Abstract Submitted
for the APR15 Meeting of
The American Physical Society

Measurement of the Transverse Single-Spin Asymmetries for π^0 and Electromagnetic Jets at forward rapidities at STAR MRIGANKA MOULI MONDAL[1], Texas A&M Univ, 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. There can also be a spin-dependent hadronization process which can create transverse asymmetries in the twist-3 fragmentation formalism. 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, a Pb-glass electromagnetic calorimeter covering the pseudo-rapidity (η) range 2.6-4.2 and full azimuth, can detect photons, neutral pions and η mesons. For the current run in the year 2015, installation of the Forward Preshower Detector opens a new capability of identifying direct photon events. We are measuring A_N for π^0 and electromagnetic(EM) jets reconstructed from photons in the FMS in $p + p$ collisions at $\sqrt{s} = 500$ GeV that were recorded during the 2011 RHIC run. We report, here, A_N for forward EM-jets and its sensitivity to the event topology of having a coincedence EM-jet at midrapidity.

[1]presenting on behalf of the STAR Collaboration

Mriganka Mouli Mondal
Texas A&M Univ

Date submitted: 09 Jan 2015 Electronic form version 1.4