Abstract Submitted
for the APR12 Meeting of
The American Physical Society

W Production at Forward Rapidity in 500 GeV p+p Collisions at PHENIX MURAD SARSOUR, Georgia State University, PHENIX COLLABORATION — A major emphasis of the RHIC spin program at BNL is to study the spin-flavor structure of the proton based on the production of $W^{-(+)}$ bosons. $W^{-(+)}$ bosons are produced at leading order in $\bar{u}+d\,(\bar{d}+u)$ collisions and detected at RHIC through their leptonic decays, $l+\bar{\nu}_l\,(\bar{l}+\nu_l)$, where only the respective charged lepton is measured. At forward rapidity, PHENIX completed the needed upgrades of the muon spectrometers to observe muons from $W^{\pm}$ decays and is ready for polarized p+p collisions at $\sqrt{s}=500$ GeV in 2012. The upgrades included new electronics transferring information from the muon tracking systems to the level 1 trigger processors and new fast Resistive Plate Chamber (RPC) tracking stations up and down stream of the PHENIX muon spectrometers. In 2011, the up stream RPC tracking stations were not yet installed, PHENIX collected approximately 17 pb^{-1} of polarized p+p collisions at $\sqrt{s}=500$ GeV with the forward muon detectors. The status of the data analysis towards $W^{\pm}$ cross sections for the $\mu^{\pm}$ channels, at forward rapidity, will be presented. The proton beams had a longitudinal polarization of approximately 46%, and progress on extracting W-decay muon single spin asymmetry will be reported.

Murad Sarsour
Georgia State University

Date submitted: 06 Jan 2012 Electronic form version 1.4