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Diffractive dijets in ⊠⊠ → ⊠′⊠⊠ ⊠⊠⊠ ⊠ reaction using GTMDs

We calculate several differential distributions for diffractive dijets production in $ep \to e'jet\ jet\ p$ in the perturbative QCD dipole approach using off diagonal unintegrated gluon distributions (generalized transverse momentum dependent distributions, GTMDs). We concentrate on the contribution from exclusive qq^{-} dijets. Results of our calculations are compared to H1 and ZEUS data, including specific experimental cuts in our calculations. In general, except for one GTMD, our results are below the HERA data. The considered mechanism is expected to gives a sizeable contribution to the ZEUS data, while it is negligible in the kinematics of the H1 measurement. This is in contrast to recent results from the literature where the normalization was adjusted to some selected distributions of the H1 collaboration and no agreement with other observables was checked. The ZEUS data provide stricter limitations on the GTMDs than the H1 data. We conclude, based on comparison to different observables, that the calculated cross sections are only a small fraction of the measured ones which contain probably also processes with pomeron remnant. Alternatively one could try to explain the experimental data by inclusion of $qq^{-}g$ component of the photon wave function.

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Secondary track

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