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Sudakov logarithms in dijet photoproduction at low x

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The differential cross section for the inclusive production of a pair of jets in the scattering of a real photon with a highly energetic proton or nucleus is calculated at next-to-leading order accuracy in the Colour Glass Condensate effective theory. Using this approach, multiple scatterings and nonlinear low- x evolution are taken into account, both important in the saturation regime where the gluon density becomes very large. When the dijet pair is approximately back-to-back in the transverse plane, large Sudakov logarithms call for an additional resummation which is usually performed in the context of transverse momentum dependent (TMD) factorisation. We show how to extract these logarithms at double logarithmic accuracy and in the large- N_c limit, and highlight the many intricacies encountered when trying to perform low- x and TMD resummation consistently.

Primary author: TAEELS, Pieter (FWO - University of Antwerp)

Co-authors: BEUF, Guillaume (NCBJ Warsaw); MARQUET, Cyrille (CPHT Ecole Polytechnique); ALTINOLUK, Tolga (NCBJ Warsaw)

Presenter: TAEELS, Pieter (FWO - University of Antwerp)

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