

Abstract Submitted
for the APR14 Meeting of
The American Physical Society

Transverse Single-Spin Asymmetries for Jet-like Events at Forward Rapidities in $p + p$ Collisions at $\sqrt{s} = 500$ GeV with the STAR Experiment¹ MRIGANKA MOULI MONDAL, Texas A&M University, STAR COLLABORATION — Large transverse single-spin asymmetries (A_N) have been observed for forward inclusive hadron production in $p + p$ collisions at various experiments. In the collinear perturbative scattering picture, twist-3 multi-parton correlations can give rise to such an asymmetry. A transversely polarized quark can also give rise to a spin-dependent distribution of its hadron fragments via the Collins mechanism. The observed A_N may involve contributions from both processes. These can be disentangled by studying asymmetries for jets, direct photons and jet-fragments. The STAR Forward Meson Spectrometer (FMS), a Pb-glass electromagnetic calorimeter covering the pseudo-rapidity range 2.6-4.2 and full azimuth, can detect photons, neutral pions and eta mesons. We are measuring A_N for jet-like events reconstructed from photons in the FMS in $p + p$ collisions at $\sqrt{s} = 500$ GeV that were recorded during the 2011 RHIC run. We study A_N as a function of the number of observed photons, thereby exploring asymmetries for a range of event classes. The current status of the analysis will be discussed.

¹Mriganka Mouli Mondal, Texas A&M University (for the STAR Collaboration)

Mriganka Mouli Mondal
Texas A&M University

Date submitted: 09 Jan 2014

Electronic form version 1.4