Turkish Journal of Mathematics

Keywords
Authors

A Decomposition Method for Solving Unsteady Convection-Diffusion Problems

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Abstract: In this study, a decomposition method for approximating the solutions of unsteady convection-diffusion problems is implemented. The approximate solution is calculated in the form of a convergent series with easily computable components. The calculations are accelerated by using the noise terms phenomenon for nonhomogeneous problems. Numerical examples are investigated to illustrate the pertinent features of the proposed algorithm.

Key Words: Convection-diffusion equation; Decomposition method; Noise terms