

Abstract

Nasser M. El-Maghraby Hassan

A Generalized Thermoelasticity Problem for a Half-Space with Heat Sources and Body Forces,

In this work, we consider a two-dimensional problem of distribution of thermal stresses and temperature in the theory of generalized thermoelastic half- space under the action of a body force and subjected to a thermal shock on the bounding plane. Heat sources permeate the medium. The problem is in the context of the theory of generalized thermoelasticity with one relaxation time. Laplace and exponential Fourier transform techniques are used. The solution in the transformed domain is obtained by a direct approach. The inverse double transform is evaluated numerically. Numerical results are obtained and represented graphically