 Proceedings of ICCES'08, pp.1531-1531

The Method of Fundamental Solutions for Solving Time-Dependent Problems

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Summary

After the success of extending the method of fundamental solutions to general elliptic partial differential equations with variable coefficients, which will also be presented in this conference, we apply the same technique to solving time-dependent problems. To avoid the complication of finding the shape parameter for MQ radial basis function, we adopt the polynomial radial basis functions $r^(2n+1)$. We will present results for parabolic equations with variable coefficients. Numerical results show the new approach is stable and accurate using truncated singular value decomposition.