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## Muon identification and performance in the ATLAS experiment

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Muon reconstruction and identification play a fundamental role in many analyses of central importance in the LHC run-2 Physics programme. The algorithms and the criteria used in ATLAS for the reconstruction and identification of muons with transverse momentum from a few GeV to the TeV scale will be presented. Their performance is measured in data based on the decays of Z and  $J/\psi$  to pair of muons, that provide a large statistics calibration sample. Reconstruction and identification efficiencies are evaluated, as well as momentum scales and resolutions, and the results are used to derive precise MC simulation corrections. Isolation selection criteria and their performances in presence of high pileup will also be presented.

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