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Antiheavy-antiheavy-light-light four-quark bound states

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We study four-quark systems using lattice QCD, which consist of two heavy antiquarks (either $\bar{b}\bar{b}$ or $\bar{b}\bar{c}$) and two light quarks (either ud or us) and search for bound states in these channels. In addition to commonly used local interpolating operators we also employ scattering interpolating operators, which seem to be very important for an accurate extraction of possibly existing bound states as well as low-lying scattering states. Moreover, we study the overlaps of trial states generated by our interpolating operators and low-lying energy eigenstates to obtain insights regarding the composition of the latter.

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