Numerical Solution of Fourth Order Integro-differential Boundary Value Problems by Optimal Homotopy Asymptotic Method

Abstract

In the course of this paper, the Optimal Homotopy Asymptotic Method (OHAM) introduced by Marica is applied to solve linear and nonlinear boundary value problems both for fourth-order integro-differential equations. The following analysis is accompanied by numerical examples whose results show that the Optimal Homotopy Asymptotic Method is highly accurate, convenient and relatively efficient for solving fourth order integro-differential equations.
solving the nonlinear Fredholm integral equations of the second kind, Applied Mathematics and Computation, 724–735.

- Khader, M. M. 2012. Introducing an efficient modification of the homotopy perturbation method by using Chebyshev polynomials, Arab Journal of Mathematical Sciences, 61–71


**Index Terms**

Computer Science  
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