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Double-Spin Asymmetry of $J/\psi \rightarrow \mu^+\mu$ **in longitudinally polarized** p+p **collisions at** $\sqrt{s} = 200$ **GeV** IMRAN YOUNUS, University of New Mexico, PHENIX COLLABORATION — Polarized DIS experiments have established that the spin carried by quarks and anti-quarks in the proton does not account for the total proton spin. The gluon polarization and orbital angular momentum of the partons are other possible contributors, but remain largely inaccessible through the virtual photon probes of DIS. Heavy-quark pair production, including J/ψ production in polarized p + p collisions at RHIC is dominated by gluon-gluon interactions and provide direct access to the gluon polarization in the proton. The muon spectrometers at the PHENIX experiment can measure J/ψ yields through the $\mu^+\mu^$ decay mode at large rapidity (1.2 < $|\eta| < 2.2$). In this talk we present the current status of the analysis of the double longitudinal spin asymmetry A_{LL} in the J/ψ yields in polarized p+p collisions at $\sqrt{s} = 200$ GeV, using the data obtained in 2005. The integrated luminosity is expected to be $\sim 4 \ pb^{-1}$ with average polarization of 50%.

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