Contribution ID: **467** Type: **Parallel session talk**

Commissioning and installation of the new small-diameter Muon Drift Tube (sMDT) detectors for the phase-1 upgrade of the ATLAS muon spectrometer

Wednesday, May 26, 2021 7:48 AM (18 minutes)

The Muon Drift Tube chambers provide very precise and reliable muon tracking and momentum measurement in the ATLAS spectrometer. They have to cope with very high background counting rates up to 500 Hz/cm2. At HL-LHC the background rates are expected to increase by almost a factor of 10. New small (15 mm)-diameter Muon Drift Tube detectors have been developed to provide higher rate capability and allow for the installation of additional new RPC trigger chambers. Several sMDT chambers have already been installed and operated in ATLAS. The detailed studies of the muon detection efficiency and track resolution have been carried out after the assembling of the sMDT detectors in MPI and repeated at CERN after the integration with the new RPC detectors. The author will describe the detector design, the quality assurance and certification path, as well as will present the status of sMDT detectors installation and commissioning in the ATLAS experiment.

TIPP2020 abstract resubmission?

No, this is an entirely new submission.

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