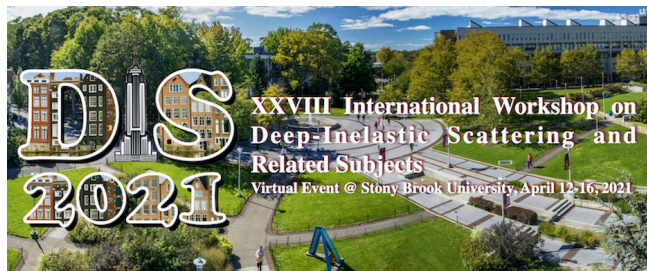


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Nuclear Modification of Dijet at EIC

Thursday, 15 April 2021 13:43 (17 minutes)

We study the nuclear modification for the large Bjorken- x dijet cross-section in eA deeply in-elastic scattering (DIS) process for electron-ion collider (EIC) kinematics. We use the generalized High-Twist approach in our calculation, which do not perform twist expansion. Under small longitudinal momentum transfer approximation, the nuclear modified cross section can be approximately factorize as large- x quark TMD distribution and small- x gluon TMD distribution. The nuclear modified dijet cross section contains Non-LPM terms, quark LPM terms and gluon LPM terms. The Landau-Pomercanchuk-Migdal (LPM) terms bring the non-linear nuclear size dependence for nuclear modification ratio of the large- x dijet.

The saturation effect can be included in the small- x gluon TMD distribution. We show that the jet p_T dependence and the azimuthal angle dependence can help to locate the saturation scale Q_s . The nuclear modification ratio decreases with rapidity difference of the dijet increase. The initial quark p_T broadening suppresses the nuclear modification ratio. The nuclear modification of the large- x dijet cross-section can probe the nucleon gluon TMD distribution and the jet transport coefficient.

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