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Study of the Single Event Effects on ATLAS Liquid Argon Calorimeter Fase-I electronics

The operation of the LHC detectors in the next decades poses many challenges to the performance of the electronic devices for the front-end analog and digital processing systems: very high channel density, high speed, low power consumption and radiation hardness. Besides this, the location of the electronics inside the detector allows only a very limited access for a short period of time every year, making device reliability a fundamental issue. In this work, we investigated the SEE on COTS ADCs candidates for the ATLAS Liquid Argon Calorimeter Phase-I upgrade program using ion beams in the Pelletron accelerator of the Instituto de Física da Universidade de Sao Paulo and the proposal to also perform these measurements in several COTS amplifiers.

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