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### **Transverse spin physics in proton-proton collisions at RHIC**

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Transverse single spin asymmetries have gained an increased interest over the past years. They were originally expected to be very small as calculated in perturbative QCD at high energies and transverse momenta, but they have persisted at very sizable amplitudes in forward kinematics. Higher twist effects can explain these transverse asymmetries in a collinear approach complementary to transverse momentum dependent distribution functions in the initial state and fragmentation functions in the final state. Transverse asymmetries therefore not only enable us to complete our knowledge about parton distribution functions of the nucleon but also allow for fundamental tests of QCD, involving questions of universality and factorization. The Relativistic Heavy Ion Collider (RHIC) at Brookhaven National Laboratory is the world's only polarized proton collider with center-of-mass energies up to 500 GeV and transverse polarizations of 55% and more of each proton beam. It provides unique opportunities to study the spin structure in hadronic systems and opens new kinematic regions compared to deep inelastic scattering. This talk will summarize the recent results from the PHENIX and STAR experiments and discuss their implications on the different theoretical regimes.