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Measurements of the production of jets in association with a W or Z boson with the ATLAS detector

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The production of jets in association with vector bosons is an important process to study QCD in a multi-scale environment. The ATLAS collaboration has performed measurements of vector boson+jets cross sections, differential in several kinematic variables, in proton-proton collision data taken at center-of-mass energies of 8TeV and 13TeV. The measurements are compared to state-of-the art theory predictions and can be used to constrain the proton structure.

We have also studied the jet production rates at different resolution scales. In particular, we present a measurement of the splitting scales in the kt jet-clustering algorithm for final states containing a Z-boson candidate at a centre-of-mass energy of 8 TeV. The data are corrected for detector effects and are compared to state-of-the-art Monte Carlo predictions.

Primary author: ROZEN, Yoram (Technion (IL))

Presenter: Dr MCFAYDEN, Josh (CERN)

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