Contribution ID: 17 Type: not specified

Two-body hadronic B decays at NNLO

Hadronic B decays play an important role in testing the Kobayashi-Maskawa mechanism of quark flavor mixing and CP violation, as well as in deepening our understanding of perturbative and nonperturbative aspects of strong interactions. Thanks to the successful running of BaBar, Belle, LHCb and Belle II experiments, we are now entering an era of precision flavor physics. In this talk, I will review the status of NNLO QCD corrections to two-body hadronic B decays in the framework of QCD factorization, or its field-theoretical formulation within the soft-collinear effective theory. After introducing briefly the theoretical framework for hadronic B decays, I will present the calculations of these higher-order QCD corrections, firstly to the tree and then to the leading QCD penguin amplitudes. With these NNLO corrections included, phenomenological analyses of the tree- and penguin-dominated two-body charmless B decays, as well as the class-I B decays into heavy-light final states are given.

Primary author: Prof. LI, Xin-Qiang (Central China Normal University)

Presenter: Prof. LI, Xin-Qiang (Central China Normal University)