

Transverse Single-Spin Asymmetry of Midrapidity Heavy Flavor Electrons in 200 GeV $p^\uparrow + p$ Collisions at PHENIX

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Understanding the transverse spin and momentum structure of the proton is of great interest to the nuclear physics community and it is one of the main goals of the spin physics program at the Relativistic Heavy Ion Collider (RHIC). Transverse single-spin asymmetry measurements for particles produced in proton-proton collisions provide insight into initial and final state spin-momentum and spin-spin parton-hadron correlations. In particular, electrons from heavy flavor decays provide access to initial state spin-momentum correlations of gluons in polarized protons, and allow for constraints to be placed on the antisymmetric and symmetric twist-3 tri-gluon correlation functions. Electrons are measured at midrapidity at PHENIX using the central arm spectrometers which consist of an electromagnetic calorimeter, a ring-imaging Cherenkov detector, as well as drift and pad chambers. In addition, the silicon vertex detector is used in order to veto background from conversion electrons and increase signal purity. Recent results from the 2015 running period (200 GeV $p^\uparrow + p$) will be presented.

Submitted on behalf of a Collaboration?

Yes

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