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Phantom crossing dark energy in Horndeski's theory

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Abstract

© 2018 American Physical Society. The ΛCDM model is a remarkably successful model which is consistent with the observations of cosmic microwave background radiation (CMB), baryon acoustic oscillation (BAO), and the large scale structure of the Universe. However, the discrepancy in the value of H0 between the local observations and PLANCK observation of CMB was recently pointed out. One of the ways to ease the discrepancy is to introduce phantom dark energy instead of the cosmological constant. However, phantom dark energy often suffers from instabilities. We will investigate the general solution to overcome the difficulty of phantom dark energy and construct some particular models which have a phantom crossing and can be consistent with the observations.

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