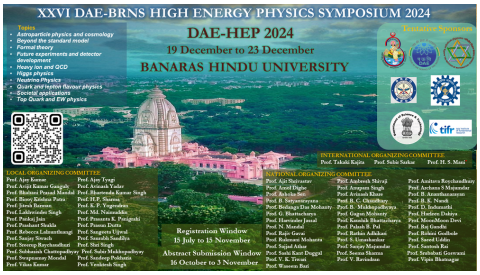

Contribution ID: **53** Type: **Oral**

Next-to-next-to-leading order QCD corrections to semi-inclusive DIS

Polarized semi-inclusive deep-inelastic scattering (SIDIS) is a key process in the quest for a resolution of the proton spin puzzle. We present the complete results for the polarized SIDIS process at next-to-next-to-leading order (NNLO) in perturbative quantum chromodynamics. Our analytical results include all partonic channels for the scattering of polarized leptons off hadrons and a spin-averaged hadron identified in the final state. A numerical analysis of the NNLO corrections illustrates their significance and the reduced residual scale dependence in the kinematic range probed by the future Electron-Ion-Collider EIC

Field of contribution

Phenomenology

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Track Classification: Heavy ion and QCD