5th Beam Telescopes and Test Beams Workshop 2017



Contribution ID: 28

Type: not specified

Test beam measurements on the TowerJazz Investigator chip

Thursday 26 January 2017 09:00 (20 minutes)

The TowerJazz 180nm CMOS technology is being considered for the design of monolithic pixel sensors for the ATLAS inner tracker upgrade. Such devices will have to comply with the high rate and high radiation tolerance demands of the inner region of the ATLAS detector. To meet these requirements, a modified process has been developed and is being tested on a prototype chip, the Investigator. The chip is a collection of multiple pixel minimatrices, differring from one another by several parameters, thus allowing to study the optimal configuration in view of a final design.

The chip was tested in a beam of charged pions at the SPS at CERN, where it was installed in one of the ATLAS FEI4 telescopes. In this contribution, we describe the data analysis that allowed us to extract information from just a few pixels, and we discuss the results, stressing on the comparison between unirradiated and irradiated samples.

Primary authors: Mr RIEGEL, Christian (CERN); Dr SCHAEFER, Douglas Michael (CERN); Dr SCHIOPPA, Enrico Junior (CERN); Dr PERNEGGER, Heinz (CERN); Mr DALLA, Marco (University of Bologna)

Presenter: Dr SCHAEFER, Douglas Michael (CERN)

Session Classification: Data Analysis and Test Beam Results