

## Muon Performance of the ATLAS Detector

The first two years of p-p collisions at  $\sqrt{s}=7$  TeV at LHC have provided a rich data sample with which the muon performance of the ATLAS detector could be measured in high detail. Decays of Z, W and J/psi particles to muons are used, corresponding to an integrated luminosity of  $40\text{pb}^{-1}$  in 2010 and  $2.5\text{fb}^{-1}$  in 2011. The muon identification, reconstruction and trigger efficiencies are reported and compared to the expectation from current ATLAS simulation. ATLAS is designed for a precise muon momentum determination up to transverse momenta of 1 TeV. Measurements of the muon momentum scale and resolution are presented and discussed under aspects of alignment and inter-alignment of the charged particle detectors in ATLAS.

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