

Resolving tensions in cosmology via the modified measures approach to control vacuum energies

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Introducing modified measures re defines the scalar field potentials while providing spontaneous breaking of scale invariance. In this way one can obtain potentials with two flat regions , one suitable for inflation and the other suitable for the late universe. With two scalar fields the scalar potential can have three flat regions after spontaneous symmetry breaking, one for inflation and the other two for the late universe, showing the possibility of early dark energy, which has been invoked for the resolution of the H_0 tension. Other phenomena present in the modified measures theory, like dark energy from fermions the avoidance of the 5th force problem and the justification in terms of modified measure theory of the the phenomenological model of Afshordi et. al. for the resolution the H_0 tension will be discussed.

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