

VOLUME CONTENTS

VOLUME 65

2001

NUMBER 1

L. D. AKULENKO: Parametric control of the motions of non-linear oscillatory systems	1
F. L. CHERNOUS'KO: The motion of a three-link system along a plane	13
G. A. LEONOV: Bounds for attractors and the existence of homoclinic orbits in the Lorenz system.....	19
V. Yu OL'SHANSKII: Quadratic integrals and the reducibility of the equations of motion of a complex mechanical system in a central field	33
A. P. MARKEYEV: The stability of the plane motions of a rigid body in the Kovalevskaya case	47
I. B. BAKHOLDIN: Jumps with radiation in models described by the generalized Korteweg–De Vries equation	55
V. I. ZHUK: A version of the asymptotic theory of the unsteady free interaction of a boundary layer with a transonic flow	65
M. M. ALIMOV: Asymptotic solution of the problem of heat transfer between a plate and an unbounded uniform fluid flow	81
V. V. OSTAPENKO: Stable shock waves in two-layer “shallow water”.....	89
I. V. STUROVA: The diffraction of surface waves by an elastic platform floating on shallow water	109
I. V. ANDRIANOV, M. A. ZARUBINSKAYA and A. N. PASECHNIK: An asymptotic analysis of the stress–strain state of a strip reinforced with ribs	119
V. M. ALEKSANDROV and Ye. S. ZAITSEVA: The antiplane problem of the motion of a point shear load over a two-layer elastic base at a constant velocity	125
A. P. MALYSHEV: Dynamics of a two-layer beam with layer slip	133
A. A. ZOLOTAREV: Asymptotic analysis of wave fields when there is partial impulse delamination of the media	139
I. A. SOLDATENKOV: Contact deformation of an elastic composition of a half-plane and a strip of variable width	145
K. I. ROMANOV: The Drucker stability of a material	155
L. Z. FISHMAN: The determination of the periodic motions of systems with delay	163
A. P. BLINOV: The motion of a point mass along a string.....	167
A. S. KULESHOV: The steady rolling of a disc on a rough plane	171
Contents of next issue	174

VOLUME 65

2001

NUMBER 2

Nikolai Yevgrafovich Kochin (on the 100th anniversary of his birthday).....	175
A. Yu. KOLESOV and N. Kh. ROZOV: The bufferness phenomenon in distributed mechanical system ..	179
P. S. KRASIL'NIKOV: A generalized scheme for constructing Lyapunov functions from first integrals ..	195
Yu. F. GOLUBEV: Mechanical systems with servoconstraints.....	205
E. K. LAVROVSKII and A. M. FORMAL'SKII: The optimal control synthesis of the swinging and damping of a double pendulum	219
K. V. BRUSHLINSKII: Two approaches to the stability problem for plasma equilibrium in a cylinder....	229
Yu. V. KISTOVICH and Yu. D. CHASHECHKIN: Mass transport and the force of a beam of two-dimensional periodic internal waves	237
V. M. KOROVIN: The capillary instability of a thin cylinder of viscous ferrofluid in a longitudinal magnetic field.....	243
K. G. GARAYEV: Optimal injection of coolant into the laminar boundary layer of a compressible gas ..	253
L. I. FRIDMAN: General solutions of problems of the theory of elasticity and boundary-value problems	261
I. G. GORYACHEVA and Yu. Yu. MAKHOVSKAYA: Adhesive interaction of elastic bodies	273

I. Sh. AKHATOV and A. M. AKHTYAMOV: Determination of the form of attachment of a rod using the natural frequencies of its flexural oscillations	283
S. V. KUZNETSOV: Subsonic Lamb waves in anisotropic layers	291
I. V. AVDOSHKHA and G. I. MIKHASEV: Wave packets in a thin cylindrical shell under a non-uniform axial load	301
A. G. SOKOLOV and V. V. STRUZHANOV: A problem of optimizing the stressed state in an elastic solid	311
N. N. ROGACHEVA: The dependence of the electromechanical coupling coefficient of piezoelectric elements on the position and size of the electrodes.....	317
L. A. ALEKSEYEVA and B. N. KUPESOVA: The method of generalized functions in boundary-value problems of coupled thermoelastodynamics	327
I. V. SIMONOV: The steady subsonic motion of cracks and narrow notches along the interface in a combined anisotropic plane	339
V. A. GORODTSOV: Finite speed of diffusion propagation in a two-component continuous medium.....	353
Contents of next issue	I

