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Two pole structure of D*0(2400)

Friday 17 March 2017 10:00 (30 minutes)

The D*0(2400) is the known lightest non-strange scalar meson. In this talk, we study the D-pi, D-eta, and Ds Kbar scattering amplitudes in the context of unitarized Heavy Meson Chiral Perturbation Theory. We show that there are actually two poles in this energy region. Having fixed the value of the free parameters from previous works, we make a prediction of the energy levels of the system (and its volume dependence), and perform a comparison of these levels with those obtained in a recent LQCD simulation. A very good agreement is found, which is considered as a strong support to the two pole structure for the D0(2400). Further developments regarding this state and related predictions in other sectors are also performed.

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