Mesons on a transverse Lattice

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Abstract

The meson eigenstates of the light-cone Hamiltonian in a coarse transverse lattice gauge theory are investigated. Coupling constants are non-perturbatively renormalised by demanding restoration of space-time symmetries broken by the lattice cut-off. The light-cone wavefunctions of the resulting Hamiltonian are used to compute decay constants, form factors and quark momentum and spin distributions for the pion and rho mesons.