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HERAPDF2.0Jets and prospects for parton-branching PDFs with HERA jets data.

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HERA inclusive and jet data has been used in collinear HERAPDF2.0Jets fits at NLO and NNLO. The addition of the jet data allows a simultaneous fit of parton distribution functions of the proton and determination of the strong coupling alpha_s(M2_Z). In the parton branching (PB) approach, Collinear and TMD parton densities have been determined by fits to inclusive deep inelastic scattering HERA data. This method allows one to simultaneously take into account soft-gluon emission and the transverse momentum recoils in the parton branchings along the QCD cascade. The latter leads to a natural determination of the TMD PDFs in a proton. A crucial development will be to include data from other measurements in a wider kinematic range in order to constrain the TMD PDFs and gain sensitivity to intrinsic transverse momentum contributions. We present very preliminary results for PB TMD fits using the same HERA inclusive and jet data at NLO. The results are compared to the HERAPDF2.0Jets predictions and a prospect of including LHC data sets is discussed.

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