Phenomenology 2025 Symposium



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Systematic Study of U-spin Amplitude Sum Rules Predictions for Physical Observables

Monday 19 May 2025 18:00 (15 minutes)

Theoretical predictions for hadronic decays are extremely challenging due to the non-perturbative nature of QCD. The SU(3) approximate flavor symmetry of QCD can be used to derive relations between hadronic decay amplitudes. We perform a systematic study on how the SU(2) flavor symmetry amplitude sum rules can be used to give predictions for physical observables. In particular, we show a general strategy to derive all the rate sum rules for a system of hadron decays that are related by the U-spin symmetry, for every order in the symmetry breaking. We provide novel examples of relations between decay rates that hold at higher order in the breaking and that can be studied experimentally in precision physics.

Mini Symposia (Invited Talks Only)

Plenary (Invited talks only)

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Session Classification: Flavor

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