

ATLAS IBL operational experience

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The Insertable B-Layer (IBL) is the inner most pixel layer in the ATLAS experiment, which was installed at 3.3 cm radius from the beam axis in 2014 to improve the tracking performance. To cope with the high radiation and hit occupancy due to proximity to the interaction point, a new read-out chip and two different silicon sensor technologies (planar and 3D) have been developed for the IBL.

After the long shut-down period over 2013 and 2014, the ATLAS experiment started data-taking in May 2015 for Run-2 of the Large Hadron Collider (LHC). The IBL has been operated successfully since the beginning of Run-2 and shows excellent performance with the low dead module fraction, high data-taking efficiency and improved tracking capability. The experience and challenges in the operation of the IBL will be presented as well as its performance.

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