Transverse Momentum of Charged Particles in low-Q^2 DIS at HERA.

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

The measurement is performed in different x and Q^2 kinematic bins and the results are compared to various Monte Carlo models, either with (DGLAP) or without (beyond DGLAP) ordering of the transverse momentum of the gluons emitted by the parton before its hard scattering with the virtual photon.

It is demonstrated, that the observed hardness of the spectra at relative high hadron's transverse momenta tells in favor of the later, beyond DGLAP, parton dynamic.