

[online] A unified framework to study f -family of modified gravity theories

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I will introduce a neat mathematical framework that can be utilized to study, in a unified manner, different aspects of $f(R)$, $f(T)$, $f(G)$ or $f(Q)$ gravity. As an example of the application of this framework, I will show its applicability for a comparative analysis between $f(R)$ gravity and the trivial FLRW connection branch of $f(Q)$ gravity, with respect to the two following questions: (1) provide a purely cosmographic measure on the deviation from GR based on the current data and (2) the behaviour of the underlying theory (more precisely, of its deviation from GR) given a certain cosmological evolution. Time permitting, I will briefly introduce the direction of a further interesting application of this framework.

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