

Investigation of Doubly Heavy Tetraquark Systems using Lattice QCD

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We search for possibly existent bound states in the heavy-light tetraquark channels with quark content $\bar{b}b\bar{u}d$, $\bar{b}b\bar{u}s$ and $\bar{b}\bar{c}ud$ using lattice NRQCD for the heavy quarks. We use different gauge link ensembles with $N_f = 2 + 1$ flavours of domain-wall fermions and consider a basis of local and non-local interpolators. Besides extracting the energy spectrum from the correlation matrix, we perform additionally a Lüscher analysis to extrapolate our results to infinite volume.

Primary author: PFLAUMER (*), Martin (Goethe University Frankfurt)

Co-authors: LESKOVEC, Luka; MEINEL, Stefan; WAGNER, Marc

Presenter: PFLAUMER (*), Martin (Goethe University Frankfurt)

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