

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. 48, No. 3

L'viv 2005

CONTENTS

Bilusiak N. I., Ptashnyk B. Yo.	Boundary-value problem for weakly non-linear equations with linear part, unsolvable with respect to the highest derivative	7
Bocenjuk A. M.	On time decay estimates of solutions to mixed problem for one quasi-linear parabolic second-order equation	16
Pukalsky I. D.	Problem with directional derivative and problem of optimum control for linear parabolic equation with degeneration	24
Podlevs'kyi B. M.	One bilateral analog of inverse iteration method for solution of nonlinear eigenvalue problems	36
Gavryliv O. S.	Representation of solutions to nonlinear operator equations and systems in the form of abstract Wiener integral	46
Leonchik E. Yu., Malaksiano N. A.	Exact inequalities for rearrangements of functions from A_∞ class	49
Bomba A. Ya., Prysjazhnjuk I. M.	Asymptotic approximation of solutions to singularly perturbed boundary-value problems of convective heterodiffusion	53
Polishchuk O. D.	Choice of optimal regimes for functioning of complex dynamic systems	62
Burak Ya. Yo., Sukhorolsky M. A.	Sequential approach to constructing generalized solutions to boundary-value problems of elasticity theory for orthotropic body	68
Popov G. Ya.	Specifications and additions to the paper «On one method for obtaining integral transforms using in construction precise solutions to mathematical physics boundary-value problems»	75
Horechko N. O., Kushnir R. M.	Estimate of quasi-static thermostressed state for semi-infinite contacting bodies	82
Ostrik V. I.	Contact of elastic and rigid wedges with regard for friction and adhesion	88
Martynyak R. M., Malanchuk N. I., Monastyrskyy B. Ye.	Elastic interaction between two half-planes under local shear of boundaries in the region of interface gap	101
Kryvyy O. F., Arkhipenko K. M.	Crack, which leads to the joining line of two different anisotropic half-planes	110
Prokopyshyn I. A., Khlebnikov D. H.	Plane deformationn of elastic transversally-isotropic layer by periodic array of rigid smooth punches	117
Maksymuk O. V., Chernega A. O.	Influence of roughness of contacting bodies on character of their stress state	124
Shvajko M. Yu.	On sliding theory with smooth and singular load surfaces	129
Havrys' O. P., Shevchuk P. R.	Influence of surface curvature and mode of base fastening on character of forming residual strain by high-temperature spraying	138
Kundrat M. M.	Fracture analysis of orthotropic reinforced half-plane	147
Dyak I. I., Kukharska N. P.	Numerical analysis of heat conduction problems by direct boundary-element method	157
Demydruk M. V., Lytvyn B. A., Holub B. M.	Parametric optimization of bipedal robot gait	162