Application of Homotopy Perturbation Method with Chebyshev Polynomials to Nonlinear Problems

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In this paper, we present an efficient modification of the homotopy perturbation method by using Chebyshev’s polynomials and He’s polynomials to solve some nonlinear differential equations. Some illustrative examples are given to demonstrate the efficiency and reliability of the modified homotopy perturbation method.

Key words: Homotopy Perturbation Method; Chebyshev Polynomials; He’s Polynomials; Nonlinear Differential Equations.

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