Contribution ID: **237** Type: **Parallel Session Talk**

Measuring the Weizsäcker-Williams distribution of linearly polarized gluons at an electron-ion collider through dijet azimuthal asymmetries

Wednesday, 10 April 2019 16:55 (20 minutes)

The production of a hard dijet with small transverse momentum imbalance in semi-inclusive DIS probes the conventional and linearly polarized Weizsäcker-Williams (WW) transverse momentum dependent (TMD) gluon distributions. The latter, in particular, gives rise to an azimuthal dependence of the dijet cross section. In this talk I will discuss the feasibility of a measurement of these TMDs through dijet production in DIS on a nucleus at an electron-ion collider using a Monte Carlo generator to sample quark-antiquark dijet configurations based on leading-order parton level cross sections. The WW gluon distributions is obtained as a solution of the nonlinear small-x QCD evolution equations. The quark-antiquark dijet configurations are then fragmented to hadrons using PYTHIA, and final-state jets are subsequently reconstructed. I will report on background studies and on the effect of kinematic cuts introduced to remove beam jet remnants. The estimates on required luminosity to measure the distribution of linearly polarized gluons with a statistical accuracy of 5% will be provided.

Primary author: SKOKOV, Vladimir (North Carolina State University / Brookhaven National Laboratory)

Presenter: SKOKOV, Vladimir (North Carolina State University / Brookhaven National Laboratory)

Session Classification: Joint WG2+WG7: Small-x and Diff + Future of DIS

Track Classification: WG2: Low-x and Diffraction