

Three-body system in a box

Wednesday, 12 June 2019 15:30 (30 minutes)

Lattice QCD calculations provide an ab initial access to hadronic process. These calculations are usually performed in a small cubic volume with periodic boundary conditions. The infinite volume extrapolations for three-body systems are indispensable to understand many systems of high current interest. We derive the three-body quantization condition in a finite volume using an effective field theory in the particle-dimer picture. This work shows a powerful and transparent method to read off three-body physical observables from lattice simulations.

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Session Classification: Parallel Session B

Track Classification: Baryon spectrum and structure from first principles of QCD