

Abstract Submitted
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Performance of frontend electronics of the ATLAS small-strip thin gap chambers XIONG XIAO, Univ of Michigan - Ann Arbor — ATLAS plans to replace the current innermost endcap muon station with a New Small Wheel (NSW) detector. The NSW detector is designed to cope with the increase in data rates and harsh radiation environment expected at the High-Luminosity LHC. Both MicroMegas (MM) and small-strip Thin Gap Chamber (sTGC) will be used to provide complementary trigger and tracking functionality in $\sqrt{s}=13$ TeV collisions with the ATLAS detector. The sTGC detector has three different detector types: pads, strips and wires. The on-detector electronics include 768 strip frontend boards, 768 pad frontend board, 512 Level-1 Data Driver Cards (L1DDC), 32 pad trigger boards, and 256 router boards. There are in total 354k readout channels with more than 11k ASICs. Extensive work is ongoing at CERN with the sTGC chamber production, frontend electronics integration and commissioning. Performance of the sTGC frontend electronics for both trigger and readout chains will be presented.

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