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Measurement of azimuthal decorrelation angle between the leading jet and the scattered lepton in deep inelastic scattering at HERA[1] AMILKAR QUINTERO, Temple University, ZEUS COLLABORATION — We present an update of the measurements of the azimuthal decorrelation angle between the leading jet and scattered lepton in deep inelastic scattering, with the ZEUS detector at HERA. The studied data was collected in the HERA II data-taking period and corresponds to an integrated luminosity of 330 pb^{-1}. Azimuthal angular decorrelation has been proposed to study the Q^2 dependence of the evolution of the transverse momentum distributions (TMDs). Previous decorrelation measurements of two jets have been performed in proton-proton collisions at very high transverse momentum; these measurements are well described by perturbative QCD at next-to-leading order. The HERA kinematic region provides unique insight of nucleon structure to understand the small-x region. Also, electron-proton collisions measurements allow clean access to the quark TMD PDF, in particular to final state effects. The azimuthal decorrelation angle obtained in these studies shows good agreement with predictions from QCD calculations within uncertainties; however, there are parts of the phase space for which deviations of up to 20% are observed. Dedicated theoretical predictions are to be tested in the future.

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