32nd International Symposium on Lattice Field Theory (Lattice 2014)



Contribution ID: 212

Type: Talk

Neutral B-meson mixing parameters in and beyond the SM with 2+1 flavor lattice QCD

Wednesday, 25 June 2014 10:00 (20 minutes)

We present the status of our calculation of the hadronic matrix elements for neutral B-meson mixing with asqtad sea and valence light quarks and using the Wilson clover action with the Fermilab interpretation for the b quark. We calculate the matrix elements of all five local operators that contribute to neutral B-meson mixing both in and beyond the SM. Our analysis includes MILC asqtad ensembles at four different lattice spacings in the range a = 0.045-0.12 fm, and with light sea-quark masses as low as 0.05 times the physical strange quark mass. We perform a combined chiral-continuum extrapolation including the so-called wrong-spin contributions in simultaneous fits to the matrix elements of the five operators. Results for phenomenologically interesting quantities are presented with a complete systematic error budget.

Primary author: EL-KHADRA, Aida (University of Illinois)

Co-authors: BOUCHARD, Chris (The Ohio State University); FREELAND, Elizabeth (School of the Art Institute of Chicago)

Presenter: EL-KHADRA, Aida (University of Illinois)

Session Classification: Weak Decays and Matrix Elements

Track Classification: Weak Decays and Matrix Elements