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# A scheme for studying the heavy pentaquark spectrum in lattice QCD

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It is now clear that bound multiquark states are possible with heavy quarks. Several tetraquark and a handful of pentaquark states have been observed in experiments. However, most of these are molecular states just below threshold. Lattice QCD holds an advantage over experiment in studying possible states with more heavy quarks. Apart from measuring the mass, it is now interesting to understand the nature of these states –differentiating between loosely bound hadronic molecules and any prospect for tightly bound hadrons. A scheme is presented for the spectroscopy of prospective pentaquark states with varying numbers of heavy quarks as well as the differentiation between molecular and tightly bound ones in lattice QCD.

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