



Overview of the ATLAS Insertable B-Layer (IBL) Project

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The upgrades for the ATLAS Pixel Detector will be staged in preparation for high luminosity LHC. The first upgrade for the Pixel Detector will be the construction of a new pixel layer which will be installed during the first shutdown of the LHC machine, foreseen in 2013-14. The new detector, called the Insertable B-layer (IBL), will be installed between the existing Pixel Detector and a new, smaller radius beam-pipe at a radius of 3.3 cm. The IBL will require the development of several new technologies to cope with increased radiation and pixel occupancy and also to improve the physics performance through reduction of the pixel size and a more stringent material budget. Two different and promising silicon sensor technologies, planar n-in-n and 3D, are currently under investigation for the IBL. An overview of the IBL project, of the module design and their qualification with particular emphasis on irradiation tests will be presented.

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