Contribution ID: **29** Type: **not specified**

Scale Factors for the ATLAS Muon Triggers (student talk)

Saturday, 17 February 2018 10:45 (15 minutes)

Triggers are essential for data-taking in the high-rate environment of the ATLAS experiment at the Large Hadron Collider (LHC), where they make decisions at multiple stages about whether to flag a physics event. What is not flagged by the trigger is simply not recorded by ATLAS and not subject to further analysis. The trigger efficiency gives the fraction of events of interest that a trigger successfully catches and is an important measure of the trigger performance. Taking the ratio of trigger efficiency in data and Monte Carlo (MC) gives scale factors that are used by physics analyses to adjust MC predictions to match the data. For the ATLAS muon triggers, one of the biggest sources of systematic uncertainty in scale factors is their dependence on muon transverse momentum (pT). This talk presents an overview of the method of scale factor derivation for mid-pT (25-100 GeV) muon triggers using Z->dimuon samples, and presents a study of the pT dependence of the scale factors.

Primary author: HAYES, Robin (UBC/TRIUMF)

Presenter: HAYES, Robin (UBC/TRIUMF)

Session Classification: Session #4