

Effect of TMD evolution and partonic flavor on e^+e^- annihilation into hadrons

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We calculate the transverse momentum dependence in the production of two back-to-back hadrons in electron-positron annihilations at 100 GeV^2 . We use the parameters of the transverse-momentum-dependent (TMD) fragmentation functions that we recently extracted from the HERMES multiplicity data at 2.4 GeV^2 . We apply TMD evolution according to two different approaches and using different parameters for the so-called nonperturbative part of TMD evolution. We explore the sensitivity of our results to these different choices and to the flavor dependence of parton fragmentation functions. We discuss how experimental measurements could discriminate among various scenarios.

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