

Small- x resummation in PDF fits

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I present a new determination of parton distribution functions (PDFs) which includes the resummation of large logarithms at small momentum fraction x , relevant at high energies. The description of the HERA data at small x , small Q improves considerably. The new PDFs, obtained from a global fit, exhibit smaller uncertainty at small x , and differ significantly to their fixed-order counterparts in this region. These results demonstrate how the exploration of novel dynamical regimes of QCD, in this case the BFKL regime, represents a fundamental ingredient of the physics program of future high-luminosity and high-energy colliders.

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