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The multistage homotopy perturbation method for solving chaotic and hyperchaotic Lü system (Article)

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Abstract

Themultistage homotopy-perturbationmethod (MHPM) is applied to the nonlinear chaotic and hyperchaotic Luü systems. MHPM is a technique adapted from the standard homotopy-perturbation method (HPM) where the HPM is treated as an algorithm in a sequence of time intervals. To ensure the precision of the technique applied in this work, the results are compared with a fourthorder Runge-Kutta method and the standard HPM. The results show that the MHPM is an efficient and powerful technique in solving both chaotic and hyperchaotic systems. Copyright © 2015 M. S. H. Chowdhury et al.

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