Contribution ID : **18** Type : **not specified**

# Corrections to dijet production cross section in Deep Inelastic Scattering within the CGC formalism

*Thursday, 16 April 2026 10:15 (60)*

Perturbative calculations within the theory of Quantum Chromodynamics have always been challenging, as it forces us to deal with composite objects in asymptotic states during scattering processes. These objects, called hadrons, exhibit complex, nonperturbative dynamics. Many frameworks that describe hadron dynamics arose in the past several decades, verified extensively in experimental setups including different scattering occurrences, such as so-called Deep Inelastic Scattering. These frameworks, however, live in very different kinematical regimes. Their overlap and limitations are still being studied to the present day.

During my presentation, I am going to provide essential information on two such frameworks, namely factorization theorems and Color Glass Condensate. The factorization theorems, both collinear and transverse, are based on splitting the cross section into perturbative, process-dependent factors and nonperturbative, but universal Parton Distribution Functions (PDFs). This factorization work in the dilute, or Bjorken, limit of the hadron collision. The Color Glass Condensate is an effective theory describing hadrons in the dense limit as a condensate of gluons. Ultimately, I would like to show current status of the study on the overlap between these two formalisms within next-to-eikonal (Neik) and back-to-back (or correlation) limit of the dijet cross section through DIS and additional corrections that need to be addressed due to lowering the eikonal constraints.

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