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## **Ab-initio study of dibaryons with highest bottom number**

*Tuesday, August 9, 2022 7:00 PM (1 hour)*

We present the first lattice study of dibaryons with highest bottom number. Utilizing a set of state-of-the-art lattice QCD ensembles and methodologies, we determine ground state of the dibaryon composed of two  $\Omega_{bbb}$  baryons. We extract the related scattering amplitude in the  $^1S_0$  channel and find a sub threshold pole, which is an unambiguous evidence for a deeply bound  $\Omega_{bbb}$ - $\Omega_{bbb}$  dibaryon. The binding energy of such a state as dictated by this pole singularity is  $-89^{(+16)}_{(-12)}$  MeV. We quantify various systematic uncertainties involved in this determination, including those related to the Coulomb repulsion between the bottom quarks.

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