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Three-body observables from the lattice

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Scattering and transition amplitudes with three-hadron final states play an important role in nuclear and particle physics. In order to predict such quantities using Lattice QCD, formalism is required to overcome the limitations of Euclidean time and finite volume. In this talk I will focus on extensions of Luescher's work relating the finite-volume energy spectrum to physical scattering amplitudes. I will highlight the challenges that arise in extending the formalism from two- to three-particle states, and will describe how these have been addressed. Finally, I will outline outstanding problems and discuss the prospects of applying the formalism in a numerical Lattice QCD calculation.

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