

Improving theoretical precision in the study of $B \rightarrow D^{**}$ decays

Monday 15 December 2025 10:54 (12 minutes)

The study of semileptonic B decays into charmed mesons $D^{(*)}$ plays a crucial role in the determination of CKM matrix element V_{cb} , improving and studying the nonperturbative dynamics of QCD, in testing heavy-quark symmetry. Indeed, these processes are described by matrix elements between hadronic states, which are nonperturbative. They can be expressed in terms of functions of q^2 called form factors. In order to compute these quantities, QCD sum rules and their variants represent one of the most powerful tools.

Our aim is to improve the theoretical determination of these form factors both at finite heavy-quark mass and in the limit $m_Q \rightarrow \infty$.

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Session Classification: Morning session 1