

Abstract Submitted
for the DNP12 Meeting of
The American Physical Society

Transverse single-spin asymmetry in heavy-flavor production in pp collisions at $\sqrt{s} = 200$ GeV FENG WEI, New Mexico State University, PHENIX COLLABORATION — Transverse single-spin asymmetries provide valuable information about the spin structure of the nucleon. At RHIC energies, heavy-flavor production is dominated by gluon-gluon fusion. The transverse single-spin asymmetry in heavy-flavor production originates from the Sivers effect (due to the initial state correlation between the internal transverse momentum of the parton and the transverse spin of the nucleon) instead of the Collins effect (the final state interaction of a transversely polarized quark fragmentation into a hadron) since the gluon has no transversity. The measurement of transverse single-spin asymmetry of single muons from heavy flavor decay at RHIC serves as a clean probe and would provide important information on the gluon Sivers function. In 2008 and 2012, the PHENIX experiment has collected 5.2 and 9.2 pb^{-1} integrated luminosity in transversely polarized pp collisions at $\sqrt{s} = 200$ GeV with a polarization of 46% and 52% respectively. The status of the analysis of transverse single-spin asymmetries of single muons from heavy flavor decay at forward-rapidity will be presented.

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Date submitted: 02 Jul 2012

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