

VOLUME CONTENTS

VOLUME 64

2000

NUMBER 1

Sof'ya Vasil'yevna Kovalevskaya (on the 150th anniversary of her birth)	1
F. L. CHERNOUS'KO: The motion of a multilink system along a horizontal plane	5
L. A. MANITA: Optimal operating modes with chattering switchings in manipulator control problems	17
V. A. VUJIČIĆ and A. M. KOVALEV: Controllability and decomposition in mechanical systems	25
M. V. DERYABIN: The Dirac Hamiltonian formalism and the realization of constraints by small masses..	35
V. N. TKHAI: Lyapunov families of periodic motions in a reversible system	41
S. P. SOSNITSKII: The stabilization of the equilibrium of conservative systems using gyroscopic forces	53
V. Yu. OL'SHANSKII: Linear and quadratic integrals in the problem of gyrostat motion in a magnetic field	65
L. I. KONKINA: The motion of a body with elastic elements around a fixed point in action-angle variables	75
A. V. KARAPETYAN and O. V. PROKOMINA: The stability of permanent rotations of a top with a cavity filled with liquid on a plane with friction	81
D. M. AZIMOV: Intermediate-thrust arcs in Mayer's variational problem.....	87
L. M. ZIGANGAREYEVA and O. M. KISELEV: The emission of a gas jet from a conical nozzle	97
V. F. SANNIKOV: Simple expression for the Green's function of the problem of ship waves in a deep homogeneous liquid	111
V. V. RYNDINA: Some problems of the uniqueness of the re-establishment of the Brunt-Väisälä frequency using dispersion curves	117
A. G. PETROV: The development of the flow of viscous and viscoplastic media between two parallel plates	123
V. M. ALEKSANDROV and V. B. ZELENTSOV: Asymptotic methods in the axisymmetric dynamic non-stationary contact problem for an elastic half-space	133
D. A. POZHARSKII: The three-dimensional contact problem for an elastic wedge taking friction forces into account	147
S. Ye. ALEKSANDROV and R. V. GOL'DSHTEIN: Pull-out of a rigid fibre from an elastoplastic matrix	155
I. V. PANFEROV: The mixed symmetrical temperature problem for a transversely isotropic elastic layer	163
M. A. GREKOV and N. F. MOROZOV: Disk-shaped equilibrium cracks	169
Contents of next issue	1

VOLUME 64

2000

NUMBER 2

Samvel Samvelovich Grigoryan (on the occasion of his 70th birthday).....	173
K. P. ANDREICHENKO, D. K. ANDREICHENKO and A. B. SMARUN': Dynamical modelling of linear discrete-continuous systems.....	177
A. A. ZEVIN: Non-local analysis of families of periodic solutions in autonomous systems.....	189
L. D. AKULENKO: Control of the relative motions of a pendulum on a rotating base	197
Yu. F. GOLUBEV and R. Z. KHAIRULLIN: The construction of optimal modes for exciting oscillations of a two-link physical pendulum	209
V. S. SERGEEV: The stability of the equilibrium of a wing in an unsteady flow	219
S. T. SADETOV: The fourth algebraic integral of Kirchhoff's equations.....	229
N. Yu. LUKOYANOV: A Hamilton-Jacobi type equation in control problems with hereditary information	243
A. I. SHAFAREVICH: Asymptotic description of vortex filaments in an incompressible fluid	255
S. P. NIKITENKOVA, Yu. A. STEPANYANTS and L. M. CHIKHLADZE: Solutions of the modified Ostrovskii equation with cubic non-linearity	267
V. A. KALINICHENKO, A. V. KRAVTSOV, R. RODRIGUEZ-MIJANGOS, S. Ya. SEKERZH-ZEN'KOVICH and R. FLORES-ESPINOZA: Harmonic instability of the free surface of a low-viscosity liquid in a vertically oscillating vessel	275
G. T. BULGAKOVA, A. N. KALYAKIN and M. M. KHASANOV: Unsteady states in non-equilibrium two-phase seepage	283
G. Ye. YAKUNINA: The construction of optimum three-dimensional shapes within the framework of a model of local interaction.....	289

I. V. SIMONOV: The stability of motion of an elongated rigid body of revolution in an elastoplastic medium with flow separation	299
V. K. LASHCHENOV and B. M. NULLER: A method for piecewise-homogeneous solutions in stationary problems of the theory of elasticity	309
R. V. GOL'DSHTEIN, V. M. KOZINTSEV, A. L. POPOV and G. N. CHERNYSHEV: A theoretical and experimental method for detection of the delaminations of thin coatings	319
G. Ya. POPOV: The problem of the stressed state of an elastic cone weakened by cracks	325
Kh. V. OGANESYAN and A. M. TER-KRIKOROV: Non-linear instability of steady flows generated by a vortex filament in stratified gas	337
Contents of next issue	I

