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## Heavy and light spectroscopy near the physical point, Part II: Tetraquarks

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Having introduced the ensembles and basic spectrum in Part I, we focus on results for a doubly heavy tetraquark candidate,  $qq\bar{Q}\bar{Q}$ . Based on phenomenological observations regarding heavy baryon systems, we motivate two possible lattice interpolating operators: a diquark-anti diquark and a meson-meson. We show these operators exhibit good behaviour both in terms of lattice QCD and their phenomenological interpretation. In particular we study the  $qq\bar{b}\bar{b}$ ,  $qq\bar{c}\bar{b}$  and  $qq\bar{c}\bar{c}$  with  $qq = ud, us$  flavor combinations and analyze their binding. In the chiral limit, at finite lattice spacing, we find strong indications for binding of the  $qq = ud$  tetraquark candidates. We comment on possible search windows for experimental confirmation.

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