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First integrals of Darboux type for a family of 3-dimensional Lotka–Volterra systems



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ABSTRACT

We provide all the first integrals of Darboux type for the system studied by Leach and Miritzis (2006) [7] on the classical model of competition between three species considered by May and Leonard (1975) [12].

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1. Introduction and statement of the main results

In this paper we use the Darboux theory of integrability [5] to study the existence of first integrals of Darboux type for the model used by May and Leonard [12] for studying the competition among three species. This model is

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