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Azimuthal angle correlations in forward dihadron production in pA collisions

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Single inclusive hadron production in the forward rapidiy region in deuteron-gold collisions is well understood in the Color Glass Condensate (CGC) framework. As a complement to single inclusive spectra, detailed information is obtained with two-particle correlations. Recent measurements of the azimuthal angle correlations at RHIC have shown that there is a strong suppression of the away side peak at forward rapidities. This is easily understood in the CGC framework: the produced partons are initially back-to-back in the transverse plane, but the interaction with the nucleus causes a momentum transfer of the order of the saturation scale. In forward dihadron production the small-x structure of the nucleus is probed, implying a large saturation scale.

We present on going work on calculating the dihadron correlation using the running coupling BK equation. We include the inelastic terms neglected in some of the previous literature and show that they naturally contain the double parton scattering part that has so far been treated as a separate contribution. We also use, for the first time in a phenomenological application, a Gaussian approximation of JIMWLK to go beyond the large-Nc limit.

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