VOLUME 64

2000

NUMBER 3

Iosif Izrailevich Vorovich (on the occasion of his 80th birthday).....	341
A. O. VATUL'YAN, I. I. VOROVICH and A. N. SOLOV'YEV: A class of boundary-value problems in the dynamic theory of elasticity	359
A. V. BELOKON', V. A. EREMEYEV, A. V. NASEDKIN and A. N. SOLOV'YEV: Partitioned schemes of the finite-element method for dynamic problems of acoustoelectroelasticity	367
V. I. GULYAYEV, P. Z. LUGOVOI, G. M. IVANCHENKO and Ye. V. YAKOVENKO: The diffraction of a shock wave at the curvilinear interface of transversely isotropic elastic media	379
V. B. ZELENTOV: An asymptotic method for solving non-stationary dynamic contact problems for an acoustical layer	387
A. A. ZELENINA and L. M. ZUBOV: The non-linear theory of the pure bending of prismatic elastic solids	399
I. Yu. TSVELODUB: An inverse problem for an elastic medium containing a physically non-linear inclusion.....	407
G. Ya. POPOV: The axisymmetric mixed problem in the theory of elasticity for a hollow truncated circular cone	413
M. A. ZADOYAN: The condition for low stresses in a piecewise homogeneous wedge of non-linearly elastic materials	425
A. A. GUSENKOVA and N. B. PLESHCHINSKII: Integral equations with logarithmic singularities in the kernels of boundary-value problems of plane elasticity theory for regions with a defect	435
I. I. ARGATOV: The asymptotic solution of a contact problem with a half-unknown boundary of the contact region	443
J. SOKOLOWSKI and A. M. KHLUDNEV: The derivative of the energy functional along the crack length in problems of the theory of elasticity	449
V. M. ALEKSANDROV and D. A. POZHARSKII: The problem of an annular crack at the interface between an elastic layer and an elastic half-space	457
S. A. NAZAROV: The interaction of cracks in brittle fracture. Force and energy approaches	465
N. M. BORODACHEV: An elliptical crack under point forces applied to its surfaces	477
A. G. KOLPAKOV and I. G. SHEREMET: The problem of designing laminated plates with specified stiffnesses.....	485
Nikita Nikolayevich Moiseyev (23.8.1917–29.2.2000)	489
Contents of next issue	I

VOLUME 64

2000

NUMBER 4

Announcement	491
A. A. GUBAIDULLIN: Robert Iskanderovich Nigmatullin (on the occasion of his 60th birthday)	493
F. L. CHERNOUS'KO: The wavelike motion of a multilink system on a horizontal plane	497
L. D. AKULENKO and G. V. KOSTIN: Analytical synthesis of time-optimal control in a third-order system	509

A. Yu. ALEKSANDROV: The stability of a class of non-linear systems.....	521
N. V. KHLYSTUNOVA: Grioli-type precession of a heavy rigid body in a liquid	527
A. M. TER-KRIKOROV: The equation of axisymmetric buoyancy oscillations in an ideal fluid	531
V. A. BATISHCHEV and Ye. V. KHOROSHUNOVA: The formation of rotational regimes in the thermo- capillary flow of a non-uniform fluid in a layer	537
S. V. GOLOVIN: The two-dimensional motions of a gas with a special adiabatic exponent	547
V. A. KUKUSHKIN: Estimates of the optimal thickness for some processes of unlimited compression of a gas	559
V. S. GALKIN: Burnett's equations for multicomponent mixtures of polyatomic gases	569
G. Ye. YAKUNINA: The optimum non-conical and asymmetrical three-dimensional configurations	583
V. A. GORODTSOV: The effect of local increase in impurity concentration in one-dimensional hydrodynamics	593
I. S. ZHUKOVA and A. I. SAICHEV: The localization of clusters of floating particles on the surface of turbulent flow	601
A. D. KHON'KIN: The Taylor and hyperbolic models of unsteady longitudinal dispersion of a passive impurity in convection-diffusion processes.....	607
Yu. G. GUBAREV and M.-B. A. NEGMATOV: The instability of the states of rest of a viscous ideally conducting compressible medium containing a magnetic field	619
A. B. KISELEV, V. F. NIKITIN, N. N. SMIRNOV and M. V. YUMASHEV: Irregular traffic flow on a ring road.....	627
G. Z. SHARAFUTDINOV: Application of functions of a complex variable to certain three-dimensional problems of elasticity theory	635
V. Ya. TERESHCHENKO: Energy approximations of the solution of the first problem of the linear theory of elasticity	647
E. L. AERO: Non-linear theory of elastic microshear in periodic structures. Instability of homogeneous deformation	651
I. I. ARGATOV: Asymptotic solution of the problem of the pressure of a rigid body on a membrane	659
V. M. ALEKSANDROV and A. A. SHMATKOVA: A modified Multhopp-Kalandiya method in the contact problem for a slider bearing	667
Eighth All-Russian Congress on Theoretical and Applied Mechanics	675
Contents of next issue	I

