Contribution ID: **264** Type: **Oral Presentation**

Estimating Excited-States Contamination of $B \to \pi$ Form Factors Using Heavy Meson Chiral Perturbation Theory

Monday, August 8, 2022 3:20 PM (20 minutes)

Combining experimental input, perturbative calculations, and form factors computed in lattice QCD simulations, it is possible to deduce $|V_{ub}|$ from semileptonic decays of B mesons. But the results of the form factors are contaminated by excited-states, which may lead to noticeable systematic errors in the desired CKM matrix element.
This talk presents our recent computations of the dominant $B\pi$ excited-states contamination in $B \to \pi$ form factors in Heavy Meson Chiral Perturbation Theory. The results were obtained in the static limit and to NLO in the chiral expansion and include new, to date unknown, low energy constants. Depending on their value, the effects for lattice simulations can be considerable.

Authors: BÄR, Oliver (Humboldt Universität zu Berlin); BROLL, Alexander (HU Berlin); SOMMER, Rainer (DESY Zeuthen, Humboldt Berlin)

Presenter: BROLL, Alexander (HU Berlin)

Session Classification: Weak Decays and Matrix Elements

Track Classification: Weak Decays and Matrix Elements