

Abstract Submitted
for the HAW09 Meeting of
The American Physical Society

Quality Control of the PHENIX Resistive Plate Chambers being produced for the Forward Trigger Upgrade RYAN WRIGHT, Abilene Christian University, PHENIX COLLABORATION — The PHENIX experiment at the Relativistic Heavy Ion Collider at Brookhaven National Lab uses polarized proton-proton collisions to study the spin structure of the proton by reconstructing muon tracks produced from these collisions. As RHIC moves to higher energies, a new W -boson physics program is accessible, requiring the existing muon trigger system to be upgraded allowing for triggering on high p_T muons produced from W decays. One of the upgrades is the addition of fast Resistive Plate Chambers (RPC) made from Bakelite to give position and timing information for muons produced from W -boson decays. Before these chambers are installed in PHENIX, they must be tested for quality assurance to ensure proper performance with minimal failures in the future. These tests are conducted in a dedicated cosmic ray test stand in the RPC factory. Tests performed on each RPC include measuring the dark current, cluster sizes, and gap efficiencies. These tests identify bad gas gaps and modules while in the construction phase where repairs and modifications can be made. I will present the module quality assurance process and data recorded from these tests.

Ryan Wright
Abilene Christian University

Date submitted: 31 Jul 2009

Electronic form version 1.4