Contribution ID: **505** Type: **Oral Presentation**

Measurement of the Missing Transverse Momentum based on tracks in proton-proton collisions at sqrt(s) = 7 TeV centre-of-mass energy with the ATLAS detector

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Abstract content
   (Max 300 words)

The estimation of missing transverse energy (MET) is essential for a wide range of physics analyses, from Standard Model and precision electroweak measurements to searches for the Higgs boson and new physics such as supersymmetry. The MET is calculated using measurements from the ATLAS calorimeters, and while the performance and systematics of the calorimeter and MET is well understood, the measurement itself is highly dependent on pileup in the event. We calculate the missing transverse momentum (or, track MET) using tracks coming from the signal vertex to get a pileup-independent alternative measurement of the MET, with uncorrelated systematic effects. The track MET also is less affected by cosmics and beam background due to the quality cuts required to include a track in the calculation. We present the performance of the track MET measurement in ATLAS in several physics processes, and discuss its application in Higgs boson searches.

Apply to be
 consider for a student
   award (Yes / No)?

Yes

Level for award
 (Hons, MSc,
   PhD)?

PhD

Main supervisor (name and email)
and his / her institution

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Would you like to <br> submit a short paper <br> for the Conference
 Proceedings (Yes / No)?

Yes

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