Abstract Submitted for the DNP07 Meeting of The American Physical Society

Bakelite Surface Resistivity Measurements for Muon Trigger **RPCs in PHENIX** RYAN WRIGHT, Abilene Christian University, FOR THE PHENIX COLLABORATION — The PHENIX experiment, at Brookhaven National Lab, studies polarized proton-proton collisions in order to explore the origin of the proton spin. A forward trigger upgrade for the PHENIX detector will provide a first level trigger for high p_T single muons produced from the decay of W-bosons. The measurement of spin sorted yields of Ws makes it possible to measure the spin distributions for quarks and anti-quarks in the proton. The muon trigger upgrade will be based on fast Resistive Plate Chambers (RPCs). The RPC gas gaps will be manufactured from bakelite plates. High rate capabilities are a key requirement for the PHENIX muon trigger RPCs and special attention has been given to the bulk and surface resistivity of the bakelite. Due to the manufacturing process for bakelite, the resistivity of the bakelite can vary significantly within a sheet but also between sheets. Large variations in the surface resistivity have a negative effect on rate capabilities and the detector efficiency. I will present a survey of bakelite surface resistivities for a sample of 17 large bakelite sheets to be used for the PHENIX trigger RPC prototypes.

> Ryan Wright Abilene Christian University

Date submitted: 01 Aug 2007

Electronic form version 1.4