



Contribution ID: 149

Type: **Invited Talk**

Baryon-Baryon Interactions from Lattice QCD

Wednesday, 2 August 2023 09:00 (35 minutes)

The formalism of finite-volume quantisation allows for a rigorous treatment of hadronic resonances and interactions in lattice QCD. I review the status of calculations of baryon-baryon states by the Mainz and BaSc collaborations, with a particular focus on the H dibaryon and nucleon-nucleon interactions. The binding energy of the H dibaryon in three-flavour QCD in the continuum limit has stabilised around values of 4-5 MeV. For nucleon-nucleon scattering in the same setup we can resolve S, P, D and F waves, using data from many lattice spacings and volumes. In the deuteron and dineutron S waves, virtual bound states are observed. Overall we find that discretisation effects tend to strengthen baryon-baryon interactions.

Primary author: Prof. WITTIG, Hartmut (Johannes Gutenberg-Universität Mainz)

Presenter: Prof. WITTIG, Hartmut (Johannes Gutenberg-Universität Mainz)

Session Classification: Wednesday Plenary Session (AudiMax)