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Surface commissioning of the New Small Wheel upgrade project of the ATLAS Experiment

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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 first of the two NSW (NSW-A) has been fully commissioned and installed in the ATLAS underground cavern where the first tests are being performed. The second wheel (NSW-C) will be fully commissioned by the end of September and installed later this year.

The installation and tests of both wheels will be concluded by the end of the LHC long shutdown 2 and will be fully operative for Run 3.

In this presentation the motivation of the NSW upgrade and the current status of the project will be reviewed and the latest progress on both wheels will be reported, with particular focus to the challenges faced during the surface commissioning and results from tests performed for the first time on full sectors directly on the wheel.

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