

Multi-hadron resonances

Understanding the interactions of multi-hadron systems directly from QCD is an essential step toward connecting the underlying theory of the strong interaction with the rich spectrum of hadronic states. Many open questions in hadron spectroscopy, such as the nature of the T_{cc} and the Roper resonance, are closely tied to the three-body problem. In this talk, I will review recent lattice studies of three-body resonances, including the $a_1(1260)$ and $\omega(782)$. I will also highlight progress in the two-body sector, with particular emphasis on the investigation of the two-pole structure of the $D_0^*(2300)$. These developments illustrate how lattice QCD is beginning to resolve longstanding puzzles in the hadronic spectrum and advance our understanding of multi-hadron dynamics.

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