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Cosmography in extended theories of gravity

Thursday, October 17, 2019 3:30 PM (30 minutes)

In this talk, we provide an overview of the cosmographic technique in the context of extended and modified theories of gravity, invoked to tackle the dark energy problem.
We show how cosmography can be used to reconstruct the late-time expansion history of the universe with no a priori assumptions on its equation of state.
In particular, we present a new method involving the use of rational polynomials to approximate the luminosity distance, which allows to overcome the drawbacks of the standard Taylor approach by extending the convergence radius and by reducing the uncertainties on the cosmographic series at high-redshift regimes.
We thus apply the new technique to reconstruct f (R) and f (T) gravity actions in lieu of the latest cosmic data.

Presenter: D'AGOSTINO, Rocco