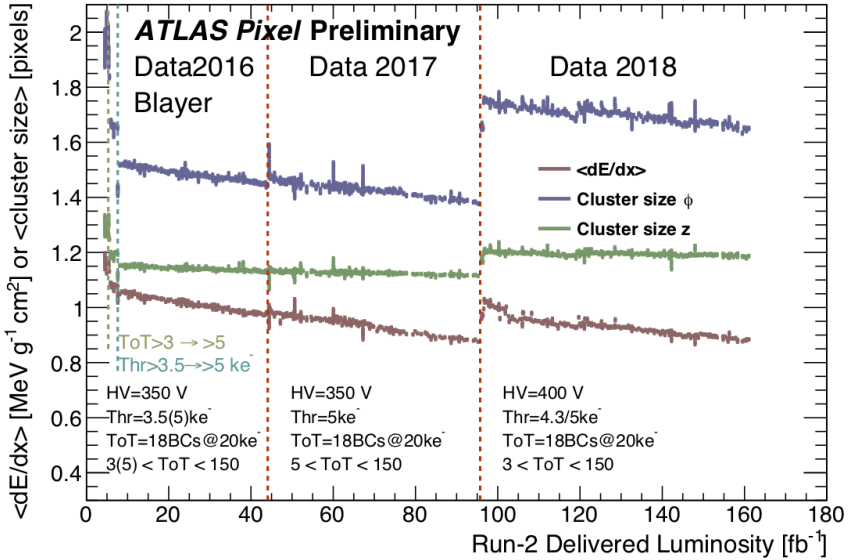
Operational Experience and Performance with the ATLAS Pixel Detector at the Large Hadron Collider at CERN

The 4-layer Pixel Detector is crucial for the tracking performance of the ATLAS Detector. During LHC Run 2, the innermost layer received an integrated fluence of about 10^{15} 1 MeV $n_{eq}\,cm^{-2}$. The excellent performance of the LHC and radiation effects pose challenging conditions in this harsh environment.

This poster discusses the effects of radiation on the front-end electronics and radiation damage to the sensors, and how those effects are mitigated. The poster concludes with an outlook towards LHC Run 3.



<dE/dx> and mean cluster size versus time for the second Pixel layer throughout Run 2