Measurement of Double Longitudinal Spin Asymmetry in Heavy Flavor Production at $\sqrt{s} = 200$ GeV at RHIC

XIAORONG WANG$^1$, New Mexico State University, PHENIX COLLABORATION — One of the main goals of the RHIC-SPIN program is to determine the contribution of gluons to the proton spin. At RHIC energies, the heavy quark (charm and beauty) production is expected to be dominated by gluon-gluon interactions, so a measurement of the double longitudinal spin asymmetry $A_{LL}$ in heavy quark production in polarized $p+p$ collisions hence allow us to directly probe the polarized gluon distribution inside the proton. The PHENIX experiment collected 3.5 pb$^{-1}$ of data with beam polarization $\sim 50\%$ and 7.5 pb$^{-1}$ of data with beam polarization $\sim 60\%$ in the years 2005 and 2006, respectively. In this talk, we present the latest results on an $A_{LL}$ measurement for $J/\psi$ and open charm production measured by the PHENIX detector.

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