



Contribution ID: 116

Type: **Talk**

Bayesian Analysis and Analytic Continuation of Scattering Amplitudes from Lattice QCD

Tuesday 4 November 2025 17:00 (20 minutes)

We present a novel procedure for analyzing the lattice-QCD spectrum via the finite-volume formalism to obtain constraints on multi-hadron scattering amplitudes at both real and complex energies. This approach combines a Bayesian reconstruction of the scattering amplitude on the real axis with Nevanlinna interpolation for analytic continuation to complex-valued energies. The method is non-parametric, inherently accounting for parametrization dependence within the uncertainty. We demonstrate the applicability of this approach using real lattice-QCD data.

Parallel Session (for talks only)

Hadronic and nuclear spectrum and interactions

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Session Classification: Hadronic and nuclear spectrum and interactions