

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. 2

L'viv 2013

CONTENTS

Gutik O. V., Pavlyk K. P. Pseudocompact primitive topological inverse semi-groups	7
Protsakh N. P. Inverse problem for ultraparabolic equation with unknown function of a spatial variable in the right-hand side of equation	20
Snitko H. A. Inverse problem of finding the time-dependent functions in the minor coefficient in a parabolic equation in free boundary domain	37
Hart E. L., Hudramovich V. S. Projective-iterative schemes for the finite element method realization in the problems of deformation for plates with holes and inclusions	48
Vovk O. V., Shynkarenko H. A. Implementation of Newton linearization in time discretization of initial-boundary value problems	60
Paimushin V. N. On problems of sound waves radiation at dynamic deformation process of plates taking into account external and internal damping	72
Igumnov L. A., Lokteva N. A., Paimushin V. N., Tarlakovskiy D. V. Sound insulation properties of one-dimensional three-layered plate	86
Mykhas'kiv V. V., Zhdadynskyi I. Ya., Zhang Ch. Dynamic stresses due to time-harmonic elastic wave incidence on doubly periodic array of penny-shaped cracks	94
Selezov I. T. On developing refined equations of vibrations of elastic plates	102
Vaysfel'd N. D., Popov G. Ya. Torsion of a truncated conical-layered elastic cone	112

<i>Popov V. G.</i> Harmonic oscillations under antiplane deformation of half-space with thin rigid strip inclusion which crosses the surface	124
<i>Kurpa L. V., Mazur O. S., Tkachenko V. V.</i> Parametric vibrations of laminated plates of complex form	136
<i>Marchuk M. V., Pakosh V. S., Kharchenko V. M.</i> Natural frequencies of layered composite plates-strips with components compliant to transversal shear and compression	151
<i>Igumnov L. A., Okonechnikov A. S., Tarlakovskiy D. V., Fedotenkov G. V.</i> Plane nonsteady-state problem of motion of the surface load on an elastic half-space	157
<i>Vestyak V. A., Hachkevych O. R., Tarlakovskiy D. V., Terletskii R. F.</i> Elastic half-plane under non-stationary surface kinematic perturbations	164
<i>Antufiev B. A.</i> Stability of a discretely reinforced plate in gas flow	173
<i>Zemskov A. V., Tarlakovskiy D. V.</i> Approximate solution of three-dimensional problem for elastic diffusion in orthotropic layer	178
<i>Kuryliak D. B.</i> Electric wave diffraction on the cone formed by perfect magnetically and electrically conducting surfaces	191
<i>Kravchyshyn O. Z., Chekulin V. F.</i> Interaction of ultrasonic SH -polarization wave with 2d strain field in a plane layer	203
<i>Terletskii R. F., Brukhal M. B., Nemirovskii Yu. V.</i> Modeling and investigation of thermomechanical behavior of thermosensitive solids taking into account the effect of thermal radiation	212