

Hadron Spectroscopy with Lattice QCD

Monday, 16 October 2023 10:00 (30 minutes)

The current status and challenges of computing the spectrum of hadrons from lattice QCD are reviewed. While determinations of QCD-stable hadron masses routinely achieve percent-level accuracy, the situation for resonances and shallow bound states is more difficult since they must be identified as poles in the scattering matrix analytically continued to complex center-of-mass energies. In addition to typical lattice QCD issues like finite-volume and cutoff effects, scale setting, and tuning the quark masses to the physical point, computations of scattering amplitudes face additional challenges, such as the treatment of multi-hadron states and the inference of infinite-volume amplitudes from finite-volume energies. Despite this, some recent milestones reviewed in this talk include lattice investigations of doubly-heavy tetraquarks, dibaryons, and the first coupled channel meson-baryon scattering amplitude in the $\Lambda(1405)$ channel.

Parallel Session

Invited Plenary Talk

Primary author: Prof. BULAVA, John (Ruhr-Universität Bochum)

Presenter: Prof. BULAVA, John (Ruhr-Universität Bochum)

Session Classification: Plenary talk