

Abstract Submitted  
for the TSF06 Meeting of  
The American Physical Society

**Resistive Plate Chamber Test Stand and Read Out System For the PHENIX RPC Forward Upgrade**<sup>1</sup> RYAN WRIGHT, Abilene Christian University, PHENIX COLLABORATION — The PHENIX experiment, using the Relativistic Heavy Ion Collider at BNL, uses polarized proton-proton collisions to study the origin of the proton spin. In order to facilitate this, the forward muon arms are being upgraded in order to provide a first level trigger for high pT muons resulting from W-boson interactions. The new trigger will be based on Resistive Plate Chambers to provide a fast trigger to reject low momentum muons. A test stand at the University of Illinois Urbana-Champaign has been set up to study the behavior of a small RPC. The setup used for the research contains drift chambers, scintillators, and a multitude of electronics for data acquisition. This allows for the tracking of cosmic rays through the RPC to study details of the behavior of the RPC. The test setup and goals of the research will be presented, with special attention given to the read out system and the pre-amps for the data acquisition.

<sup>1</sup>On behalf of the PHENIX Collaboration

Ryan Wright  
Abilene Christian University

Date submitted: 21 Sep 2006

Electronic form version 1.4