Contribution ID: **76** Type: **not specified**

Tensor perturbations in spatially covariant gravity

Monday 28 November 2016 14:00 (20 minutes)

We investigate the cosmological background evolution and perturbations in a general class of spatially covariant theories of gravity, which propagates two tensor modes and one scalar mode. We show that the structure of the theory is preserved under the disformal transformation. We also evaluate the primordial spectra for both the gravitational waves and the curvature perturbation, which are invariant under the disformal transformation. Due to the existence of higher spatial derivatives, the quadratic Lagrangian for the tensor modes itself cannot be transformed to the form in the Einstein frame. Nevertheless, there exists a one-parameter family of frames in which the spectrum of the gravitational waves takes the standard form in the Einstein frame.

Summary

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Session Classification: Gravity and gravitational waves