

Electronics Performance of the ATLAS New Small Wheel Micromegas wedges at CERN

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The present ATLAS small wheel muon detector is being replaced with a New Small Wheel (NSW) detector. One crucial part is the installation, testing and validation of the on-detector electronics & readout chain for a very large system with a more than 2.1 M electronic channels. These include ~4K MM Front-End Boards (MMFE8), custom printed circuit boards each one housing eight 64-channel VMM Application Specific Integrated Circuits (ASICs) that interface with ATLAS TDAQ system through ~1K data-driver Cards (ADDC & L1DDC, respectively). The readout chain is based on optical link technology (GigaBit Transceiver links) connecting the backend to the front-end electronics via the Front-End Link eXchange (FELIX), a newly developed system that will serve as the next generation read out driver for ATLAS. Experience and performance results from the first large-scale electronics integration tests performed at CERN on final MM wedges, including system validation with cosmic-rays, will be presented.

TIPP2020 abstract resubmission?

Yes, this would have been presented at TIPP2020.

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