

# Vibrational Frequencies of Orthotropic and Nonhomogeneous Square Plate with 1-D Circular Thickness Variations

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**Abstract.** This paper is concerned with vibrational frequency of orthotropic and non homogeneous square plate having 1-D (one dimensional) circular variation in thickness along with linear density at various combination of clamped and simply supported edge conditions is carried out. The temperature variation on the plate is assumed to be bilinear in both the directions. Rayleigh Ritz technique is used to solve the resultant equation and evaluate the vibrational frequency modes for different values of plate parameters. The convergence study of modes of frequency of orthotropic square plate is also conducted at various edge conditions. The purpose of this study is to present some numerical data in the form of modes of frequency and to demonstrate how modes of frequency can be controlled by taking appropriate variation in plate parameters.