

Sjö: Three-meson systems in finite and infinite volume

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In the quest to better understand the structure and spectrum of hadrons using lattice QCD, hadronic resonances play an important but challenging role. Being resonances, they overlap strongly with the state of their decay products, which typically consist of two or three light hadrons. Such systems have large finite-volume effects and have so far only been simulated at large pion mass. However, both the finite-volume and pion-mass dependence can be captured using the K-matrix formalism, which relates them to the elastic infinite-volume scattering amplitude of the same particles, which can be computed with conventional tools such as chiral perturbation theory. I describe the recent NLO K-matrix calculation in all three-pion channels, which (unlike earlier LO results) agrees well with lattice data. I also describe the prospect of including kaons.

Session Classification: Talks