32nd International Symposium on Lattice Field Theory (Lattice 2014)



Contribution ID: 356

Type: Talk

An investigation of meson spectroscopy on isotropic clover lattices at the SU(3) flavor-symmetric point

Wednesday, 25 June 2014 10:20 (20 minutes)

We present an investigation of the excited meson spectrum at the $N_f=3$ point obtained on isotropic clover lattices with a plaquette Wilson gauge action, and a NP-improved clover fermion action, at a lattice spacing of a \simeq 0.08 fm, and compare with corresponding calculations on an anisotropic lattice at fine temporal lattice spacing but a spatial lattice spacing of a_s \simeq 0.125 fm. The methodology adopted follows that employed in the calculation of the spectrum on anisotropic lattices, and we test the efficacy of that approach for isotropic lattices. In particular, we explore the extent to which rotational symmetry for predominantly single-hadron states is realized. By comparison of the energy levels with that obtained using the anisotropic lattice, we obtain an indication of discretization uncertainties in the single-hadron spectrum.

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Session Classification: Hadron spectroscopy and interaction

Track Classification: Hadron Spectroscopy and Interactions