

CONSTRUCTION OF HOMOGENEOUS SOLUTIONS FOR A
TRANSVERSALLY-ISOTROPIC HOLLOW CYLINDER

Abstract

A general theory of transversally isotropic cylindrical shell is developed in the paper. The theory contains the methods for construction of non-homogeneous and homogeneous solutions, that admits to show characteristically peculiarities of stress-strain state of transversally-isotropic cylindrical shell. Behavior of solutions for three-dimensional boundary-value problems both in interior of the shell, and near the shell borders is studied on the premises of one of asymptotically method variants. The comparison of asymptotic solution with the solutions obtained by applied theories is carried out.