

Abstract Submitted
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Measuring the Sivers Effect via Back-to-Back Di-Hadron Correlations in the PHENIX at RHIC FENG WEI, Iowa State University, PHENIX COLLABORATION — The measurement of transverse single spin asymmetries at high energies gives us an opportunity to probe the parton structure of transversely polarized nucleons. We present here an analysis of single transverse spin asymmetries using di-hadron correlations in transversely polarized p+p collisions as measured by PHENIX. The Sivers effect can lead small azimuthal asymmetry for back-to-back di-jets events. Because the PHENIX detectors at mid-rapidity cover only half of the azimuthal angle it is not possible to fully reconstruct jets. Instead, we use leading hadrons in our analysis and measure the sum of two leading back-to-back hadrons' transverse momentum as q_t . We present yields of the projection of q_t on the perpendicular direction to spin orientation which is the most sensitive to the small asymmetry due to Sivers effect. We will also present plans to do the same analysis using correlations of higher rapidity hadrons in the PHENIX muon arms with data collected in RHIC Run-8 which will extend the sensitivity of the asymmetry analysis to smaller parton momentum fraction.

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