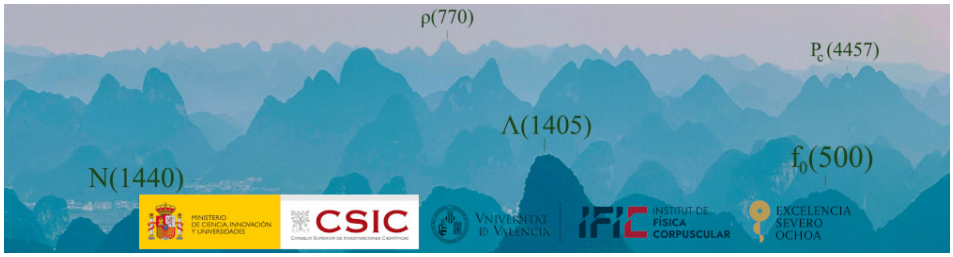

ID de la contribución : **13** Tipo : **no especificado**

Predicting $B^{(*)}\bar{D}^{(*)}$ states from a reanalysis of lattice QCD data

jueves, 3 de septiembre de 2026 14:00 (25)

We reanalyze the lattice QCD data for the isoscalar $J^P = 0^+$ and 1^+ $\bar{b}\bar{c}ud$ systems at $m_\pi \simeq 220$ MeV by incorporating both short- and long-range interactions. Using the interaction constrained by the lattice results, we predict a spectrum of isoscalar $B^{(*)}\bar{D}^{(*)}$ molecular states with quantum numbers $J^P = 0^+$, 1^+, and 2^+. The predicted $J^P = 0^+$ and 1^+ $B\bar{D}$ and $B^*\bar{D}$ bound states are consistent with the lattice data. Moreover, the two resonances reported by the lattice collaboration in the $J^P = 0^+$ and 1^+ $\bar{b}\bar{c}ud$ channels are naturally interpreted as the $B^*\bar{D}^*$ and $B\bar{D}^*$ hadronic molecules, respectively. We further predict two previously unreported $B^*\bar{D}^*$ states with quantum numbers $J^P = 1^+$ and 2^+, corresponding to a bound state and a virtual state, respectively. Our results provide a unified interpretation of the lattice spectrum and highlight the important interplay between short- and long-range interactions in the dynamics of the $B^{(*)}\bar{D}^{(*)}$ systems.

Primary author(s) : SHI, Pan-Pan (IFIC)

Presenter(s) : SHI, Pan-Pan (IFIC)

Clasificación de la sesión : Thursday afternoon (Session 1)