

Abstract Submitted  
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**A Study on Position Resolution within Resistive Plate Chambers<sup>1</sup>**

TYLER NATOLI, University of Illinois at Urbana-Champaign — The PHENIX experiment which operates at Brookhaven National Laboratory using the Relativistic Heavy Ion Collider, explores the quark-gluon structure within the proton. An upgrade is currently underway to integrate Resistive Plate Chambers (RPC) into the detector setup to act as a trigger for high transverse momentum muons that are often produced from the decay of W-bosons. To understand the performance of the RPCs before their production, a cosmic ray test stand has been assembled at the University of Illinois in Urbana-Champaign to test small scale RPCs. This test stand allows for the measurement of signal strength, position resolution, timing resolution, and two-dimensional efficiencies of the avalanches formed within RPCs. Utilizing the position resolution capabilities of this test stand a variety of readout strip configurations were tested. The results of this study including the position resolution and cluster size of the avalanches produced will be presented.

<sup>1</sup>For the PHENIX collaboration

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