NATIONAL
ACADEMY
OF SCIENCES
OF UKRAINE

PIDSTRYHACH
INSTITUTE OF
APPLIED PROBLEMS
OF MECHANICS AND
MATHEMATICS

MATHEMATICAL METHODS and PHYSICOMECHANICAL FIELDS

SCIENTIFIC JOURNAL FOUNDED IN 1975

Vol. 56, No. 1 L'viv **2013**

C O N T E N T S

Oliyar Yu. I., Storozh O. G. Spaces of boundary values and dissipative extensions of symmetric relations 7

Bokalo M. M., Domanska O. V. Dirichlet problem for stationary anisotropic higher order partial integro-differential equations with variable exponents of nonlinearity 19

Shakhno S. M., Melnyk I. V., Yarmola H. P. Convergence analysis of combined method for solving nonlinear equations 31

Kutniv M. V., Pazdriy O. I. Three-point difference schemes of high-order accuracy for systems of nonlinear ordinary differential equations of the second order on semiaxis 40

Chumak K. A., Martynyak R. M. Thermoelastic interaction of solids with regular surface texture in the presence of heat-permeable medium in intercontact gaps 52

Skorodyńskyi I. S., Maksymuk O. V. Generalized model of viscoelastic interphase layer or coating taking into account the transverse shear deformation 62

Dudyk M. V., Dikhtiarenko Yu. V. Investigation of influence of plasticity materials on tensile strength of the composite joint 71

Kuzmenko V. I., Mikhalchuk A. I. Contact problems on elastic bodies motion along hard surfaces 84

Wang Kai-xing, Pan Yi-shan, Dergachova N. Steady-state response and resonance condition of block rock mass on external periodic excitation 94

Babaev A. A., Yanchevskiy I. V. Influence of an oscillating circuit on the radiation of non-stationary acoustic waves by an electroelastic sphere ... 102

Piddubniak O. P., Piddubniak N. G. Sound radiation from aircraft during take-off run on runway ... 115

Grigorenko Ya. M., Avramenko Iu. A. Analysis of displacement and stress fields of orthotropic toroidal shells depending on change in thickness and curvature of shell axis ... 127

Bogdanova O. S. Mode I crack initiation in orthotropic viscoelastic plate under biaxial loading ... 135

Chekurin V. F., Postolaki L. I. Variational method of homogeneous solutions in axisymmetric elasticity problems for semi-infinite cylinder ... 145

Dovbnya K. M., Krupko N. A. Interaction of collinear surface cracks and circular hole in isotropic plate ... 156

Maksymovych O. V., Bortnyk K. Ya., Solyar T. Ya. Determination of stresses in plates with cracks at discrete contact of their faces ... 163

Shvaiko A. Yu., Shvaiko M. Yu. Investigation of the diving phenomenon on the stresses – strains intensity diagram for elastoplastic materials under the complex loading ... 174

Vaysfel'd N. D., Popov G. Ya., Reut A. V. Axisymmetric problem on the stress state of twice truncated cone ... 185

Chernukha O. Yu., Dmytruk V. A. Mathematical modeling the steady-state processes of convective diffusion in regular structures under mixed boundary conditions ... 197