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DIS dijet production at next-to-eikonal order

One of the main approximations adopted in the Color Glass Condensate (CGC) is the so-called eikonal approximation, which amounts to neglecting power-suppressed corrections in the high-energy limit. This approximation is well justified for asymptotically high energies. However, the corrections to it might be sizable in the upcoming Electron Ion Collider. The next-to-eikonal order cross-section of inclusive dijet production in deep inelastic scattering at low x in the dipole formalism consists of decorated dipoles and quadrupoles of Wilson lines. For numerical studies of CGC at eikonal order, the McLerran-Venugopalan (MV) model is well established. However, to study dijets in DIS at next-to-eikonal order numerically, we have to extend MV model to include these new dipoles and quadrupoles. Specifically, we incorporate next-to-eikonal corrections coming due to the finite width of the target and contributions coming due to the transverse components of the gluon background field. I will present the details of extending the MV model to next-to-eikonal order.

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