

Abstract Submitted  
for the DNP08 Meeting of  
The American Physical Society

**Quality Control for the RPC Upgrade for PHENIX** DILLON THOMAS, Abilene Christian University, PHENIX COLLABORATION — The PHENIX detector is located at Brookhaven National Laboratory on the Relativistic Heavy Ion Collider (RHIC) ring where it studies both heavy ion and polarized proton-proton collisions. One of the primary goals of the polarized proton program is to improve our understanding of the proton's spin structure. A level 1 trigger upgrade is currently being constructed for PHENIX. This will involve the installation of Resistive Plate Chambers (RPCs). These new chambers will improve our ability to trigger on high transverse momentum single muons that are produced in the decay of W bosons. After these chambers are constructed, they must be carefully and completely checked to ensure they operate properly, before they are installed in the PHENIX spectrometer. These chambers are assembled as modules and then tested in our cosmic ray test stand while they are hooked up to data acquisition and gas systems. From cosmic ray muons, we can carry out tests to learn the efficiency and performance of each RPC. These tests ensure that only fully efficient chambers will be used in the final installation in the PHENIX spectrometer. Data and graphs of the efficiencies and performance will be presented.

Dillon Thomas  
Abilene Christian University

Date submitted: 01 Aug 2008

Electronic form version 1.4