VOLUME 65

2001

NUMBER 3

I. I. VOROVICH and O. D. PRYAKHINA: Vladimir Andreyevich Babeshko (60th birthday tribute)	357
N. Yu. LUKOYANOV: The properties of the value functional of a differential game with hereditary information	361
V. I. MAKSIMOV and L. PANDOLFI: The reconstruction of unbounded controls in non-linear dynamical systems	371
A. N. KVITKO: A method of constructing programmed motions	377
Yu. V. ALDAKIMOV, A. A. MELIKYAN and G. V. NAUMOV: Mode reconstruction in a one-parameter family of optimal control problems	387
C. WATANABE, S. A. RESHMIN and A. M. TARAS'YEV: A dynamical model of R and D investment	395
G. V. GORR and E. M. MIRONOVA: The properties of a class of invariant relations of the generalized equations of dynamics	411
P. S. CHUDINOV: The motion of a point mass in a medium with a square law of drag.....	421
Yu. N. SANKIN and N. A. YUGANOVA: Longitudinal vibrations of elastic rods of stepwise-variable cross-section colliding with a rigid obstacle	427
A. N. KUSYUMOV: Holonomic constraints and some exact solutions of the equations of steady one-dimensional gas flow	435
V. R. KUDASHEV* and B. I. SULEIMANOV: The effect of small dissipation on the onset of one-dimensional shock waves	441
V. S. GALKIN and V. A. ZHAROV: The solution of problems of sound propagation and the structure of a weak shock wave in a polyatomic gas using Burnett's equations	453
I. A. LUKOVSKII and A. N. TIMOKHA: Asymptotic and variational methods in non-linear problems of the interaction of surface waves with acoustic fields.....	463
O. Yu. DINARIYEV: The description of a multicomponent mixture by the density functional method when there are surface phases present	471
A. V. WILCHINSKY and V. A. CHUGUNOV: Modelling ice flow in various glacier zones	479
I. I. ARGATOV: The pressure of a punch in the form of an elliptic paraboloid on an elastic layer of finite thickness	495
N. D. VAISFEL'D and G. Ya. POPOV: The stress concentration around a semi-infinite cylindrical crack during the shock loading of an elastic medium by a centre of rotation	509
D. R. MERKIN: Metelitsyn's method and theorems.....	519
Yu. K. ZHBANOV and V. F. ZHURAVLEV: Metelitsyn's theorems	525
Contents of next issue	I

Announcement	529
Valentin Vital'yevich Rumyantsev (80th birthday tribute)	531
V. V. RUMYANTSEV: Routh's equations and variational principles.....	543
L. V. OVSYANNIKOV: The periodic motions of a gas	553
F. L. CHERNOUS'KO: Controllable motions of a two-link mechanism along a horizontal plane	565
V. V. KOZLOV and S. M. RAMODANOV: The motion of a variable body in an ideal fluid	579
A. A. BUROV and D. P. CHEVALLIER: The motion of a rigid body in a fluid under the action of central Newtonian attractive forces	589
P. CAPODANNO: The stability of a configuration of a liquid layer in an axially symmetric container uniformly rotating under conditions of weightlessness	605
A. P. IVANOV: The stability of mechanical systems subjected to impulsive actions.....	617
A. V. KARAPETYAN: The steady motions of a fluid-filled spheroid on a plane with friction.....	631
A. P. MARKEYEV: The problem of the stability of the equilibrium position of a Hamiltonian system at 3:1 resonance	639
V. N. TKHAI: Periodic motions of a system close to an autonomous reversible system.....	647
F. PFEIFFER: Multibody systems with unilateral constraints	665
W. SCHIEHLEN: An energy analysis of the prescribed motion of an oscillator	671
V. N. KOSHYAKOV and V. L. MAKAROV: The theory of gyroscopic systems with non-conservative forces	681
M. PASCAL, A. DJEBLI and L. EL. BAKKALI: A new deployment/retrieval scheme for a tethered satellite system, intermediate between the conventional scheme and the crawler scheme	689
A. A. BUROV and S. Ya. STEPANOV: The oscillations of a pendulum in a circular orbit.....	697
A. L. KUNITSYN: The stability of collinear libration points in the photogravitational three-body problem	703
L. HATVANI: The effect of damping on the stability properties of equilibria of non-autonomous systems	707
Contents of next issue	I

