



Contribution ID: 106

Type: Parallel Session Talk

Diffractive Dijet Production and Wigner Distributions from the Color Glass Condensate

Tuesday 9 April 2019 15:20 (20 minutes)

We present results for the diffractive dijet production cross section in e+p collisions within the color glass condensate framework to leading logarithmic accuracy. The framework includes a spatially dependent McLerran-Venugopalan initial configuration at relatively large x , combined with explicit numerical solution of the JIMWLK equations. We focus in particular on the dependence of the dijet cross section on the relative angle between the nucleon recoiled momentum and the dijet transverse momentum, and compare to correlations between impact parameter and momentum in the gluon Wigner distribution which are related to the experimental dijet cross section[1]. We extract the magnitude of the elliptic modulation and determine its x -dependence, which is dominated by the growth of the proton with decreasing x . We also compare results to the IPSat model and a simple extension of it, which includes correlations between the dipole transverse separation vector and the impact parameter direction. Our results are presented in Ref.[2]

References:

- [1] Y. Hatta, B-W. Xiao, F. Yuan, Phys.Rev.Lett. 116 (2016) no.20, 202301
- [2] H. Mäntysaari, N. Mueller, B. Schenke, in preparation

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Session Classification: WG2: Small- x and Diffraction

Track Classification: WG2: Low- x and Diffraction