

Abstract Submitted
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**Measurement of Sivers Transverse Spin Asymmetries for Di-Jet
Production in 200 GeV Polarized Proton Collisions at STAR** STEVEN

VIGDOR, Indiana University, STAR COLLABORATION — Hard-scattering collisions of transversely polarized protons may be preferentially initiated by partons with transverse momentum (\vec{k}_T) directed toward one side of the plane formed by the proton's momentum and spin vectors [1]. Parton orbital angular momentum within the proton is a prerequisite for this so-called Sivers effect. We report the first measurement of the Sivers asymmetry in collisions of transversely polarized proton beams, using di-jet production data acquired with the STAR detector during the 2006 RHIC run. A non-zero Sivers function would be manifested directly by a spin-dependent change in the distribution of the azimuthal opening angle between the two reconstructed jets [2]. We present a preliminary analysis reconstructing the jet thrust axes only from the electromagnetic calorimeter component of the jet energies, recorded online at trigger level for a sample of ~ 3 million di-jet events. By selecting subsets of events within particular phase space regions, we can emphasize quark- or gluon-dominated Sivers functions. In addition to experimental results, we present model simulations that demonstrate the correlations among various measures of the Sivers asymmetries, and their sensitivity to the shape of the underlying \vec{k}_T distribution. [1] D. Sivers, Phys. Rev. D**41**, 83 (1990) and Phys. Rev. D**43**, 261 (1991). [2] D. Boer and W. Vogelsang, Phys. Rev. D**69**, 094025 (2004).

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