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ATLAS jet measurements, and subjet structure for boosted hadronic objects

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Comprehensive jet cross section measurements are presented, spanning the dijet mass range from 70 GeV to 5 TeV. In addition, event shapes constructed from jets are measured, as well as measurements of jets containing charm and beauty hadrons. These measurements constitute precision tests of QCD in a new energy regime, and show sensitivity to the parton densities in the proton and to the value of the strong coupling, α_s . The internal structure of jets is important at the LHC both as a test of perturbative QCD and as a tool for identifying boosted electroweak-scale objects decaying to hadrons. Detailed measurements of jet fragmentation, of subjet variables, single jet masses and jet shapes are presented and compared to the predictions of QCD.

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