

ABSTRACT

Plates with circular hole are extensively used in mechanical components. In other terms, plate with circular hole is called as thick and thin cylinders. These are widely used in missiles, Aircrafts etc. The existence of plate with circular hole results in a significant change in a natural frequencies and mode shapes of structure. Especially if a hole is located eccentrically, the vibration behaviour of these structures is expected to deviate significantly from that of plate with concentric hole. These holes usually cause change of natural frequency as well as decrease of load carrying capacity. It is important to comprehend the associated effects in work of mechanical design or flight control of the structure. Therefore, in these numerical methods to determine the modal characteristics of a plate with holes are used to simulate by using ANSYS .We are performing both thick and thin cylinders. The inputs required for modal analysis are young's modulus (E), poisson's ratio, density. We will be finding mode shapes and frequencies of both cylinders.

Keywords-Thin cylinders, Thick cylinders, Material properties.