

Light-cone distribution amplitudes in $\text{QCD} \times \text{QED}$

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Light-cone distribution amplitudes (LCDAs) of light and heavy mesons are universal hadronic objects that form an essential part of factorization theorems for hard exclusive particle decays. These are relevant for precise calculations of Standard Model processes which play an important role in the search for New Physics. Like parton distribution functions, LCDAs are process-independent quantities that contain non-perturbative information about the inner meson structure and evolve under the renormalization group. The standard definition of the LCDAs assumes the presence of QCD-only, neglecting electromagnetic effects at low energies. However, with the increasing precision of measurements at LHCb and Belle II, QED effects need to be considered. For non-leptonic, charmless B -meson decays, we recently generalized the definition of the LCDAs to $\text{QCD} \times \text{QED}$, leading to qualitatively new features. In this talk we present, mostly for light mesons, how QED affects the solution of the LCDA under scale evolution. In particular, we discuss the modification of the endpoint behaviour and the size of QED corrections for the inverse moments, which enter on the level of physical observables.

Do you wish to attend the workshop on-site?

yes

Summary

Primary authors: TOELSTEDE, Jan-Niklas (Technical University of Munich); Prof. BENEKE, Martin (Technical University of Munich); Dr BÖER, Philipp (Technical University of Munich); Prof. VOS, Keri (Maastricht University)

Presenter: TOELSTEDE, Jan-Niklas (Technical University of Munich)

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