

A confining holographic QCD model for vector mesons and nucleons

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We present a minimal holographic QCD model that allows for a description of asymptotically linear Regge trajectories for vector mesons and nucleons in a way consistent with confinement. We consider a 5d background where the dilaton is quadratic in the infrared (far from the boundary). The background is a solution of 5d Einstein-dilaton gravity and satisfies the confinement criterion. The vector mesons and nucleons are described by a 5d Yang-Mills action and a generalized 5d Dirac action respectively. In our framework all hadron masses depend on a single mass scale related to the infrared parameter of the dilaton. We calculate masses and decay constants and compare our results against experimental data finding a good agreement.

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