

Phenomenology of helicity amplitudes of high energy exclusive leptonproduction of the rho meson

Exclusive leptonproduction of vector mesons has been the subject of recent significant progress, both theoretically and experimentally. In particular, the hard regime with a highly virtual photon exchange allows to separate a short distance dominated amplitude of hard subprocess from suitably defined hadronic objects. However, a consistent picture is still missing, in particular for contributions to the scattering amplitude beyond the leading power in the photon virtuality.

We recently described the hard production of transversally polarized rho-meson, up to twist 3 accuracy, including 2- and 3- particles Fock-states, in the HERA kinematics of high center-of-mass energy. We compare our results with high energy experimental data for the ratios of helicity amplitudes $T(\rho T \gamma T)/T(\rho L \gamma L)$ and $T(\rho L \gamma T)/T(\rho L \gamma L)$ and get a good description of the data.

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