

Abstract Submitted
for the DNP11 Meeting of
The American Physical Society

Collins Asymmetry Contributions to Quark Transversity Constraints in Mid-Rapidity Jets in $p^\uparrow p$ Collisions at STAR ROBERT FERSCH, University of Kentucky, STAR COLLABORATION — Proton quark transverse spin distributions ($\delta q(x, Q^2)$) are less well-constrained than longitudinal spin distributions ($\Delta q(x, Q^2)$) due to the limited amount of transverse spin data available to separate Collins and Sivers effects. Measurement of the azimuthal asymmetry of π^\pm mesons within reconstructed jets in $p^\uparrow p \rightarrow \text{jet}(\pi^\pm) + X$ reactions observed in the Solenoidal Tracker at RHIC (STAR) at midrapidity ($|\eta| < 1.0$) enables isolation of the Collins effect, and thus offers additional constraints to $\delta q(x, Q^2)$ parametrizations, which currently include Belle measurements of Collins fragmentation in e^+e^- collisions and HERMES and COMPASS measurements of the Collins asymmetry in deep-inelastic lepton-nucleon scattering. We present progress toward asymmetry measurements from $\sqrt{s} = 200$ GeV transversely polarized ($\sim 58\%$) proton collision data (totalling $\sim 1 \text{ pb}^{-1}$), for average quark momentum fraction $\langle x \rangle \sim 0.2$.

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Date submitted: 05 Jul 2011

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