

Phenomenology 2025 Symposium



Contribution ID: 65

Type: **not specified**

SU(3)-flavour symmetry breaking in B->DP decays.

Monday 19 May 2025 17:30 (15 minutes)

The latest measurements of branching ratios, related to hadronic decays of B mesons to charm and pseudo-scalar final states (DP), showed disagreements with theoretical predictions based on QCD factorization. Meanwhile, SU(3) symmetry-breaking was found in recent studies to exceed the Standard Model threshold of 20% (in B decays to two pseudo-scalars). In the light of these results, an analysis of SU(3)-flavour symmetry in B->DP decays is essential to quantify the degree of the symmetry-breaking and to look for possible 'New Physics' in the charm sector as well.

To achieve that, we consider both decay channels: $DC=1$ and $DC=-1$. We use decay observables: Branching ratios, direct and indirect CP asymmetries. We then perform a global fit while computing the Chi-square.

The best fit results have shown that a symmetry-breaking of 20% is sufficient to account for the data. Moreover, we were able to find the sizes of the diagrams and to make observable predictions for certain decays, which are hard to measure otherwise.

Mini Symposia (Invited Talks Only)

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Plenary (Invited talks only)

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Session Classification: Flavor

Track Classification: Quark and Lepton Flavor Physics