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What We Have Learned from the Early LHC Measurements

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The LHC “underlying event” measurements at 900 GeV and 7 TeV are compared with the Tevatron “underlying event” measurements from CDF and D0 and with some of the QCD Monte-Carlo model predictions. In addition, the relationship between the modeling of the “underlying event” in a hard scattering process and the modeling of the complete inelastic non-diffractive cross section will be examined and some of the new PYTHIA 6.2, PYTHIA 6.4, and PYTHIA 8 tunes which are designed to improve the agreement with the LHC data will be compared and discussed. We have learned a lot about QCD from the early LHC measurements.