

Performance of Edgeless Silicon Pixel Sensors on p-type substrate for the ATLAS High-Luminosity Upgrade

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In view of the LHC upgrade phases towards the High Luminosity LHC (HL-LHC), the ATLAS experiment plans to upgrade the Inner Detector with an all-silicon system. The n-on-p silicon technology is a promising candidate to achieve a large area instrumented with pixel sensors, since it is radiation hard and cost effective. The presentation describes the performance of novel n-in-p edgeless planar pixel sensors produced by FBK-CMM, making use of the active trench for the reduction of the dead area at the periphery of the device. After discussing the sensor technology, some feedback from preliminary results of the first beam test will be discussed.

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