



Contribution ID: 4

Type: **not specified**

Measurements on last IMB-CNM LGADs production

Thursday, 23 June 2022 10:50 (20 minutes)

Abstract: In this contribution we will present the first measurements on LGADs corresponding to our CNM's second engineering run based on 6-inch, 50 μ m active layer thick, epitaxial wafers (6LG3 technology). Some of the wafers were carbon enriched using two different doses and one implantation energy. For the gain layer, samples were fabricated using different boron doses and diffusion times and one implantation energy. Measurements, simulations and analysis of breakdown and depletion voltages were carried out on these LGADs. The presented results will serve as a stepping stone to select the best technological parameters for the gain and carbon layer definition in the upcoming ATLAS-CMS common run, based on 6-inch Si-Si wafers (6LG2 technology).

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Session Classification: Low Gain Avalanche Detectors