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Double Spin Asymmetries, A_{LL}, for Di-hadrons in PHENIX CAMERON MCKINNEY, University of Illinois, PHENIX COLLABORATION — The Relativistic Heavy Ion Collider (RHIC), through its polarized proton-proton collisions, provides leading order access to ΔG, the gluon contribution to the proton spin. Previous measurements have shown $\int \Delta G(x)dx$ to be consistent with zero in the Bjorken-x range of 0.05 to 0.2, whereas there is presently no measurement constraining ΔG (x) for x below or above this range. The Muon Piston Calorimeter provides the opportunity to expand the constrained range by allowing measurements of double spin asymmetries for azimuthally-separated pairs of $\pi^{0\prime}s$ at forward rapidity, 3.1 <= $|\eta|$ <= 3.9, for $\sqrt{s}$=200 GeV and 500 GeV data taken in 2009. We present PYTHIA simulations studying the kinematics and possible asymmetries from di-hadron production at RHIC.

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