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The influence of dark energy on the expansion rate of the universe and its effects on dark matter relic abundance

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The expansion rate of the universe had a strong influence on the origin of the dark matter abundance during the early stages of the universe's evolution, mainly prior to big-bang nucleosynthesis. Any departure of the expansion rate of the universe from the standard cosmological model during that time can modify the dark matter abundance. In this talk, I will explore the role played by a scalar field on the modification of the expansion rate of the universe arising from scalar-tensor theories of gravity coupled both conformally and disformally to matter, and also, I will show how these variations to the expansion rate would modify the dark matter content of the Universe.

Summary

Author: JIMENEZ, Esteban (Texas A&M University)

Presenter: JIMENEZ, Esteban (Texas A&M University)

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