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【347】 TCT studies of irradiated HV-CMOS sensors

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A novel pixel sensor based on High-Voltage CMOS (HV-CMOS) technology is being proposed for the tracker upgrade of ATLAS, for the HL-LHC. Due to the proximity to the proton-proton collisions region, those sensors will receive high doses of radiation.

In this context, the characterisation of prototype sensors using the Transient Current Technique (TCT) is presented, after irradiation at different levels of dose delivered at the Bern cyclotron facility. The efficiency of charge collection in the active region of the sensors is studied, allowing for a detailed understanding of the sensor response, as well as inputs for a more accurate modelling of the behaviour of the sensors after irradiation in simulations.

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