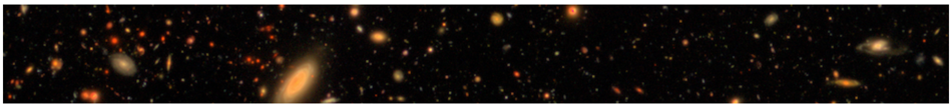

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Cosmic evolution and thermal stability of Barrow holographic dark energy in a nonflat Friedmann-Robertson-Walker Universe

We study the cosmological evolution of a nonflat Friedmann-Robertson-Walker Universe filled by pressureless dark matter and Barrow holographic dark energy (BHDE). The latter is a dark energy model based on the holographic principle with Barrow entropy instead of the standard Bekenstein-Hawking one. By assuming the apparent horizon of the Universe as IR cutoff, we explore both the cases where a mutual interaction between the dark components of the cosmos is absent/present. We analyze the behavior of various model parameters, such as the BHDE density parameter, the equation of state parameter, the deceleration parameter, the jerk parameter, and the square of sound speed. We also comment on the observational consistency of our predictions, showing that the interacting model turns out to be favored by recent experimental constraints from Planck+WP+BAO, SNIa+CMB+LSS and Union2 SNIa joint analysis over the noninteracting one. The thermal stability of our framework is finally discussed by demanding the positivity of the heat capacities and compressibilities of the cosmic fluid.

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