

Analysis of 3D Pixel Sensors Testbeam Data

Due to high occupancy and large radiation dose, the performance of the inner-most layer of the Pixel Detector is expected to degrade with the integrated luminosity. ATLAS will install a new pixel layer in 2013, the Insertable B Layer (IBL). The IBL will be mounted onto a new, smaller radius, beam pipe. It will be equipped with two different pixel sensor technologies: classical planar and newly developed 3D sensors.

The sensors went in 2011 through a qualification process involving several irradiation campaigns and beam tests. Other beam tests are planned at CERN in 2012. The project will involve working on the preparation, data taking and data analysis of the July/August beam test.