

Perturbative and Non-Perturbative complementary aspects in QCD

Abstract content

In this work I provide a summary of the advances made towards the understanding of two complementary issues. Using a non-perturbative approach, I explore the consequences of a momentum-independent interaction as an ad-hoc tool to rebuild the pion distribution amplitude (PDA). The PDA is obtained through its moments using the Schwinger-Dyson formalism within QCD in the rainbow-ladder approximation. Also, we examine the one-loop on-shell quark-gluon vertex in the asymmetric limit ($k^2 \gg p^2$, where k^2 and p^2 are the relevant momentum scales) to obtain an insight into its transverse and longitudinal structure. We find some interesting results about these limits in the dynamical mass generation. Finally, I comment on future applications of our results.

Summary

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