Contribution ID: **194**   Type: **Poster submission**

ATLAS Transverse Missing Momentum Trigger Performance

Thursday, 8 August 2019 10:40 (20 minutes)

Summary

Transverse missing momentum from non-interacting particles is one of the important characteristics for many analyses especially for Beyond Standard Model physics searches. To study these events at the Large Hadron Collider (LHC) with the ATLAS experiment an efficient trigger selection is needed. The ATLAS transverse missing momentum trigger uses calorimeter-based global energy sums together with specifically developed pile-up mitigation techniques. The high number of pile-up interactions was one of the major challenges faced during Run 2 and a continuous effort was needed to improve the pile-up rejection and to keep the trigger rate reasonable. This talk presents the techniques used to improve the Run 2 transverse missing momentum trigger performance, the full Run 2 performance and an outlook on further improvements for Run 3.

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Session Classification: Poster Session (Thu/Fri)

Track Classification: Accelerators, Detectors and Computing for HEP