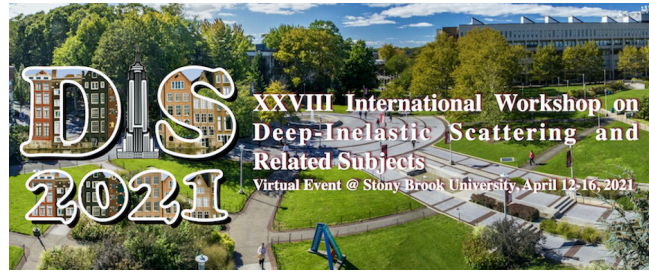


XXVIII International Workshop on Deep-Inelastic Scattering and Related Subjects



Contribution ID: 625

Type: **Contributed Talk**

Multiparticle correlations in pA collisions in the CGC

Wednesday, 14 April 2021 09:12 (18 minutes)

The finding of long rapidity range azimuthal correlations in small collision systems, pp and pA, at the LHC poses a crucial challenge for our understanding of hadronic and nuclear collisions at the highest available energies. In such small collision systems the final state explanations standardly accepted in heavy ion collisions face conceptual problems and initial state alternatives have been explored. The Color Glass Condensate offers a weak coupling but non perturbative framework where the imprint on the final state of parton correlations in the wave functions of the incoming hadrons can be studied. Here we compute four gluon production in dilute-dense collisions in the CGC, considering only those contributions enhanced by the nuclear size but keeping all terms in the number of colours. We use the Wigner function approach to proceed analytically as far as possible and discuss its validity. We then analyse the four particle cumulant $c_2\{4\}$ and find it to be negative, thus providing a sensible second order Fourier coefficient.

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Session Classification: Small-x, Diffraction and Vector Mesons

Track Classification: Small-x, Diffraction and Vector Mesons