Abstract Submitted for the DNP11 Meeting of The American Physical Society

**Dark Current in PHENIX Resistive Plate Chambers** MARIANNE SKOLNIK, BRETT FADEM, Muhlenberg College — The PHENIX collaboration studies polarized proton collisions at the Relativistic Heavy Ion Collider (RHIC) in hopes of eventually understanding the source of angular momentum in the proton. In particular, the antiquark contribution to the "spin" can be ascertained via single spin asymmetries of muons that result from the decay of W bosons. Such muons typically have high momentum. A new subsystem in PHENIX consisting of resistive plate chambers (RPCs) enhances the muon trigger by allowing discrimination of high momentum muons and increases our chances of recording these rare events. In preparing the RPC modules, we conduct many quality assurance tests that require monitoring dark current in the modules. Analysis of this dark current will reveal its dependence on temperature, humidity, and gas gap geometry.

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Date submitted: 12 Aug 2011

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