

Solving Eighth-order Boundary Value Problems Using Differential Transformation Method

ABSTRACT

In this study, we solved linear and nonlinear eighth-order boundary value problems using Differential Transformation Method. Then we calculate the error of DTM and compare the results with other methods such as modified application of the variational iteration method (MVAM), homotopy perturbation method (HPM) and modified Adomian decomposition method (MADM). We compared the errors of each method with exact solutions. We provided several numerical examples in order to show the accuracy and efficiency of present method. The results showed that the DTM is more accurate in comparison with those obtained by other methods.