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**Design and test of a MiniDAQ system for the Phase-II upgrade of the ATLAS Monitored Drift Tube detector** YUXIANG GUO, University of Science and Technology of China, University of Michigan, ATLAS COLLABORATION — The ATLAS monitored drift tube (MDT) chambers are the main component of the precision tracking system in the ATLAS muon spectrometer. The MDT system is capable of measuring the sagitta of muon tracks to an accuracy of  $60\ \mu\text{m}$ , which corresponds to a momentum accuracy of about 10% at  $p_T = 1\ \text{TeV}$ . ATLAS plans to use the MDT detector in the first stage of the trigger system to improve the muon transverse momentum resolution and to reduce the trigger rate expected at High-Luminosity LHC runs. A new trigger and readout system has been proposed. To test the prototypes for the frontend electronics including two ASICs and a data transmission board, a new mini-Data Acquisition (DAQ) system has been designed. We expect to use this system for integration and commissioning of new electronics on chambers on the surface and inside the ATLAS cavern. I will present the design and test of the new MiniDAQ system and its joint tests with a small-diameter MDT chamber.

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