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# ATLAS Level-1 Endcap Muon Trigger for LHC Run 3

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The Large Hadron Collider is expected to increase its center-of-mass energy to 14 TeV for Run 3 scheduled from 2021 to 2023. In order to cope with the high event rate, an upgrade of the ATLAS trigger system is required. The Level-1 Endcap Muon trigger system identifies muons with high transverse momentum by combining data from a fast muon trigger detector. In the ATLAS Phase-I upgrade, new muon detectors will be installed in the inner station region and provides finer track information as part of the muon trigger logic to enhance the trigger performance. Some electronics have been newly developed, including the trigger processor board. The board has a modern FPGA to make use of Multi-Gigabit transceiver technology, and to implement more sophisticated logic by bigger FPGA resource. This talk presents the upgrades of the ATLAS Level-1 Endcap Muon trigger system. Particular emphasis will be placed on the new algorithm in the processor board and the expected trigger performance.

## Funding information

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