

The Strong Coupling Issue of $f(T)$ Gravity and Beyond

Thursday, 25 July 2024 11:35 (25 minutes)

Recently, there has been increasing interest in the physical degrees of freedom (DoFs) of these generalized theories in the teleparallel framework and the strong coupling issues with the vanishing coefficient of kinetic terms at a linear level in homogeneous or static backgrounds. We take $f(T)$ gravity as an example. On the one hand, such phenomena are frequently observed in backgrounds with high symmetry, which plays a vital role in reducing the number of propagating modes at lower orders. On the other hand, such strong coupling in $f(T)$ gravity may only exhibit strong nonlinear effects at extremely high energy scales for these subhorizon modes. Furthermore, we expand the scope by introducing an extra scalar field non-minimally coupled to $f(T)$ gravity, aiming to address or alleviate the aforementioned strong coupling behavior.

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Session Classification: Presentations