

Measurements of low energy observables in proton-proton collisions with the ATLAS Detector

Monday 28 August 2017 11:00 (30 minutes)

Low energy phenomena have been studied in detail at the LHC, providing important input for improving models of non-perturbative QCD effects. The ATLAS collaboration has performed several new measurements in this sector:

We present charged-particle distributions sensitive to the underlying event, measured by the ATLAS detector in proton-proton collisions at a centre-of-mass energy of 13 TeV. The results are corrected for detector effects and compared to predictions from various Monte Carlo generators.

ATLAS has also studied the correlated hadron production. In particular, an analysis of the momentum difference between charged hadrons in high-energy proton-proton collisions is performed and the results are compared to the predictions of a helical QCD string fragmenting model.

We also present studies of the production of neutral strange particles inside and outside light and heavy-flavoured jets. The results are compared with various Monte-Carlo models.

New results in forward physics are expected to be available soon. We close this presentation with the measurement of the exclusive $\gamma\gamma \rightarrow \mu^+\mu^-$ production in proton-proton collisions at a center-of-mass energy of 13 TeV.

Author: ROZEN, Yoram (Technion (IL))

Presenter: MYSKA, Miroslav (Czech Technical University (CZ))

Session Classification: Parton Distribution Functions and Soft QCD