XXVIII International Workshop on Deep Inelastic Scattering and Related Subjects



Contribution ID: 234

Type: Contributed Talk

Measurements of the gluon polarization in the proton from longitudinally polarized pp collisions at STAR at RHIC

Tuesday, 24 March 2020 11:20 (20 minutes)

Jet production is the primary signal for hard scattering of the partons inside protons, which is one of the dominant processes in proton-proton collisions at the RHIC energies. The jet double-spin asymmetries $A_{\rm LL}$, measured at the STAR detector in polarized pp collisions, remain one of the main sources of constraint for the polarized gluon parton distribution function Δg . An earlier STAR jet measurement at the center of mass energy $\sqrt{s} = 200$ -GeV provided the first-of-its-kind, clear evidence for the non-zero gluon polarization at $x \ge 0.05$. This talk presents the latest result from the STAR jet measurement at $\sqrt{s} = 510$ -GeV using a year 2012 data set. The new limit of the kinematic reach down to $x \simeq 0.015$ is achieved by our data at $\sqrt{s} = 510$ -GeV from both inclusive jets and di-jets. We will also discuss the future opportunities for jet measurements after realisation of an ongoing STAR forward upgrade.

Primary author: KALINKIN, Dmitry (Indiana University / Brookhaven National Laboratory)
Presenter: KALINKIN, Dmitry (Indiana University / Brookhaven National Laboratory)
Session Classification: Spin Physics

Track Classification: Spin Physics