

A Superposition Method in Analyses of Clamped Thick Plates

Authors : Alexander Matrosov, Guriy Shirunov

Abstract : A superposition method based on Lamé's idea is used to get a general analytical solution to analyze a stress and strain state of a rectangular isotropic elastic thick plate. The solution is built by using three solutions of the method of initial functions in the form of double trigonometric series. The results of bending of a thick plate under normal stress on its top face with two opposite sides clamped while others free of load are presented and compared with FEM modelling.

Keywords : general solution, method of initial functions, superposition method, thick isotropic plates

Conference Title : ICCM 2015 : International Conference on Computational Mechanics

Conference Location : Prague, Czechia

Conference Dates : July 09-10, 2015