

Abstract Submitted
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Transverse Single-spin Asymmetries from $p^\uparrow + p \rightarrow jet + X$ and $p^\uparrow + p \rightarrow jet + \pi^\pm + X$ in the Central Pseudorapidity Range and $\sqrt{s} = 500$ GeV at STAR JAMES DRACHENBERG, Valparaiso University, STAR COLLABORATION — Current extractions of the Sivers and transversity functions come from measurements of transverse single-spin asymmetries (SSA) from SIDIS and fragmentation functions from lepton-lepton scattering. The limited kinematic reach of these measurements leaves poor constraints on the behavior of the Sivers and transversity functions at higher values of Bjorken- x . One avenue to enrich our understanding at this higher kinematic range is through jet production from high-energy polarized-proton collisions. The STAR detector at RHIC has seen hints of non-zero SSA's for the Collins effect from $p^\uparrow + p \rightarrow jet + \pi^\pm + X$ at $|\eta| < 1$ and $\sqrt{s} = 200$ GeV. Extending transverse SSA measurements for the first time to jet production in the central pseudorapidity range at 500 GeV allows one to examine the Sivers and Collins effects for a different mix of partonic subprocesses than those found at 200 GeV. Moreover, the increased gluon participation allows a more favorable examination of the gluon Collins-like effect. In 2011 STAR integrated 25 pb⁻¹ of luminosity from $p^\uparrow + p$ at $\sqrt{s} = 500$ GeV with 48% polarization. The status of the analysis of inclusive jet SSA's from these data will be shown.

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