Probing the Chiral Limit in 2+1 Flavor Domain Wall Fermion QCD

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Lattice QCD simulations with domain wall fermions provide us with an opportunity to test the presence of chiral logs in the light quark mass limit using continuum-like chiral perturbation theory. I present results for the light pseudoscalar meson masses and decay constants from recent 2+1 flavor domain wall fermion simulations in a \((3 \text{ fm})^3\) volume, with light dynamical quark masses as light as \(m_s/5\), and partially quenched quark masses as light as \(m_s/10\), where \(m_s\) is the physical strange quark mass. Comparisons with next-to-leading order chiral perturbation theory are given.