Abstract Submitted
for the DNP13 Meeting of
The American Physical Society

Data Quality Analysis for PHENIX Spin Measurements[1] RYAN PINSON, Abilene Christian University, PHENIX COLLABORATION — At Brookhaven National Laboratory the PHENIX experiment on the Relativistic Heavy Ion Collider (RHIC) studies polarized proton-proton collisions in an effort to better understand the contribution of sea quarks to the spin structure of the proton. This is achieved by looking at the single-spin asymmetry of the W bosons created in polarized p+p interactions. To enable PHENIX to measure these contributions multiple Resistive Plate Chambers (RPCs) were integrated into both the north and south muon arms of the spectrometer and utilized as part of the forward trigger. During the 2013 RHIC Run, the RPCs were a critical component of the W trigger in part due to their excellent timing resolution. Before the W asymmetry and cross section can be determined, a careful study of the RPC high voltage status, trigger rates, and efficiencies must be completed. This systematic study of the RPC performances on a run-by-run basis has been completed and a list of these characteristics were created. While completing this initial analysis, changes in RPC performance were correlated with changes in detector conditions. Results of this first step in the analysis of the PHENIX forward W data will be presented.

[1]This research was supported in part by the DOE under grant number DE-FG03-94ER40860.

Ryan Pinson
Abilene Christian University

Date submitted: 26 Jul 2013 Electronic form version 1.4