

UCLA NUCLEAR PHYSICS SEMINAR

Transverse momentum dependent soft function and PDF from LaMET on lattice

Presented by: Yizhuang Liu
T.D. Lee Institute

In the talk I will present our recent work on lattice TMDPDF and soft factor. I will show that the TMD soft function (or soft factor) in the off-light-cone scheme is equivalent to an equal-time form factor, thus can be simulated on lattice from Euclidean HQET or from large momentum light-meson form factor. This extends the large momentum effective theory (LaMET) to the case with two light-cone directions. With the help of the off-light-cone soft factor and lattice calculable quasi-TMDPDF one can match to physically important light-cone TMDPDF using perturbation theory. I will also present certain interesting relations between soft-factors and rapidity-regularization-independent factorization scheme directly in terms of quasi-TMDPDF.

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