

# Generating primordial fluctuations from modified teleparallel gravity

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In the context of modified teleparallel gravity, we study the generation of primordial density fluctuations. It is well known that generic modifications of teleparallel gravity are not invariant under six-parameter local Lorentz transformations. In order to restore the local Lorentz symmetry, we have incorporated six additional degrees of freedom in the form of Goldstone modes of the symmetry breaking through a Lorentz rotation of the tetrad field. After integrating out all the auxiliary modes, we obtain a second order action for the scalar and tensor propagating modes and their power spectrum generated during inflation. It is found that an explicit mass term emerges in the second order action for curvature perturbation, describing the imprints of local Lorentz violation at first-order of slow-roll.

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