

Quintessence arising from Modified Gravity

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In physical cosmology, dark energy is a hypothetical form of energy which permeates all of space and has strong negative pressure. According to the theory of relativity, the effect of such a negative pressure is qualitatively similar to a force acting in opposition to gravity at large scales. Dark energy might arise from the particle-like excitations in some type of dynamical field, referred to as quintessence. In cosmology, quintessence is a real form of energy distinct from any normal matter or radiation, or even "dark matter". In this poster we used two types of frames: Jordan frame and Einstein frame and we want to see how ω (the cosmological constant) varies in those two frames for three species: radiation, cold dark matter, with their densities and the rotational scalar field (quintessence). For this we use the conformal transformation and two equations: Friedmann equation and equation of motion.