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Scattering of charmed mesons from lattice QCD

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We present a lattice QCD study of coupled-channel $D\pi$, $D\eta$ and $D_s\bar{K}$ scattering, as well single-channel DK scattering. Our methodology allows us to determine precise finite volume spectra which we use to constrain scattering amplitudes as a function of energy. We interpret our results in terms of poles in the S-matrix and provide a measure of the coupling of each channel to a given pole. By exploring S, P and D wave interactions we comment on the nature of states with $J^P = 0^+$, relevant for the $D_0^*(2400)$ and $D_{s0}^*(2317)$, as well as states with $J^P = 1^-, 2^+$.

Summary

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