



Contribution ID: 9

Type: Poster

AdS/QCD Modified Soft Wall Model and Light Meson Spectra

We analyze here the mass spectrum of light vector and scalar mesons applying a novel approach where a modified soft wall model that includes a UV-cutoff at a finite z -position in the AdS space is used, thus introducing an extra energy scale. For this model, we found that the masses for the scalar and vector spectra are well fitted within $\delta_{RMS} = 7.64\%$ for these states, with non-linear trajectories given by two common parameters, the UV locus z_0 and the quadratic dilaton profile slope κ . We also conclude that in this model, the $f_0(500)$ scalar resonance cannot be fitted holographically as a $q\bar{q}$ state since we cannot find a trajectory that include this pole. This result is in agreement with the most recent phenomenological and theoretical methods.

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