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Recent longitudinal spin asymmetry and cross section results at PHENIX

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The spin physics program at the PHENIX experiment at the Relativistic Heavy Ion Collider (RHIC) remains an essential tool in illuminating the internal spin structure of the proton. One major emphasis of the program is the measurement of longitudinal double spin asymmetries (A_{LL}) in a number of different final states from collisions of longitudinally polarized protons ($\vec{p}+\vec{p}$). Recent measurements of direct photon, jet, and charged pion spin asymmetries from $\vec{p}+\vec{p}$ access gluon polarization to leading order, something not possible with related lepton-hadron scattering measurements. Alongside the spin asymmetries, corresponding cross sections of direct photons, jets, and various identified hadrons have also been measured. These cross section measurements and their ratios can help to constrain fragmentation functions as well as unpolarized parton distribution functions. In this talk, I will present these recent results and the status of other ongoing spin analyses from PHENIX.

Submitted on behalf of a Collaboration?

Yes

Participate in poster competition?

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