

Abstract Submitted
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Modeling Meson and Glueball Spectra using the AdS/QCD Correspondence JOSHUA ROLLAG, SEAN BARTZ, Macalester College — AdS/QCD is a proposed duality between strongly-coupled quantum chromodynamics theories and weakly-coupled gravitational theories in an additional dimension that can offer new insight to hadronic physics. Previous work has accurately modeled confinement and chiral symmetry breaking while also including the glueball field. This project focuses on accommodating recent COMPASS results, which indicate a new light axial-vector resonance that falls between the ground state and the currently-accepted value for the first excited state. In addition, we complete the three-field AdS/QCD model by analyzing the scalar meson and glueball spectra to a first-order approximation. The meson results match experimental data well. However, we show that a model with a single mass scale cannot accommodate the current lattice results for the glueball spectrum.

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