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Title:	Holographic dark energy: constraints on the interaction from diverse observational data sets
Authors:	Mukherjee, A. (/jspui/browse?type=author&value=Mukherjee%2C+A.) Jassal, H.K. (/jspui/browse?type=author&value=Jassal%2C+H.K.)
Keywords:	Holographic dark Hubble horizon Energy models
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Citation:	European Physical Journal Plus,134(4).
Abstract:	The present work deals with holographic dark energy models with Hubble horizon as the infra-red cut-off. The interaction rate between dark energy and dark matter has been reconstructed with three different choices of the interaction term. It is shown that the coupling parameter of the interaction term should evolve with redshift to allow the successful transition from the decelerated to accelerated phase of expansion. Constraints on the model parameters are obtained from Markov Chain Monte Carlo (MCMC) analysis using the supernova distance modulus data and observational measurements of the Hubble parameter. Results show that the model with the coupling parameter increasing with redshift ( $z$ ) or equivalently decreasing with the evolution are ruled out. On the other hand, coupling parameters, increasing or slowly varying with the evolution, are consistent with the observed evolution scenario. A Bayesian evidence calculation has been carried out for statistical selection of the reconstructed models. Though the kinematical parameters are well behaved for these models, the physical variables which determine the nature of the components in the matter sector are not realistic at all. We conclude that the existence of spatial curvature is essential for this particular type of dark energy models.
Description:	Only IISERM authors are available in the record.
URI:	<a href="https://link.springer.com/article/10.1140/epjp/i2019-12504-7">https://link.springer.com/article/10.1140/epjp/i2019-12504-7</a> ( <a href="https://link.springer.com/article/10.1140/epjp/i2019-12504-7">https://link.springer.com/article/10.1140/epjp/i2019-12504-7</a> ) <a href="http://hdl.handle.net/123456789/2128">http://hdl.handle.net/123456789/2128</a> ( <a href="http://hdl.handle.net/123456789/2128">http://hdl.handle.net/123456789/2128</a> )
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