

Studies of jet cross-sections and production properties with the ATLAS and CMS detectors

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Several aspects of jet production in pp collisions have been measured by the ATLAS and CMS collaborations. The jet production cross sections probe the dynamics of QCD and can constrain the parton proton structure. Double-differential cross sections for inclusive, di-, three- and four-jet final states are measured at different centre-of-mass energies of pp collisions with the ATLAS detector and are compared to expectations based on NLO QCD calculations.

The distribution of the jet charge has been measured in dijet events using pp collision data at 8 TeV with the ATLAS detector. Jet-jet energy correlations are sensitive to the strong coupling constant. Measurements of multi-jet systems with a veto on additional jets, probe QCD radiation effects. These measurements constitute precision tests of QCD in a new energy regime. Studies of large-radius jet properties including N-subjettiness, splitting scales and other jet substructure related quantities will be presented.

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