

sTGC Trigger Chain Cosmic Ray Test

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The New Small Wheel (NSW) phase-I upgrade is an extremely challenging project for high-luminosity LHC operations to improve both tracking and trigger capability of the ATLAS muon spectrometer for discoveries at the LHC.

NSW consists of two types of new detectors, the small-strip Thin Gap Chambers (sTGCs) and the MicroMegas (MM) chambers, both are capable of precision tracking and fast triggering. This is the first time such new detectors were built at large scales. It has taken 10 years to design and build the NSW. Intensive integration and commissioning were carried out in the past three years. I will report the sTGC integration and commissioning work, including the cosmic ray test. I will describe in detail about how the sTGC trigger chain works and present some important cosmic test results to demonstrate the sTGC level-0 trigger performance.

Career stage

Graduate student

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