

# From dynamical models to cosmological observables

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Dynamical systems methods are used to investigate global behavior of the FRW cosmological models with non-minimally coupled scalar field and constant potential function. We show that the system can be reduced to an autonomous three-dimensional dynamical system and additionally is equipped with an invariant manifold corresponding to an accelerated expansion of the universe. Using this invariant manifold we find an exact solution of the reduced dynamics. Cosmological observational data are used to find constraints on the model parameters. Following the Peixoto theorem some conclusions about structural stability are drawn.

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