

Saturation effects in forward-forward dijet production in p+Pb collisions

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We study saturation effects in the production of forward dijets in proton-lead collisions at the LHC, using the framework of High Energy Factorization. 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. We find a significant suppression of the forward dijet azimuthal correlations in proton-lead versus proton-proton collisions, which we attribute to stronger saturation of the gluon density in the nucleus wavefunction compared to the proton. In order to minimize the model dependence of our predictions, we use two different extensions of the Balitsky-Kovchegov equation with sub-leading corrections.

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