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Type: **Talk**

## QCD measurements with ATLAS

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The ATLAS experiment has performed a range of QCD measurements in final states with jets. Jet cross-section ratios between inclusive bins of jet multiplicity are measured differentially in variables that are sensitive to either the energy-scale or angular distribution of hadronic energy flow in the final state. Several improvements to the jet energy scale uncertainties are described, which result in significant improvements of the overall ATLAS jet energy scale uncertainty. The measurements are compared to state-of-the-art NLO and NNLO predictions. Using charged particles inside jets, the Lund plane is reconstructed and measured in top quark pair production, separately for jets from hadronic decays of the W boson and for b-quark jets. A differential measurement of the sub-jet multiplicities in dijet events is presented. The measured distributions are compared to a range of hadronisation models and can be used to tune and improve them in the future. A measurement of non-perturbative jet track functions as a function of transverse momentum is presented. Finally, properties of the underlying-event are investigated via the strange hadrons reconstructed in minimum-bias collisions data, and used in the construction of underlying-event observables in azimuthal regions computed relative to the leading charged-particle jet in the event.

### Internet talk

No

### Is this an abstract from experimental collaboration?

Yes

### Name of experiment and experimental site

ATLAS

### Is the speaker for that presentation defined?

Yes

### Details

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