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Micromegas sectors for the ATLAS Muon Upgrade, towards the installation of the New Small Wheel in 2021

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The ATLAS experiment is currently upgrading the first muon station in the high-rapidity region with the construction of new detector structures, named New Small Wheels (NSW), based on large-size multi-gap resistive strips Micromegas technology and small-strip Thin Gap Chambers (sTGC).
The NSW system will be installed in the ATLAS underground cavern during the LHC long shutdown 2 to enter in operation for Run3.
128 Micromegas quadruplets, each of which provides four measurements of a particle track, are needed to build the two New Small Wheels, covering a total active area of about 1280 m2. The construction of all MM modules, carried out in France, Germany, Italy, Russia and Greece, is completed. Their mechanical integration into sectors, the installation of on-detector services and electronics, for the first NSW is also completed, along with all validation and acceptance tests. The preparation of the second NSW is very well advanced.
The advanced status of the project, in view of the imminent installation of the two NSW in ATLAS by the fall of 2021 will be reported.
The presentation will describe the integration workflow of Micromegas detector into sectors and will focus on their cosmic rays results of the final validation tests.

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