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TMD measurements in e^+e^- annihilation and semi-inclusive deep inelastic scattering with respect to the thrust axis

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Abstract

We examine the factorization theorem for the measurement of transverse momentum dependent (TMD) distributions with respect to the thrust axis in e^+e^- annihilation and semi-inclusive deep inelastic scattering. We include the operator definition of the soft function appearing in the factorization theorem and make a one loop check. Performing the logs resummation of each function that appear in the factorization theorem we check the latter with respect to PYTHIA 8.3 at high energy for the e^+e^- case. This is done taking advantage of the universal TMD-fragmentation functions derived in TMD fits of semi-inclusive deep inelastic scattering.

