MECHANICS
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NONLINEAR PARAMETRIC VIBRATIONS OF A RIDGE CYLINDRICAL SHELL DYNAMICALLY CONTACTING WITH MEDIUM

Abstract

In the paper, a problem on parametric vibration of a laterally stiffened cylindrical shell dynamically contacting with external viscoelastic medium and situated under the action of internal pressure is solved in a geometric nonlinear statement by means of the variation principle. Lateral shift of the shell is taken into account. Influences of environment have been taken into account by means of the Pasternak model. Dependencies of dynamical stability area on the construction parameters are given on the plane "load-frequency".