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The description of meson and glueball spectra within the graviton soft-wall model

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In this contribution we discuss and present the holographic graviton soft-wall model
(GSW) description of the meson and glueball spectra. This model relies on a semi-classic
approximation of non perturbative QCD. We summarize the main results of Ref. [1]
where the scalar and tensor components of the glueball spectrum have been calculated.
In particular, we proposed to consider a graviton, propagating in a speific curved space, as the dual field
corresponding to the glueball operator in QCD.
The main outcome of our analysis is that the spectra are described by linear trajectories
has expected from lattice QCD. Our prediction for the ground state mass is comparable
with that addressed same years later in Ref. [2]. Moreover, this model is capable to
reproduce quite well the spectra of scalar mesons, the ρ and a1 vectors [3, 4]. Moreover,
in Ref. [6] we propose a modification of the approach to properly describe the chiral symmetry breaking
mechanism, beyond the inner structure of the pion. In conclusion, a good description of several observables
is remarkably provided with only few not flexible parameters.

References

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