Abstract

Homotopy perturbation method (HPM) is an effective method for solving nonlinear differential equations. In this paper, some modifications of this method have been proposed to initial value problem of Bratu - Type model. The combination of Laplace transform and homotopy perturbation (LHPM), the new homotopy perturbation method (NHPM) and Laplace new homotopy perturbation method (LNHPM) are applied, and the solutions are considered as an infinite series that converge rapidly to the exact solutions.

References


**Index Terms**

Computer Science  
Applied Mathematics

**Keywords**

Bratu – Type equation, Homotopy perturbation method, Laplace homotopy perturbation method, new homotopy perturbation method, Laplace new homotopy perturbation method