



Contribution ID: 262

Type: **Oral Presentation**

$B\pi$ excited-state contamination in B -meson observables

Monday, August 8, 2022 3:00 PM (20 minutes)

Multi-particle states with additional pions are expected to result in a non-negligible excited-state contamination in lattice simulations at the physical point. We show that heavy meson chiral perturbation theory (HMChPT) can be employed to calculate the contamination due to two-particle $B\pi$ states in various B -meson observables like the decay constant f_B and the $B^*B\pi$ coupling g_π . We work in the static limit and to next-to-leading order (NLO) in the chiral expansion. The $B\pi$ states are found to typically overestimate the observables at the few percent level depending on the size of two currently unknown NLO low-energy coefficients. A strategy to independently measure one of them with the 3-point function of the light axial vector current will be discussed.

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

Presenter: BÄR, Oliver (Humboldt Universität zu Berlin)

Session Classification: Weak Decays and Matrix Elements

Track Classification: Weak Decays and Matrix Elements