



Contribution ID: 46

Type: **WG2 - Hybrid silicon sensors**

Status and future developments of Low Gain Avalanche Detector technologies at IMB-CNM

Thursday 5 June 2025 08:50 (20 minutes)

IMB-CNM has been a main actor in the development of Low Gain Avalanche Detectors since the initial device conception, more than a decade ago. In the last years, our efforts have been centred on developing new LGAD designs to enhance the device performance in aspects such as the charge collection efficiency or the improvement of the fill factor. At the same time, our technologies are being revisited to refine the fabrication yield, in particular for large pixelated array devices.

This contribution presents our latest advances and challenges in technologies such as trench-isolated inverse LGAD (TiLGAD), a promising design that looks for a 100% fill factor, for a wide range of low and high penetrating particles. In addition, we will show the first characterization of our deep-junction LGAD devices, a crucial step to stabilize the performance of the IMB-CNM pixel technologies.

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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Session Classification: WG2/WP2 - Hybrid Silicon Technologies