The 38th International Symposium on Lattice Field Theory

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Excited J^{--} meson resonances at the SU(3) flavor point from lattice QCD

Tuesday, 27 July 2021 22:00 (15 minutes)

We present the first calculation within lattice QCD of excited light meson resonances with $J^{PC} = 1^{--}$, 2^{--} and 3^{--}. Working with an exact SU(3) flavor symmetry, for the singlet representation of pseudoscalar-vector scattering, we find two 1^{--} resonances, a lighter broad state and a heavier narrow state, a broad 2^{--} resonance decaying in both P– and F–waves, and a narrow 3^{--} state. We present connections to experimental $\omega_J^\star, \phi_J^\star$ resonances decaying into $\pi\rho$, $K\bar{K}^*$, $\eta\omega$ and other final states.

based upon material appearing in
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