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Pseudoscalar Mass Spectrum in a Soft-Wall Model of AdS/QCD SEAN BARTZ, THOMAS KELLEY, JOSEPH KAPUSTA, University of Minnesota — The Anti-de Sitter Space/Conformal Field Theory (AdS/CFT) correspondence may offer new and useful insights into the non-perturbative regime of strongly coupled gauge theories such as Quantum Chromodynamics (QCD). Recently a soft-wall AdS/QCD model exhibiting linear confinement was modified to incorporate independent sources for explicit and spontaneous chiral symmetry breaking. This model contains a modified dilaton and higher-order interaction terms in the Lagrangian. Within this model we explore the pseudoscalar sector using two common representations of the pion field, which are shown to be equivalent. We find the pseudoscalar mass eigenvalues in good agreement with the experimental pion masses. The Gell-Mann–Oakes–Renner relation is also naturally obtained.

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