
Contribution ID: **12** Type: **not specified**

# Implications of Palatini gravity for inflation and beyond

*Thursday, 23 May 2024 17:15 (15 minutes)*

We present an introduction to cosmic inflation in the framework of Palatini gravity, which provides an intriguing alternative to the conventional metric formulation of gravity. In the latter, only the metric specifies the spacetime geometry, whereas in the former, the metric and the spacetime connection are independent variables-an option that can result in a gravity theory distinct from the metric one. In scenarios where the field(s) responsible for cosmic inflation are non-minimally coupled to gravity or the gravitational sector is extended, assumptions about the underlying gravitational degrees of freedom can have substantial implications for the observational effects of inflation. We examine this explicitly by discussing various compelling scenarios, such as Higgs inflation with non-minimal coupling to gravity, Higgs inflation with non-minimal derivative coupling, $R^2$ inflation, and beyond. We also comment on reheating in these models. Finally, as an application of the general results of Palatini $R^2$ inflation, we review a model of successful quintessential inflation, where a single scalar field acts initially as the inflaton and then becomes dynamical dark energy, in agreement will all experimental constraints.

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