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ATLAS Muon Trigger performance

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Events containing muons in the final state are an important signature for many analyses being carried out at the Large Hadron Collider (LHC), including both standard model measurements and searches for new physics. To be able to study such events, it is required to have an efficient and well-understood muon trigger. The ATLAS muon trigger consists of a hardware-based system (Level 1), as well as a software-based reconstruction (High Level Trigger). Due to the high luminosity in Run 2, several improvements have been implemented to keep the trigger rate low, while still maintaining high efficiency. Some examples of recent improvements include requiring coincidence of hits in the muon spectrometer and the calorimeter and optimized muon isolation. We will present an overview of how we trigger on muons, recent improvements, the performance of the muon trigger in Run-2 data and an outlook for the improvements planned for run-3.

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