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TMDs: Theory overview

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Transverse momentum dependent (TMD) parton distribution and fragmentation functions are novel theoretical concept, which provide information on the parton's intrinsic transverse motion, and thus present a path to three-dimensional nucleon tomography. In this talk, I will review recent theoretical advances in TMD factorization for hard processes. I will also discuss the current effort and status in determining the TMD parton distributions and fragmentation functions from semi-inclusive deep inelastic scattering, $e+e^-$, as well as $p+p$ collisions.