

Accurate B meson and Bottomonium masses and decay constants from the tadpole improved clover ensembles

Using the anisotropic relativistic fermion action on isotropic lattice, we present a systematic study of the masses and lepton decay constants of the mesons with the bottom quark based on the 2+1 flavor tadpole improved clover ensembles at six different lattice spacings from 0.05 to 0.11 fm, various pion masses from 130 to 360 MeV, and several values of the strange quark mass. We also propose a systematic framework to renormalize the quark bi-linear operators with the bottom quark field, and verify it through the renormalized bottom quark mass and decay constants.

Primary authors: Mr DU, Haiyang (Institute of Theoretical Physics, Chinese Academy of Sciences); Dr CAI, Mengchu (Institute of Theoretical Physics, Chinese Academy of Sciences); Prof. YANG, Yi-Bo (Institute of Theoretical Physics, Chinese Academy of Sciences)

Presenter: Dr CAI, Mengchu (Institute of Theoretical Physics, Chinese Academy of Sciences)

Session Classification: Parallel

Track Classification: Fundamental symmetries and spin physics beyond the standard model