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Threshold factorization of the Drell-Yan quark-gluon channel and two-loop soft functions at NLP

Wednesday, 29 March 2023 14:00 (20 minutes)

Extension of factorization formulas beyond leading power within Soft Collinear Effective Theory (SCET) in recent years has not proved straightforward due to appearance of endpoint divergences and complicated functions with extra dependence on convolution variables. In this talk, I will discuss the basis for a resummation of the quark-gluon channel of the Drell-Yan process at threshold at next-to-leading power (NLP) using SCET. I will discuss the factorization formula and describe NLP collinear functions and generalized soft functions that emerge beyond leading power. I will focus on the technical aspects of the calculation of the generalized soft functions that appear in NLP factorization formulas up to the two-loop order.

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