

## Progress towards understanding the $H$ -dibaryon from lattice QCD

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Significant experimental and theoretical efforts to determine the existence and nature of the  $H$ -dibaryon have been underway since its prediction in 1977. Yet, conclusive evidence for such a bound state is still lacking. Results from various lattice QCD calculations show substantial disagreement for the binding energy. Since there is no conclusive evidence for or against the existence of a bound  $H$ -dibaryon, the Mainz group has joined the effort towards resolving the discrepancies. In this talk, I will first give an overview of the recent results from the Mainz group obtained in two-flavor QCD. I will then discuss work that has been done towards ensuring that the baryon-baryon operators used in the  $H$ -dibaryon studies transform irreducibly under the relevant little group. Finally, the prospects of extensions to  $N_f = 2 + 1$  and the use of distillation for moving frames will be examined.

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