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Heavy Flavor Production in ATLAS

Thursday, July 21, 2011 5:00 PM (15 minutes)

We present a measurement of the inclusive and dijet differential cross sections of heavy flavoured hadrons and b-jets produced in proton–proton collisions at s=7\,TeV, using data collected with the ATLAS detector. Jets are reconstructed using the anti-kt algorithm with jet radius parameter R=0.4\,. The presence of a displaced vertex from the decay of long-lived hadrons, or the presence of a muon with significant transverse momentum relative to the jet axis, is used to select a jet sample enriched in b-jets and the invariant mass of the charged particle tracks forming the vertex is fitted to extract the fraction of jets from b-quark production. The inclusive cross section is measured as a function of jet transverse momentum, in the range 20<\pt<260\,GeV, and of rapidity, in the range 0<|y|<2.1, where jets are fully contained in the tracking detectors of ATLAS. The dijet cross section is measured in the same rapidity range as a function of the dijet invariant mass, extending up to 670 GeV. The resulting cross sections are compared with next-to-leading-order QCD predictions.

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