

Abstract Submitted
for the HAW14 Meeting of
The American Physical Society

An examination of STAR 2012 π^0 data at $0.8 < \eta < 2.0$ with longitudinally polarized $\vec{p} + \vec{p}$ collisions at $\sqrt{s} = 510$ GeV STEPHEN PLACE, Valparaiso University, STAR COLLABORATION — A recent global analysis of the proton spin has provided evidence for positive gluon polarization $\Delta g(x)$ for the momentum fraction range of $0.05 < x < 1$. The region $x < 0.05$ remains relatively poorly constrained, and may provide a significant contribution to the spin of the proton. The STAR detector can be used to measure the effects of quark and gluon spins in the proton through the measurement of asymmetries in π^0 production for different polarization states. The Relativistic Heavy Ion Collider at Brookhaven National Laboratory is uniquely able to collide polarized protons. Data from the $\vec{p} + \vec{p}$ run in 2012 has significantly higher integrated luminosity and at a center of mass energy of 510 GeV, higher than previously analyzed datasets, thus allowing better access to $\Delta g(x)$ at low x . The STAR endcap electromagnetic calorimeter, or EEMC, is able to detect π^0 's in the range of pseudorapidity $0.8 < \eta < 2.0$, a region at this energy where $\Delta g(x)$ for low x can be examined. Preliminary work on 2012 data will be shown.

Stephen Place
Valparaiso University

Date submitted: 24 Jul 2014

Electronic form version 1.4