

Abstract Submitted
for the DNP08 Meeting of
The American Physical Society

Optimization of a Drift Chamber for Cosmic Ray Tracking Using Garfield Simulations. GEORGE DEINLEIN, PHENIX - University of Illinois at Urbana-Champaign — The PHENIX experiment at the Relativistic Heavy Ion Collider at Brookhaven National Laboratory seeks a precise measurement of the spin contribution from sea quarks to the proton spin. This is accomplished by measuring the asymmetry in W -boson production in longitudinally polarized proton-proton collisions, where W -decays are signaled through the presence of high transverse momentum muons. The first level trigger in the detection of these muons will employ resistive plate counters (RPCs). As part of the research and development of these RPCs, at UIUC, drift chambers assist with cosmic ray tracking. Improvements have been made to the current drift chamber design, and are being implemented and tested in PHENIX's cosmic ray test stand. In this poster, specific improvements will be discussed, as well as the design process, which involved detailed Garfield simulations.

George Deinlein
PHENIX - University of Illinois at Urbana-Champaign

Date submitted: 01 Aug 2008

Electronic form version 1.4