

Renormalizing Soft-quark Functions and Anomalous Dimensions at Next-to-leading Power

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Power corrections are crucial for the frontier precision study at colliders, and soft quarks play an important role starting from next-to-leading power. However, renormalizing soft-quark functions and, hence, deriving their anomalous dimensions are hard and have only received progress recently. In this talk, I will show how to renormalize soft-quark functions entering the light-quark-induced Higgs form factor and the Drell-Yan process in position space in a concise way. In particular, I will also illustrate how to extract UV poles consistently in the context of introducing offshellness-related IR regulators inherited from factorization formulae.

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