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【306】Probing multilepton decays with the LHCb experiment

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Recently, a number of tensions has been observed in semileptonic decays of B hadrons to a lighter hadron and two leptons. With the large dataset collected by the LHCb experiment, it becomes possible to study higher-order processes. Emission of a virtual photon from the initial (final) state can create an additional dilepton pair, leading to a final state with four leptons. The experimentally clean multilepton signature allows to suppress background, rendering exploration of such decays interesting for testing the Standard Model. In this talk, multilepton decays of heavy-flavour hadrons will be discussed. Searches for such decays with the dataset collected by the LHCb experiment will be presented.

Theoretical Work

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