

(online) Probing Gluon Bose Correlation Through Trijet Production in Deep Inelastic Scattering

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In recent years, there has been rising interest in trijet production in Deep Inelastic Scattering (DIS) within the small- x regime as a potential channel for probing gluon saturation. Motivated by the near side ridge structure of two particle long range rapidity correlation observed both at RHIC and LHC, we demonstrate that similar near side azimuthal angular correlation exists in the trijet production in DIS using the McLerran-Venugopalan model. We specifically focus on diffractive quark-antiquark dijet plus a gluon jet production. The origin of the near side azimuthal angular enhancement is traced back to the two gluon Bose correlation in the nuclear wavefunction. The trijet production in DIS offers a great opportunity to understand two particle correlations in nuclear wavefunction at the future Electron-Ion Collider.

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