

A COMBINATION OF VIM AND ASYMPTOTIC EXPANSION FOR
SINGULARLY PERTURBED CONVECTION-DIFFUSION PROBLEM

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Abstract

In this study, the alternative approach of variational iteration method (VIM) with an auxiliary parameter is introduced for solving singularly perturbed convection-diffusion problems. Asymptotic expansion performed on boundary layer region. The regular region is solved by the alternative approach of variational iteration method with an auxiliary parameter. Linear and nonlinear problems are solved by using the presented method. The numerical results show that the presented method is very effective for this type problems.

Keywords: Singularly perturbed, Convection-Diffusion, Variational iteration method, Asymptotic expansion

References

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