

Abstract Submitted  
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**Transversity in single spin and azimuthal asymmetries** LEONARD GAMBERG, Penn State Berks — One of the persistent challenges confronting the QCD improved parton model is to account for the large azimuthal and single spin asymmetries that emerge in semi-inclusive electro-production, and di-lepton production in Drell Yan scattering. Going beyond the collinear approximation in PQCD recent progress has been achieved in characterizing these asymmetries in terms of absorptive scattering. Central to this understanding are the correlations between transverse momentum and transverse spin in QCD hard scattering. These asymmetries provide a window to explore novel quark distribution and fragmentation functions which constitute essential information about the spin, transversity and generalized momentum structure of hadrons. Along with the chiral odd transversity time-reversal even (*T-even*) distribution function, existence of the time reversal odd (*T-odd*) distribution and fragmentation functions can provide an explanation for the substantial asymmetries that have been observed in these scattering processes.

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