Abstract

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Stochastic thermal shock problem in generalized thermoelasticity

In this work, we consider the problem of a half space in the context of the theory of generalized thermoelasticity with one relaxation time. Realistically, the boundary conditions of the problem are considered to be stochastic. Laplace transform technique is used to solve the problem. The boundary conditions are considered to be of a type white noise. The inverse transforms are obtained in an approximate manner using asymptotic expansions valid for small values of time. Numerical results are given and represented graphically. Finally, a comparison with the ideal case when the boundary conditions are deterministic is carried out.