Abstract

This study focuses on the finite element analysis of thermoelastic field in a thin circular disk subjected to a thermal load and an inertia force due to rotation of the disk. Based on the two
dimensional thermoelastic theories the axisymmetric problem is formulated in terms of second order ordinary differential equation which is solved by FEM. Further the temperature profiles have been modeled with the help of heat conduction equation. Some numerical results of thermoelastic field are presented and discussed for Aluminum (Al) circular disk.

References

Analysis of Stresses and Strains in a Rotating Homogeneous Thermoelastic Circular Disk by using Finite Element Method


Index Terms

Computer Science  Applied Mathematics

Keywords

FEM  Circular disk  Axisymmetric
Heat

Conduction