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THERMAL STRESSES IN AN ISOTROPIC INHOMOGENEOUS ROTATING ANNULAR DISK UNDER SPECIFIED TEMPERATURE DISTRIBUTION

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Abstract

The aim of the present paper is to find out the thermal stresses in an annular disk of which the Poisson's ratio and the coefficient of linear thermal expansion vary as the n-th power of the radial distance from the centre of the disk under specified temperature distribution. Numerical results for radial stress and hoop stress for n = 3 are obtained for different radial distances and shown graphically.

Key Words : Thermal stresses, Poisson's ratio, Coefficient of linear thermal expansion, Radial stress, Hoop stress.

²⁰⁰⁰ Mathematics Subject Classification : 73C Elasticity.