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LHC data challenges the contemporary parton-to-hadron fragmentation functions

Thursday 1 May 2014 09:00 (20 minutes)

We will discuss the inclusive high-pT charged particle production in proton-proton and proton-antiproton collisions with a special emphasis on the recent LHC and Tevatron measurements. The experimental data are compared to the NLO perturbative QCD calculations employing various sets of parton-to-hadron fragmentation functions. Most of the theoretical predictions are found to disastrously overpredict the measured LHC and Tevatron cross sections, even if the scale variations and PDF errors are accounted for. The problem appears to arise from the presently too hard gluon-to-hadron fragmentation functions.

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