

Contribution ID: 42

Type: Parallel

Anomalies in Hadronic B decays

In this paper, we perform fits to $B \to PP$ decays, where $B = \{B^0, B^+, B_s^0\}$ and the pseudoscalar $P = \{\pi, K\}$, under the assumption of flavor SU(3) symmetry $[SU(3)_F]$. Although the fits to $\Delta S = 0$ or $\Delta S = 1$ decays individually are good, the combined fit is very poor: there is a 3.6 σ disagreement with the SU(3)_F limit of the standard model $(SM_{SU(3)_F})$. One can remove this discrepancy by adding SU(3)_F-breaking effects, but 1000\% SU(3)_F breaking is required. The above results are rigorous, group-theoretically – no dynamical assumptions have been made. When one adds an assumption motivated by QCD factorization, the discrepancy with the SM_{SU(3)_F} grows to 4.4 σ .

Secondary track

Author: KUMBHAKAR, Suman (University of Calcutta)

Session Classification: T07

Track Classification: T07 - Flavour Physics and CP Violation