FRONTIER DETECTORS FOR FRONTIER PHYSICS
 13th Pisa Meeting on Advanced Detectors
 5tr > 13th Pisa Meeting



Contribution ID: 3 Type: Oral

Depleted CMOS pixels for LHC pp-Experiments

Thursday, 28 May 2015 12:25 (15 minutes)

While so far monolithic pixel detectors have remained in the realm of comparatively low radiation application outside LHC, new developments exploiting high resistivity substrates with three or four well CMOS process options allow fairly large depletion depths and full CMOS circuitry in a monolithic structure. This opens up the possibility to target CMOS pixel detectors also for high radiation pp-experiments at the LHC upgrade, either in a hybrid-type fashion or even fully monolithic. We have prototyped several pixel matrices with high ohmic substrates and full CMOS electronics and characterized them in the lab and in test beams. On the basis of this an ATLAS CMOS demonstrator program has been started. The results available at the time of the meeting will be presented.

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Session Classification: Solid State Detectors

Track Classification: S6 - Solid State Detectors