A COMPARISON OF ADOMIAN DECOMPOSITION METHOD (ADM) AND HOMOTOPY PERTURBATION METHOD (HPM) FOR NONLINEAR PROBLEMS

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ABSTRACT

In this paper, approximated solutions for some non linear problems are calculated by the *Adomian Decomposition Method* (ADM) and *Homotopy Perturbation Method* (HPM) and then the results are compared. The fact that the *Homotopy Perturbation Method* (HPM) solves nonlinear problems without using *Adomian's polynomials* is a clear advantage of this technique over the *Adomian Decomposition Method* (ADM).

KEYWORDS: Adomian Decomposition Method, Homotopy Perturbation Method, System of Nonlinear Differential Equations