

Coupled quintessence with a possible transient accelerating phase

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Resumo

We discuss cosmological consequences of a general model of coupled quintessence in which the phenomenological coupling between the cold dark matter and dark energy is a function of the cosmic scale factor (a). This class of models presents cosmological solutions in which the constitution of the Universe is dominated currently by an exotic component $[X]$, but late future it come back to be dominated by cold dark matter. This dynamical behavior is completely different from the standard Λ CDM evolution, and may alleviate some conflicts in reconciling the idea of the dark energy-dominated universe with observables in String/M-theory. Finally, we investigate some observational features of this model and discuss some constraints on its parameters from current SNe Ia, BAO, CMB and H_0 data.