

Lattice Calculation of Distribution Amplitude for Mesons

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We present a lattice QCD calculation of the distribution amplitudes for pseudoscalar mesons, specifically the pion and kaon, as well as for polarized vector mesons, K^* and ϕ , using large momentum effective theory. This study employs the clover fermion action across three ensembles with 2+1+1 flavors of highly improved staggered quarks, as generated by the MILC Collaboration at physical pion mass and lattice spacings of $\{0.06, 0.09, 0.12\}$ fm. The lattice matrix elements obtained are nonperturbatively renormalized using a recently proposed hybrid scheme with self-renormalization, and they are reliably extrapolated to both the continuum and the infinite momentum limits. We also investigated the systematic uncertainties from various aspects.

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