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## Higher-order contributions to direct CP violation in $B \rightarrow B\bar{B}$ decays

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Novel lattice results reveal a tension between the measured direct CP violation in  $B \rightarrow B\bar{B}$  decays and the standard model theory prediction. This inconsistency could have several sources, one of which could be the missing contribution of new particles in the theory predictions. However, a reliable standard model prediction is needed to disentangle possible new physics effects from the standard model background. As rapid progress on the lattice is bringing non-perturbative long-distance effects under control, a more precise knowledge of short-distance contributions is essential. We describe higher-order QCD contributions for this observable and discuss future prospects, as well as issues of scheme dependence and the separation of perturbative and non-perturbative effects.

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