

Abstract Submitted
for the DNP13 Meeting of
The American Physical Society

A performance study of the micro-channel plate photomultiplier tube (MCP-PMT)¹ KAHLIL DIXON, Howard University, MICKEY CHIU, Brookhaven National Laboratory — PHENIX, the Pioneering High Energy Nuclear Interaction Experiment at Brookhaven National Laboratory (BNL), is developing particle detectors of exceptional time resolution. These world-class detectors will serve as upgrade options for future modifications to the Phenix detector, a part of BNL's Relativistic Heavy-Ion Collider (RHIC). This summer, we worked to optimize the timing resolution of the prototypes to ten picoseconds. The completed detectors will supply researchers with valuable data in the runs following installation, data that is currently in kinematically inaccessible regions. We setup the detectors in a cosmic ray test. The prototype detector I worked with is a Photonics 85012xp micro-channel-plate photomultiplier tube (MCP-PMT). Our testing setup makes use of two scintillator paddles, to trigger on the muons, and two MCP-PMT prototypes, to determine the time resolution. Currently, we are in the process of carefully analyzing the data acquired during experimentation. It will take just a little more time to study the correlations in detections between the top and bottom detectors; however, we are confident that this will be excellent option for serious consideration for installation in the Phenix detector.

¹This project was supported in part by the U.S. Department of Energy, Office of Science, Office of Workforce Development for Teachers and Scientists (WDTS) under the Visiting Faculty Program (VFP).

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Date submitted: 31 Jul 2013

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