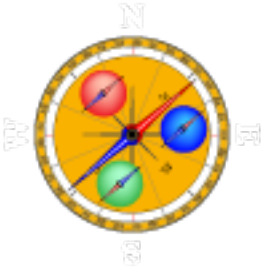

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New and future transverse spin results at PHENIX

Friday, 15 December 2017 09:00 (25 minutes)

We would like to present recent results and discuss future opportunities at the PHENIX experiment in transverse spin physics. Several measurements have been performed in p+p collisions using transversely polarized proton beams at the RHIC facility. Recently, p+A collisions with transversely polarized protons have also been performed, and allow the study of nuclear dependences of the transverse spin asymmetries.
Recent results from PHENIX include the transverse spin asymmetries in light meson production (π°, η), where a non-zero asymmetry can be interpreted as an initial state interaction (related to the Sivers effect) or a final state correlation (related to the Collins effect). Also, non-zero charged hadron asymmetries were observed with an interesting nuclear dependence. Transverse spin asymmetries have been measured as well for muons from heavy flavored hadrons and J/Ψ, giving access to higher twist effects related to the gluon Sivers function in p+p and p+A collisions.
Significant non-zero transverse spin asymmetries in very forward neutron production have been observed and interpreted as coming from Reggeon exchange in proton-proton collisions. We will discuss the surprisingly strong nuclear dependence of the asymmetry observed in p+A collisions and its likely origin. Ongoing studies and future results include Drell-Yan transverse spin asymmetries, which will be briefly discussed.

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