V. V. KOZLOV: Gyroscopic stabilization and parametric resonance	715
S. A. ZEGZHDA and M. P. YUSHKOV: A geometrical interpretation of the Poincaré–Chetayev–Rumyantsev equations.....	723
C. VALLÉE and D. DUMITRIU: The Lagrange multipliers associated with the rotation matrix characterizing the motion of a rigid body about its centre of mass	731
T. V. RUDENKO: The stability of the steady motions of a symmetrical gyrostat on an absolutely rough horizontal plane	741
A. A. MAILYBAYEV and A. P. SEYRANIAN: Parametric resonance in systems with small dissipation	755
P. C. MÜLLER: Some aspects of the optimal control of non-linear descriptor systems	769
G. A. LEONOV: Linear non-stationary stabilization algorithms and Brockett's problem	777
I. M. ANAN'YEVSKII: Limited control of a rheonomous mechanical system under uncertainty	785
I. A. MUKHAMETZAYANOV: The construction of systems with asymptotically stable programmed constraints.....	797
A. B. ZAVARIN and V. N. USHAKOV: The selection of the viability kernel for a differential inclusion	805
L. D. AKULENKO: Higher-order averaging schemes in the theory of non-linear oscillations	817
A. F. MUSTAYEV and S. V. KHABIROV: The helical motions of a gas, invariant under uniform motion of the frame of reference	827
S. P. BAUTIN: Characteristic surfaces in gas flows	835
S. M. KAPUSTYANSKII and V. N. NIKOLAYEVSKII: The self-similar problem of the transfer of sand from a bed into a well	845

N. A. KUDRYASHOV and M. B. SUKHAREV: Exact solutions of a non-linear fifth-order equation for describing waves on water	855
I. V. ANDRONOV: Diffraction of a flexural wave by a short joint of semi-infinite elastic plates	867
A. P. BLINOV: Estimating the time of motion of certain dynamical systems	879
Contents of next issue	I

VOLUME 65

2001

NUMBER 6

V. I. KALENOVA, V. M. MOROZOV and Ye. N. SHEVELEVA: Controllability and observability in the problem of stabilizing steady motions of non-holonomic mechanical systems with cyclic coordinates..	885
A. S. KOVALEVA: Stabilization of a quasi-conservative system subjected to high frequency excitation..	895
S. A. MIRER and V. A. SARYCHEV: The limiting steady rotations of a body on a string with a suspension point on the axis of symmetry	907
V. G. VIL'KE and I. F. KOZHEVNIKOV: The rolling of a wheel with a reinforced tyre along a plane without slip	915
N. N. KOROTKOVA and V. M. SHAPOVALOV: Rising seepage of a heavy liquid in a vertical cylinder..	929
N. M. DMITRIYEV and V. M. MAKSIMOV: Non-linear laws of fluid flow through anisotropic porous media	935
A. G. KULIKOVSKII and E. I. SVESHNIKOVA: A criterion for the non-existence or non-uniqueness of solutions of self-similar problems in the mechanics of a continuous medium	941
I. Yu. TSVELODUB: Some inverse problems for a viscoelastic medium with a physically non-linear inclusion	951
Ye. Z. KOROL': The solution of boundary-value problems of the longitudinal-transverse bending of orthotropic circular plates on a linearly elastic base	963
I. B. BAKHOLDIN and A. T. IL'ICHEV: Instability of solitary waves in non-linear composite media	977
K. I. ROMANOV: A method of determining the extraneous unknowns in problems of the stability and vibrations of rods	985
Ye. L. GUSEV: The property of inner symmetry in optimum multilayer structures under the action of elastic waves	993
V. V. BOLOTIN and A. A. SHIPKOV: Prediction of the growth of fatigue cracks taking environmental factors into account	1001
E. I. SHIFRIN: The asymptotic expansion of elastic fields in the vicinity of the contour of a plane crack at the interface of two materials	1011
N. M. BORODACHEV: The equations of compatibility of deformations	1021
I. V. PANFEROV: The asymmetrical mixed temperature problem for a transversely isotropic elastic layer..	1025
Iosif Izrailevich Vorovich (21.6.1920–6.9.2001)	1031
Contents of next issue	I