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# Integrable Modified Gravity Cosmological Models with Two Scalar Fields

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**Abstract:** $F(R)$ gravity cosmological models with an additional scalar field as well as two-field cosmological models with nonminimal coupling are actively studied. These models can be transformed into the General Relativity models with two scalar fields by a conformal transformation of the metric. The key property of the obtained chiral cosmological models is a nonstandard kinetic part of the scalar fields Lagrangian. Exact analytical solutions of the evolution equations play an important role in the investigation of some important qualitative features of cosmological models. Most of the results of the exact integration of cosmological models with scalar fields are connected with one-field cosmological models and $F(R)$ gravity models without scalar fields. Usually, numerical methods, different approximation schemes and the search for particular solutions in the analytic form are applied for studying evolution equations of two-field cosmological models. We consider chiral cosmological models with two scalar fields (including the case of phantom scalar fields) and the cosmological constant. We analyze the obtained cosmological solutions both in the Einstein frame and in the initial Jordan frame.

**Keywords:** cosmology; modified gravity; exact solution

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