Analysis of Fractional Nonlinear Differential Equations Using the Homotopy Perturbation Method

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In this study, we used the homotopy perturbation method (HPM) for solving fractional nonlinear differential equations. Three models with fractional-time derivative of order α , $0 < \alpha < 1$, are considered and solved. The numerical results demonstrate that this method is relatively accurate and easily implemented.

Key words: Homotopy Perturbation Method; Time Fractional Nonlinear Fractional Differential Equations.