

Abstract Submitted
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Trigger data serializer chip design and test for the ATLAS forward muon upgrade REID PINKHAM, Univ of Michigan - Ann Arbor, ATLAS COLLABORATION — The small-strip Thin-Gap Chambers (sTGC) will be used as both trigger and precision tracking muon detectors for the Phase-I upgrade of the ATLAS forward muon spectrometer. The Trigger Data Serializer (TDS) Application-Specific Integrated Circuit (ASIC) is responsible to prepare trigger data for both sTGC pad and strip detectors, perform pad-strip matching, and serialize the trigger data to circuitry on the rim of the detector. The design is challenging due to stringent requirements on number of input/output pins, low latency, high data transmission speed, low power consumption, and radiation-tolerance. We present our design of the TDS ASIC and characterization of its performance from tests of the prototype we built.

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