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## Performances of the Small-strip Thin Gap Chambers (sTGC's) in the New Small Wheels of ATLAS

*Wednesday 7 September 2022 19:05 (25 minutes)*

The instantaneous luminosity of the Large Hadron Collider at CERN will be increased by about a factor of five with respect to the design value by undergoing an extensive upgrade program over the coming decade. The largest phase-1 upgrade project for the ATLAS Muon System was the replacement of the first station in the forward regions with the New Small Wheels (NSWs) which took place during the long-LHC shutdown in 2019-2021.

The two Small Wheels are called A and C and cover a positive and negative pseudorapidity acceptance in the range  $|\eta| = 1.3$  to 2.7. Both Small Wheels have been successfully installed in ATLAS in 2021.

Along with resistive strips Micromegas, the NSWs is equipped with eight layers of small-strip thin gap chambers (sTGC). The new system is designed to assure high tracking efficiency, reduction of fake trigger rates and precision measurement of muon tracks. In this presentation we will discuss performances of the sTGC detectors from data taken with the first LHC beam in summer 2022 and test beam data of 2021.

### Is this abstract from experiment?

Yes

### Name of experiment and experimental site

ATLAS Muon System

### Is the speaker for that presentation defined?

No

### Details

Abstract submitted on behalf of the experiment. The final speaker will be defined later.

### Internet talk

Maybe

**Author:** IENGO, Paolo (CERN)

**Presenter:** KABANA, Sonia (Instituto De Alta Investigación - Universidad de Tarapacá (CL))

**Session Classification:** Poster Session

**Track Classification:** Main topics: High Energy Particle Physics