

# Operational Experience and Performance with the ATLAS Pixel detector at the Large Hadron Collider at CERN

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The tracking performance of the ATLAS detector relies critically on its 4-layer Pixel Detector. As the closest detector component to the interaction point, this detector is subjected to a significant amount of radiation over its lifetime. At present, at the start of 2024-Run3 LHC collision ATLAS Pixel Detector on innermost layers, consisting of planar and 3D pixel sensors, will operate after integrating fluence of  $O(10^{15})$  1 MeV n-eq  $\text{cm}^2$ . The ATLAS collaboration is continually evaluating the impact of radiation on the Pixel Detector. In this talk the key status and performance metrics of the ATLAS Pixel Detector are summarised, putting focus on performance and operating conditions with special emphasis to radiation damage and mitigation techniques adopted for LHC Run3. These results provide useful indications for the optimisation of the operating conditions for the new generation of pixel trackers under construction for HL-LHC upgrades.

## Alternate track

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**Authors:** ZHU, Junjie (University of Michigan (US)); TSUNO, Soshi (High Energy Accelerator Research Organization (JP))

**Presenter:** TSUNO, Soshi (High Energy Accelerator Research Organization (JP))

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