

Heavy quarks' mass corrections to threshold resummation

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Perturbative calculations for processes that involve heavy flavours can be performed in two approaches: the massive scheme and the massless one. The former enables one to fully account for the heavy-quark kinematics, while the latter allows one to resum potentially-large mass logarithms. Furthermore, the two schemes can be combined to take advantage of the virtues of each of them. Both massive and massless calculations can be supplemented by soft-gluon resummation. However matching between massive and massless resummed calculations is difficult, essentially because of the non-commutativity of the soft and massless limits. In this talk, I will present a formalism to combine massive and massless resummed calculations. Our result consists of an all-order expression that consistently resums both mass and soft logarithms to next-to-leading logarithmic accuracy. Finally, I will comment on the phenomenological impact of these findings, presenting a comparison between our calculations and experimental data for heavy flavour fragmentation.

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