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Transverse momentum of charged particles at low Q^2 at HERA (H1) — •Anastasia Grebenyuk — DESY, Hamburg

The electron-proton collider HERA allows to study deep inelastic scattering (DIS) at very small Bjorken x of about 10^{-5}. At such a small x the gluons are the dominating partons in the proton and furthermore parton dynamics beyond DGLAP are expected to become important. It is expected that semi-inclusive DIS measurements of hadrons in the final state offer sensitive means to discriminate among the various possible parton dynamics. One such measurement, the measurement of the transverse momentum spectra of charged particles, is presented.

The measurement is performed in different bins of x and photon virtuality Q^2 and the results are compared to various Monte Carlo models, either with ordering (DGLAP) or without ordering (beyond DGLAP) of the transverse momenta of the gluons emitted in the initial state. This analysis extends the coverage in pseudorapidity into the forward region (towards the proton remnant), where deviations from models based on DGLAP evolution are expected to be more pronounced.

It is demonstrated, that the data at high transverse momenta favours model based on non-DGLAP dynamics.

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