

Timing and CCE Performance of the LGAD from Teledyne e2v

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Owing to their timing capabilities, of the order of 50 ps or better for MIP, Low Gain Avalanche Detector (LGAD) have been chosen for next-generation timing detectors at the HL-LHC and other high-energy physics experiments. Both ATLAS and CMS collaborations have adopted them as baseline sensors for the High Granularity Timing Detector (HGTD) and MIP Timing Detector (MTD) in their upgrades.

During their lifetime, the detectors will be exposed to high level of radiation, both ionising and non-ionising, hence their radiation hardness is one of the key parameters to be assessed.

In this talk, we will present the results of charge collection and timing of neutron-irradiated $1 \times 1 \text{ mm}^2$ LGAD sensors produced by Teledyne e2v (Te2v) and jointly developed by the University of Oxford, the University of Birmingham, the Rutherford Appleton Laboratory, and the Open University.

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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