The Homotopy Perturbation Method for Solving the Modified Korteweg-de Vries Equation

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The homotopy perturbation method (HPM) is employed successfully for solving the modified Korteweg-de Vries equation. In this method, the solution is calculated in the form of a convergent series with an easily computable component. This approach does not need linearization, weak nonlinearity assumptions or perturbation theory. The results show applicability, accuracy and efficiency of the HPM in solving nonlinear differential equations. It is predicted that the HPM can be widely applied in science and engineering problems.

Key words: Homotopy Perturbation Method; Nonlinear Phenomena; Modified KdV Equation.