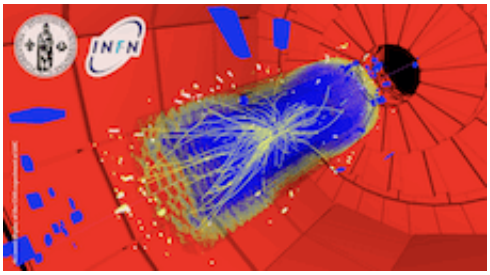

Contribution ID: **16** Type: **Talk**

Operational experience with the ATLAS Pixel Detector at the LHC.

Wednesday, 6 July 2011 10:10 (20 minutes)

The ATLAS Pixel Detector is the innermost detector of the ATLAS experiment at the Large Hadron Collider at CERN, providing high-resolution measurements of charged particle tracks in the high radiation environment close to the collision region. This capability is vital for the identification and measurement of proper decay times of long-lived particles such as b-hadrons, and thus vital for the ATLAS physics program.
The detector provides hermetic coverage with three cylindrical layers and three layers of forward and backward pixel detectors.
It consists of approximately 80 million pixels that are individually read out via chips bump-bonded to 1744 n-in-n silicon substrates.

In this talk, results from the successful operation of the Pixel Detector at the LHC will be presented, including monitoring, calibration procedures, timing optimization and detector performance. The detector performance is excellent: 97,5% of the pixels are operational, noise occupancy and hit efficiency exceed the design specification, and a good alignment allows high quality track resolution.

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