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Varying constant theories from thermodynamics perspective

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We formulate the basic framework of thermodynamical entropic force cosmology which allows variation of the gravitational constant G and the speed of light c . Some cosmological solutions are given and tested against combined observational data (supernovae, BAO, and CMB). We observationally test that the fit of the data is allowed for the speed of light c growing and the gravitational constant G diminishing during the evolution of the universe. We also obtain a bound on the variation of c to be $916;c / c \ 8733; 10^{-5} > 0$, which is at least one order of magnitude weaker than the quasar spectra observational bound.

Summary

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