Factorization and Next to Leading Order Corrections in the Dipole QCD Model SILAS KURT GROSSBERNDT, Columbia Univ, ALFRED MUELLER, Columbia University — The Baitsky-Kovchegov (BK) equation governs the energy amplitude of a virtual photon in a Deep Inelastic Scattering or gluon distrobutions. In most studies of a purely deterministic model, one assumes that the Next-to-Leading order correction in Light Cone Perturbation theory of the dynamics of the system behaves as a simple case of a doubling of the Leading order correction, corresponding to a $x^{-2} \ln^{-2} x$ supression of the correction. This correction is assumed to be true at low momenta of the virtual photon, but is expected to be not fully correct at high momenta. In this limit, one must consider delays in particle decay, leading to the stochastic model and changing the suppression to a $\ln^{-2} x$ dependence.

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