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Subleading effects in soft-gluon emission at one-loop in QCD

Tuesday, October 17, 2023 3:00 PM (30 minutes)

While the knowledge of the leading-power behaviour of QCD amplitudes in the soft limit is crucial for the construction of subtraction schemes, next-to-leading power (NLP) results can be used to increase precision, which has successfully been applied to QED calculations. In this talk, I will present a universal expression for the soft limit of one-loop QCD amplitudes at NLP, that is, an extension of the LBK theorem to the loop level. The calculation was done with the Expansion by Regions method. An NLP collinear expression for general tree-level amplitudes was obtained along the way while analysing the collinear region.

Authors: ESCHMENT, Felix (RWTH Aachen - TTK); SCHELLENBERGER, Tom (RWTH Aachen); Prof. CZAKON, Michal (RWTH Aachen)

Presenter: ESCHMENT, Felix (RWTH Aachen - TTK)

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