



Contribution ID: 267

Type: **Poster submission**

The Phase-II upgrade of the ATLAS Monitored Drift Tube Detector and Frontend electronics

Monday, August 5, 2019 3:40 PM (20 minutes)

Summary

ATLAS plans to replace the present barrel innermost station of Monitored Drift Tube (MDT) chambers with an integrated system of thin-gap Resistive Plate Chambers (RPC) and small diameter muon drift-tube (sMDT) chambers to improve the muon trigger efficiency in the barrel region. In addition, to cope with large amount of data and high event rate expected from the planned LHC upgrades, the present MDT readout electronics will be replaced and the MDT detector will be used at the first-level trigger. For chambers, we will present the design, construction, and tests of the new sMDT and RPC chambers as well as the status of series production. For electronics, we will show present the overall trigger and readout design and focus on latest results from prototypes of ASICs and frontend boards.

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Session Classification: Poster Session (Mon/Tue)

Track Classification: Accelerators, Detectors and Computing for HEP