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The ATLAS New Small Wheel sTGC Pad Trigger

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During the LHC long shutdown 2, the ATLAS small wheel has been replaced with a new detector (New Small Wheel - NSW) including technologies such as MicroMegas chambers and sTGC chambers, able to sustain harsher data-taking conditions.
The sTGC Pad Trigger system has been designed to reduce the endcap region trigger fake rate thanks to the multi-layer hit coincidence selection. The Pad trigger board takes care of the sTGC Pad data acquisition, trigger algorithm execution and interface with the NSW trigger processor. During 2021 one Pad Trigger board has been installed on the rim crate of each NSW sector and its connectivity with the sTGC chambers front-end electronics and with the NSW trigger processor has been commissioned with dedicated software before moving NSW underground.
This contribution, after an introduction on the Pad Trigger functionalities, will highlight the commissioning procedure and corresponding outcome.

Collaboration

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