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Timing measurements on neutron-irradiated LGADs in epitaxial wafers

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In this contribution, we will present measurements on neutron-irradiated LGADs corresponding to our 6-inch, 50 μ m active layer thick, epitaxial wafers run (6LG3). Samples were fabricated using three boron implantation doses, and one energy, for the gain layer definition. Gain, collected charge, acceptor removal constant and timing measurements were carried out on these LGADs irradiated with neutrons at equivalent fluencies ranging from $1e14$ to $5e15$ atm/cm². The presented results have served as a stepping stone to select the best technological parameters for the gain layer definition in the upcoming ATLAS-CMS common runs, based on 6-inch epitaxial and Si-Si wafers (6LG3 and 6LG2 technologies, respectively).

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