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Forward dijet production at the EIC: beyond the TMD factorization

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The measurement of azimuthal correlations in the production of forward dijet in deep inelastic scattering provides a unique channel to access the small- x regime of the Weizsäcker-Williams gluon TMD. Its study could potentially provide signatures of gluon saturation at the future Electron-Ion Collider.

While the TMD factorization for semi-inclusive dijet production is expected to hold in the exact back-to-back kinematics, there are important kinematic (perturbative power) and genuine saturation contributions that must be resummed for more controlled phenomenological predictions. The latter contributions account for higher physical degrees of freedom, beyond the TMD distributions, inside hadronic matter. In this talk, I will compare the results of the TMD and the improved TMD factorization framework to those in the CGC EFT, and report on the expected size of kinematic and genuine saturation corrections at different kinematics accessible at the EIC [1]. If time allows, I will discuss recent progress towards the computation of dijet production at the next-to-leading order in the CGC EFT [2].

References:

- [1] The importance of kinematic twists and genuine saturation effects in dijet production at the Electron-Ion Collider. R. Boussarie, F. Salazar, H. Mäntysaari, and B. Schenke.
- [2] Dijet impact factor in DIS at next-to-leading order in the Color Glass Condensate. P. Caucal, F. Salazar, and R. Venugopalan.

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