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Ruling out Interacting Holographic Dark Energy with Hubble scale cutoff

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Holographic dark energy with the Hubble radius as infrared cutoff is considered as a candidate to explain the late-time cosmic acceleration for 20 years and it can solve the coincidence problem. However, a nonzero equation of state is only possible if there is an interaction between dark energy and cold dark matter. In this talk I show that the resulting matter power spectrum and cosmic microwave background power spectra have a shape very far from the observed ones, thus ruling out any value for the free parameters and indicating that the assumed interacting holographic dark energy is not viable to explain the cosmic acceleration. Additionally, I will present preliminary new constraints on a general model of interacting dark energy with phenomenological interactions.

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