

Measurements on segmented LGAD devices

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The Low Gain Avalanche Detector (LGAD) is one of the technologies currently under development for radiation hard trackers.

The concept is to generate a high electric field region inside the semiconductor material. Charge carriers crossing this region may acquire high enough energy to generate secondary ionization initializing a multiplication cascade and enhancing the charge collected on the electrodes.

So far the LGAD technology has been studied on diodes. Recently a production run including segmented devices has been produced by CNM.

We analysed strips and pixel detectors from wafer 12 and 14 of run 6827 (i.e. 285 μm thick float zone with shallow and deep implantation of the n+ cathode, respectively).

The results of TCT measurements on strips to study the sensor response uniformity over the strip surface and of charge collection measurements on pixel devices after exposition to a ^{90}Sr beta source will be presented and discussed.

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