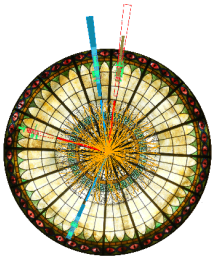
DIS 2015
XXIII International Workshop on Deep-Inelastic Scattering and Related Subjects

Dallas, Texas
April 27 – May 1, 2015



Contribution ID: **286** Type: **not specified**

Improved effective TMD factorization for forward dijet production in p-A collisions

Tuesday 28 April 2015 11:35 (25 minutes)

We study forward dijet production in dilute-dense hadronic collisions. By considering the appropriate limits, we show that both the transverse-momentum-dependent (TMD) and the high-energy factorization formulas can be derived from the Color Glass Condensate framework. Respectively, this happens when the transverse momentum imbalance of the dijet system, k_t, is of the order of either the saturation scale, or the hard jet momenta, the former being always much smaller than the latter. We propose a new formula for forward dijets that encompasses both situations and is therefore applicable regardless of the magnitude of k_t. That involves generalizing the TMD factorization formula for dijet production to the case where the incoming small-x gluon is off-shell. The derivation is performed in two independent ways, using either Feynman diagram techniques, or color-ordered amplitudes.

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Session Classification: WG2 Small-x, Diffraction and Vector Mesons

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