

## Investigating Transversity with Hadrons in Jets at STAR

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The transversity distribution function is one of the fundamental pieces needed for a complete understanding of the structure of the nucleon. One way the STAR experiment accesses transversity is through the “Collins mechanism,” measuring spin-dependent azimuthal distributions of hadrons within jets from transversely polarized  $p + p$  collisions. STAR data probe transversity over a range of  $x$  similar to semi-inclusive deep inelastic scattering experiments but at much higher  $Q^2$ . Furthermore, these data provide unique insight to the in-jet transverse momentum dependence of the Collins asymmetry, crucial for deepening our understanding of the Collins fragmentation function. The first observation of the Collins asymmetry at STAR was reported from data at  $\sqrt{s} = 500$  GeV collected in 2011. In 2012 and 2015, STAR collected substantially more data at 200 GeV, allowing a far more detailed investigation of the Collins asymmetries and additional questions related to TMD evolution and factorization. In this presentation, the 200 GeV STAR Collins asymmetry results will be shown and discussed in context with the 500 GeV data and recent model calculations.