Hall B Virtual Seminar

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What we have learned about QCD parton dynamics inside the proton and hadronization in high energy hadronic collisions at RHIC and LHC, and the path to Electron-Ion Collider.

Abstract

The Relativistic Heavy Ion Collider (RHIC) has been in operation since 2000 providing world-only polarized p+p and p+A data at two major interaction points with complementary detectors, PHENIX and STAR. The RHIC Spin/Cold QCD program conducted by the two pillars has seen great impact on constraining gluon helicity distributions inside the proton and sea quark helicity distributions. In addition, it offered insights into various spin-momentum correlations between the directions of the spin and momentum of partons and/or protons involved in the collision. With only STAR currently taking data, RHIC data analysis effort is still highly active and interesting results continue to come out to this day. In recent years, advances in theoretical techniques describing the substructure of jets, correlations and shapes of events, combined with state-of-the-art detector technologies, have opened up new directions in studying hadronic physics, part of which has been explored in the forward region at Large Hadron Collider (LHC). Preliminary studies applying the new approaches to the HERA deep-inelastic scattering data in preparation for the upcoming EIC show promising results. This talk will summarize highlights of results in the past couple of decades at RHIC, present recent results at LHC and discuss a path to EIC.

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2:30 PM – 3:30 PM

https://jlab-org.zoomgov.com/j/1614325938?pwd=RlJVTVZmMWloSUh1QmJsTWRIb0VqQT09&from=addon