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Single Event Burnout in thin silicon sensors

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The Single Event Burnout (SEB) was observed for the first time in 50 μ m-thick LGAD, and studied by ATLAS and CMS collaborations during the R&D activity on LGAD sensors for their respective timing detector. The experimental results observed on particle beam showed that, in 50 μ m-thick silicon sensors, the SEB occurs at bulk electric fields of 11.5-12 V/ μ m.

In this contribution, we report SEB results recently obtained on silicon sensors with active thickness between 15 μ m and 55 μ m. Beam tests at DESY and CERN facilities, performed during the last year, showed a relationship between the active thickness of the sensor and the burnout electric field.

Primary author: FERRERO, Marco (Universita e INFN Torino (IT))

Co-authors: MOROZZI, Arianna (INFN, Perugia (IT)); SIVIERO, Federico (INFN - National Institute for Nuclear Physics); MOSCATELLI, Francesco (IOM-CNR and INFN, Perugia (IT)); LANTERI, Leonardo (Universita e INFN Torino (IT)); MENZIO, Luca (Universita e INFN Torino (IT)); CARTIGLIA, Nicolo (INFN Torino (IT)); ARCIDIACONO, Roberta (Universita e INFN Torino (IT)); MULARGIA, Roberto (University & INFN Turin (IT)); SOLA, Valentina (Universita e INFN Torino (IT))

Presenter: FERRERO, Marco (Universita e INFN Torino (IT))

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