

Threshold effects at next-to-leading power

Tuesday, September 10, 2019 4:00 PM (25 minutes)

In QCD, soft radiation plays an important role in kinematic regions where resulting threshold logarithms become large. In this talk, I address such effects beyond leading power in the threshold expansion, for both fixed order and resummed results. For the double-real single-virtual correction to Drell-Yan, a large class of next-to-leading power (NLP) threshold logarithms is shown to be obtained using the method of regions [1]. For more general processes with a colour singlet final state, leading logarithms at NLP are resummed by dressing the shifted Born level cross section with exponentiated LP webs [2].

[1] N. Bahjat-Abbas, J. Sinninghe Damsté, L. Vernazza and C. D. White, “On next-to-leading power threshold corrections in Drell-Yan production at N³LO”, JHEP 10 (2018) 144, 1807.09246.

[2] N. Bahjat-Abbas, D. Bonocore, J. Sinninghe Damsté, E. Laenen, L. Magnea, L. Vernazza and C. D. White, “Diagrammatic resummation of leading-logarithmic threshold effects at next-to-leading power”, 1905.13710.

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