

# Cosmic results with the final Micromegas sectors for the ATLAS Muon upgrade

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The innermost end-cap muon station of the ATLAS detector is being upgraded with the New Small Wheel (NSW) using new technology for precision tracking and triggering: Micromegas (MM) and small-strip Thin Gas Chamber (sTGC). Each of the two NSWs will consist 8 large and 8 small sectors. A sector is a combination of the sTGC wedges on either side of a double Micromegas wedge. Four Micromegas quadruplets are integrated to build a double wedge. After the electronic integration is completed, the double wedges are tested with cosmic muons at the cosmic stand at CERN. Here, we make sure of the final high voltage configuration, measure the efficiency, cluster size, strip multiplicity per readout layers of the double wedge and qualify the Micromegas sector for the final integration with the sTGC wedges before mounting them on the New Small Wheel. The procedure and the test results of the final validation of Micromegas double wedges will be presented.

## TIPP2020 abstract resubmission?

Yes, this would have been presented at TIPP2020.

## Funding information

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