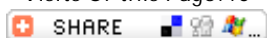- MainPage
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Research Details :

Research Title	:	*Thermoelastic solutions for annular disks with arbitrary variable thickness*
		Thermoelastic solutions for annular disks with arbitrary variable thickness
Descriptipn	:	This article presents a unified analytical solution for the analysis of thermal deformations and stresses in elastic annular disks with arbitrary cross-sections of continuously variable thickness. The annular disk is assumed to be under steady heat flow conditions, in which the inner surface of the annular disk is at an initial temperature and the outer surface at zero temperature. The governing second-order differential equation is derived from the basic equations of the thermal annular disks and solved with the aid of some hypergeometric functions. Numerical results for thermal stresses and displacement are given for various annular disks. These disks include annular disks of thickness profiles in the form of general parabolic and exponential functions. Additional annular disks with nonlinearly variable thickness and uniform thickness are also included.
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