Gravitational Geometry and Dynamics Group Seminar

Wed., Sep. 20th, 2023, at 11h00.

Room: 11.2.21 and **Zoom ID:** 989 6252 0928 (*Password: contact graposo@ua.pt*)

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Cosmological tests on non-metricity based theories of gravity

In this seminar, we study and present constraints for two cosmological models based on non-metric theories of gravity, referred to as f(Q) gravity, using both current datasets and forecast Standard Siren events.

The first model is the most general f(Q) model that replicates a ΛCDM background, with deviations taking place at the perturbative level. We show that LIGO is not expected to be able to distinguish this model from ΛCDM, while both LISA and the ET will, with the ET outperforming LISA.

The second model is able to account for the current accelerated expansion of the universe without the need for dark energy component. We conclude that this model is disfavored with respect to ΛCDM and forthcoming standard siren events can be decisive in testing the viability of the model.