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Virtual Compton Scattering off a Spinless Target in the AdS/QCD correspondence

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We study the doubly virtual Compton scattering off a spinless target $\gamma P \rightarrow \gamma P'$ within the Anti-de Sitter(AdS)/QCD formalism. We find that the general structure allowed by the Lorentz invariance and gauge invariance of the Compton amplitude is not easily reproduced with the standard recipes of the AdS/QCD correspondence. In the soft-photon regime, where the semi-classical approximation is supposed to apply best, we show that the measurements of the electric and magnetic polarizabilities of a target like the charged pion in real Compton scattering, can already serve as stringent tests.

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