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Hadronic Structure, Conformal Maps, and Analytic Continuation

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We present a method for analytic continuation of Euclidean Green functions computed using lattice QCD. The method is based on conformal maps and construction of an interpolation function which is analytic in the upper half plane. A novel aspect of our method is rigorous bounding of systematic uncertainties, which are handled by constructing the full space of interpolating functions (at each point in the upper half-plane) consistent with the given Euclidean data and the constraints of analyticity. The resulting Green function in the upper half-plane has an appealing interpretation as a smeared spectral function.

Topical area

Theoretical Developments

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