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Holographic reconstruction of scalar field models of dark energy in the background of Brans Dicke cosmology

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Motivated by the work of Yang et al., *Mod. Phys. Lett. A*, **26**, 191 (2011), the present paper reports a study on reconstruction of scalar field dark energy models, namely, quintessence, DBI-essence and tachyon in the framework of chameleon Brans-Dicke cosmology. Firstly, we have reconstructed the Hubble parameter and consequently the density of the new holographic dark energy $\rho_D = \frac{3\phi^2}{4\omega}(\mu H^2 + \nu \dot{H})$ in chameleon Brans-Dicke cosmology. We have tested the weak and strong energy conditions for this reconstruction. Afterwards, considering a correspondence between the reconstructed new holographic dark energy and the said scalar field models we have reconstructed the corresponding potentials and scalar fields.

additional information

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