

Forward di-jets at the LHC

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I am going to overview recent studies of saturation effects in the production of forward dijets in proton-lead collisions at the Large Hadron Collider, using the framework of High Energy Factorizations. Such configurations, with both jets produced in the forward direction, probe the gluon density of the lead nucleus at small longitudinal momentum fraction, and also limit the phase space for emissions of additional jets. The results show significant suppression of the forward dijet azimuthal correlations in proton-lead versus proton-proton collisions. This effect is attributed to stronger saturation of the gluon density in the nucleus than in the proton. Furthermore I will present extensions of the above mentioned framework HEF to account for full CGC effects and hard scale effects related to resummation of logarithms of hard scale. Both of the extensions are crucial from theoretical point of view and are supported by preliminary phenomenological studies.

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