Nonlinear Sciences > Exactly Solvable and Integrable Systems

Exact solutions for a class of integrable Henon-Heiles-type systems

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We study the exact solutions of a class of integrable Henon-Heiles-type systems (according to the analysis of Bountis et al. (1982)). These solutions are expressed in terms of two-dimensional Kleinian functions. Special periodic solutions are expressed in terms of the well-known Weierstrass function. We extend some of our results to a generalized Henon-Heiles-type system with n+1 degrees of freedom.

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