

γ/γ photoproduction near threshold in holographic QCD

We present a holographic analysis of diffractive photoproduction of charmonium J/ψ on a proton, considered as a bulk Dirac fermion near threshold. Using the bulk wave functions of the proton and vector mesons, within holographic QCD, and employing Witten diagrams in the bulk, we compute the diffractive photoproduction amplitude of J/ψ . The holographic amplitude is dominated by the exchange of 2^{++} and 0^{++} glueball resonances near threshold. The differential cross section is controlled by the gravitational form factors $A(t)$ and $D(t)$, and compare well to the recent results reported by the GlueX and J/ Ψ -007 Collaborations at JLab.

Primary authors: ZAHED, Ismail (Stony Brook University); MAMO, Kiminad (William and Mary)

Presenter: MAMO, Kiminad (William and Mary)

Session Classification: Session 5