation (I. scientific results or II. project proposal)

I. Presentation on scientific results

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