VOLUME 64

2000

NUMBER 5

Vladimir Vasil'yevich Beletskii (on the occasion of his 70th birthday)	677
V. V. BELETSKII and M. L. PIVOVAROV: The effect of the atmosphere on the attitude motion of a dumb-bell-shaped artificial satellite.....	691
M. Yu. OVCHINNIKOV: Two modes of the angular motion of artificial earth satellites	701
A. I. NEISHTADT and M. L. PIVOVAROV: Separatrix crossing in the dynamics of a dual-spin satellite	709
F. DIGNATH and W. SCHIEHLEN: Control of the vibrations of a tethered satellite system	715
A. A. BUROV and H. TROGER: The relative equilibria of an orbital pendulum suspended on a tether ..	723
A. A. BUROV, M. PASCAL and S. Ya. STEPANOV: The gyroscopic stability of the triangular stationary solutions of the generalized planar three-body problem	729
V. G. VIL'KE and A. V. SHATINA: The evolution of the motion of a viscoelastic sphere in the restricted circular three-body problem.....	739
A. P. IVANOV and V. V. SAMSONOVA: The construction of periodic orbits close to triangular libration points for the three-body problem in a resistive medium	751
A. L. KUNITSYN: The stability of triangular libration points in the photogravitational three-body problem	757
K. POPP: Non-smooth mechanical systems	765
F. PFEIFFER and Ch. GLOCKER: Contacts in multibody systems.....	773
L. D. AKULENKO: High-frequency natural oscillations of mechanical systems	783
A. P. MARKEYEV: Investigation of the stability of periodic motions of an autonomous Hamiltonian system in a critical case	797
V. N. TKHAI: The stability of regular Grioli precessions.....	811
O. V. KHOLOSTOVA: The stability of a "sleeping" Lagrange top with a vibrating suspension point	821
I. A. MUKHAMETZ'YANOV: Applications of a family of Lyapunov functions.....	833
A. S. KOVALEVA: The control of large deviations in oscillatory systems with small random perturbations	845
G. A. LEONOV: The global stability of two-dimensional systems for controlling angular orientation	855
Contents of next issue	I

Dyuis Danilovich Ivlev (on the occasion of his 70th birthday)	861
I. M. ANAN'YEVSKII: Control of a fourth-order linear system with mixed constraints	863
Yu. K. ZOTOV: Controllability and stabilization of the programmed motions of a transport robot	871
N. V. SMIRNOV and T. Ye. SMIRNOVA: The synthesis of multi-programme controls in bilinear systems	891
V. N. KOSHLYAKOV: Structural transformations of non-conservative systems.....	895
V. V. KOZLOV: Two-link billiard trajectories: extremal properties and stability	903
A. A. MAILYBAEV and A. A. SEYRANIAN: On the boundaries of the parametric resonance domain	909
N. B. GRIGOR'YEVA: The stability of the equilibrium ellipsoids of a rotating liquid	925
V. Yu. LYAPIDEVSKII: The structure of roll waves in two-layer flows.....	937
A. B. ZIMIN, V. A. KALINICHENKO, S. Ya. SEKERZH-ZEN'KOVICH and I. K. SHINGAREVA: The excitation of tsunami by low-frequency non-stationary point and distributed centres of expansion	945
E. V. TEODOROVICH: The effective conductivity of a randomly inhomogeneous medium	951
P. A. MAZUROV: The construction of dual variational principles of the theory of the seepage of an incompressible fluid in some deformable complex media	959
I. O. OSIPOV: Generalization of the method of functionally invariant solutions for dynamic problems of the plane theory of elasticity of anisotropic media	967
A. G. KULIKOVSKII and A. P. CHUGAINOVA: The stability of quasi-transverse shock waves in anisotropic elastic media.....	981
V. A. ROMASHCHENKO: Anomalous reflection of non-classical waves from ultrathin obstacles	987
A. S. BRATUS' and V. P. POSVYANSKII: The optimum shape of a bending beam	993
I. N. DASHEVSKII and V. E. SHKLOVER: Problems of maximizing the compliance of curvilinear rods	1005
L. A. MAKSIMOVA: The limit state of a layer compressed by rough plates	1015
Contents of next issue	I
Volume Contents/Author Index for Volume 64	III