

Theorie-Palaver

Dec. 12, 2023 at 2 p.m.
Lorentz room (Staudingerweg 7, 5th floor)

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Light-cone distribution amplitudes of energetic heavy mesons

Light-cone distribution amplitudes (LCDAs) frequently arise in factorization theorems involving light and heavy mesons.

The QCD LCDA for heavy mesons includes short-distance physics at energy scales of the heavy quark mass.

In this talk I will explain how to achieve the separation of this perturbative scale from the purely hadronic effects by expressing the QCD LCDA as a convolution of a perturbative « jet » function with the universal, quark-mass independent HQET LCDA.

This factorization allows to efficiently resum large logarithms between Λ_{QCD} and m_Q as well as between m_Q and the scale of the hard process in the production of boosted heavy mesons at colliders.

As an application I will present updated theoretical predictions for the branching ratio of $W \rightarrow B \gamma$.