Using Standard Sirens to Test Non-metric Theories of Gravity

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Abstract

We study a model of Symmetric Teleparallel gravity that is able to account for the current accelerated expansion of the universe without the need for dark energy component. We investigate this model by making use of dynamical system analysis techniques to identify the regions of the parameter space with viable cosmologies and constrain it using type Ia supernova (SnIa), cosmic microwave background (CMB) data and make forecasts using standard siren (SS) events. We conclude that this model is disfavored with respect to CDM and forthcoming standard siren events can be decisive in testing the viability of the model.

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