Testing dark energy in gravitationally bound systems: The case of Non-local Gravity

The forthcoming generation of astrophysical and cosmological surveys are expected to generate an extensive and groundbreaking collection of data. The unmatched quantity and quality of these observations should boost our knowledge of the Universe, especially in regards to the dark sector. The true nature of the dark energy, either gravitational or related to fundamental fields, may therefore be unveiled in the next decades.

A complementary approach for delving into the zoo of dark energy models relies on the analysis of the impact within the non-linear regime resulting from the introduction of extra degrees of freedom in the theory. Therefore, the investigation of the dynamics of gravitationally bound systems emerges as the ideal framework to explore the feasibility of any modification of the standard ΛCDM paradigm.

In this poster, we investigate a dark energy model based upon a non-local extension of General Relativity and its main astrophysical features.

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Track Classification :   Cosmology