Abstract Submitted
for the HAW14 Meeting of
The American Physical Society

Extracting W Single Spin Asymmetry in Longitudinally Polarized pp Collisions at PHENIX forward arms[1] ABRAHAM MELES, New Mexico State University — The parity-violating longitudinal single spin asymmetry A_L in the production of W bosons in $p+p$ collisions at $\sqrt{s} = 510$ GeV is sensitive to the polarization of light quarks and anti-quarks in the proton. However, identifying the muons from the decay of the W is challenging due to a great background of hadronic processes and other muon producing processes. In the forward and backward hemispheres of PHENIX at RHIC, the muon spectrometers have been recently upgraded in order to provide additional trigger and tracking information to suppress those backgrounds. One of those upgrades is the Forward Vertex (FVTX) detector, a silicon-strip tracker. In 2013, PHENIX collected approximately 240 pb^{-1} of polarized $p+p$ collisions at $\sqrt{s} = 510$ GeV with a beam polarization of 56%. The ability of the FVTX to improve the W signal will be reviewed, over view of the analysis techniques used to extract the signal from the data in RHIC 2013 run will be discussed.

[1]Support from US Department of Energy

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Date submitted: 01 Jul 2014 Electronic form version 1.4