Abstract

Homotopy perturbation method (HPM) is an effective method for solving nonlinear differential equations. In this paper, some modifications of this method has 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