

Toward Precise Determination of Resonant Hadron Scattering Amplitudes from Lattice QCD

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Given recent progress in the determination of scattering amplitudes from lattice QCD calculations, systematic errors due to the finite lattice spacing and simulation volume must now be controlled in order to provide quantitative QCD predictions for the properties of excited hadrons. To this end, I will present a calculation of the pion-pion scattering amplitude near the $\rho(770)$ resonance, as well as the corresponding isovector timelike pion form factor, in which a complete systematic study is performed. Ongoing calculations of amplitudes containing the $K^*(892)$, $\Delta(1232)$, and $\Lambda(1405)$ resonances will also be presented.

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