PHASE I BOOK EXPLOITATION SOV/4630

Leningrad. Universitet

Mekhanika (Mechanics) [Leningrad] 1960. 254 p. (Series: Its: Uchenyye zapiski, no. 280. Seriya matematicheskikh nauk, vyp. 35) Errata slip inserted. 1,725 copies printed.

Sponsoring Agency: Leningradskiy ordena Lenina gosudarstvennyy universitet imeni A. A. Zhdanova.

Resp. Ed.: N. N. Polyakhov, Professor; Ed.: T. I. Kulagina; Tech. Ed.: Ye. G. Zhukova.

PURPOSE: This collection of articles is intended for scientists, engineers at NII's (scientific research institutes) and design offices and also for students of advanced courses in related fields.

COVERAGE: The collection consists of original investigations in the field of modern mechanics including general mechanics, theory of elasticity, and hydroaerodynamics. No personalities are mentioned. References accompany all articles except one.

Novoselov, V.S.

L 25749-65 EWT(d)/EWP(1) Po-4/Pq-4/Pg-4/Pk-4/Pl-4

ACCESSION NR: AP5002093 S/0146/64/007/006/0098/0104

28
25
B

AUTHOR: Novoselov, V. S.

TITLE: Engineering calculation of optimal shock absorption for measuring mechanisms of shockproof instruments

SOURCE: IVUZ. Priborostroyeniye, v. 7, no. 6, 1964, 98-104

TOPIC TAGS: shock absorption, shockproof instrument

ABSTRACT: This is a continuation of a number of earlier author's works on the subject. The calculation of optimal shock absorption is based on the possibility of coincidence of natural frequencies of the instrument and its elastic absorber; the range involved is 0—1,000 cps. This formula is regarded as basic [illegible] calculations: [illegible] the absolute acceleration of the instrument being protected, [illegible] dynamic characteristic at a point whose abscissa is equal to the natural frequency of the instrument.

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ACCESSION NR: AP5002093

h is the thickness of the shock absorber; ε is a coefficient close to 1. Thus, an absorber that has minimum stiffness and thickness is optimal. The application of this method to two typical engineering problems is set forth. Orig. art. has: 2 figures and 12 formulas.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet (Leningrad State University)

SUBMITTED: 16Oct63 ENCL: 00 SUB CODE: IE

NO REF SOV: 004 OTHER: 000

L 2[illegible]-65 FSF(h)/FSS-2/EWT(l)/EEC(a)/EWP(m)/FS(v)-3/EEC(j)/EEC(r)/EWG(v)/
EWP(c)/EWA(d)/T-2 Pe-4/Pe-4/Pd-1/Pe-5/Pq-4/PE-4 GW

ACCESSION NR: AT5001342 S/2703/64/000/323/0169/0182

AUTHOR: Novoselov, V. S.

TITLE: Optimal spatial maneuver for entry of a jet-propelled spacecraft into a circular orbit

SOURCE: Leningrad. Universitet. Uchenyye zapiski, no. 323, 1964. Seriya matematicheskikh nauk, no. 37. Trudy astronomicheskoy observatorii, v. 20, 169-182

TOPIC TAGS: spaceship, spacecraft orbit, celestial mechanics, spacecraft propulsion

ABSTRACT: In Section 1 of this theoretical paper the author formulates the problem of determining the optimal spatial maneuver for placement of a jet-propelled spacecraft into a particular circular orbit around a spherically symmetrical central body in space, expending a minimal quantity of mass. The position of the craft is determined by spherical coordinates ($r + y$, φ, θ), assuming a particular circular orbit with radius R as the principal reading plane (see Fig. 1 of the Enclosure). The distance from the craft to the center of the body at the beginning of the maneuver is denoted by [illegible]. For simplicity, the direction of the jet thrust N is assumed to coincide with the longitudinal axis of the craft.

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Turning of the craft can be accomplished with an auxiliary jet engine of low thrust or by other methods. Direction of the jet thrust is given by two angles: ψ is the angle between N and the radius vector and γ is the angle measured around the axis (r) from the parallel to the tangent in the direction N to the great circle B whose plane passes through N. It is assumed that the internal motion of particles in the combustion chamber of the rocket engine is a steady state process. In Section 2, after having formulated the problem and deriving the corresponding formulas, the author defines a program for the change of the inclinations $\psi(t)$ and $\gamma(t)$ of the thrust at which a rapid transfer of the rocket from the initial state to a circular orbit with radius R occurs with the minimum expenditure of fuel. In Section 3, it is assumed that the rocket engine does not develop accelerations greater than g'. The author presents a solution for finding the optimum slow transfer of the craft from the same state as in Section 2 to a particular circular orbit with radius R. In Section 4, it is assumed that the transfer of the craft to a circular orbit is quite rapid, so that terms of the order of ε during the maneuvering time do not attain relatively large values. It is shown that a rapid regime of control in which thrust considerably exceeds the force of attraction and in which the Coriolis force of the internal motion in the combustion chamber can attain a considerable value will be optimal for constant angles of inclination of thrust to the local vertical and parallel. If the

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L [illegible]-65
ACCESSION NR: AT5001342

acceleration developed by the rocket engine is limited to a particular value, there are approximate optimal regimes of programmed thrust, including sectors with maximum jet acceleration. Analytical expressions and examples are presented for the cases considered. Orig. art. has: 55 formulas and 1 figure.

ASSOCIATION: Astronomicheskaya observatoriya Leningradskogo gosudarstvennogo universiteta (Astronomical observatory, Leningrad state university)

SUBMITTED: 00 ENCL 01 SUB CODE: SV

NO REF SOV: 002 OTHER: 001

Card 3/4

L 29123-65 EWT(1)/EWP(m)/FS(v)-3/EWG(v)/T Po-4/Pe-5/Pq-4/Pg-4 IJP(c) GW

ACCESSION NR: AP5005783 S/0043/65/000/001/0110/0120

37
B

AUTHOR: Novoselov, V. S.

TITLE: Theory of approximate solution of variational problems and its application to the study of motion of a point of variable mass

SOURCE: Leningrad. Universitet. Vestnik. Seriya matematiki, mekhaniki i astronomii, no. 1, 1965, 110-120

TOPIC TAGS: calculus of variations, optimal control

ABSTRACT: Theorem 1. Suppose a control u_k is expressed in terms of auxiliary controls γ_k. In the Euler equations, the conditions of transversality and the equations obtained in minimizing the Pontryagin function, terms of order ε^{m-1} are dropped, and in the constraint equations and the boundary conditions, terms of order ε^m are dropped. Then the error of the optimal value of the functional in the controls γ_k has order ε^m for $m \geq 2$. Theorem 2. Suppose the controls u_k, for which finite bounds

$$u_{k1} < u_k < u_{k2},\ u_{k1} = \text{const},\ u_{k2} = \text{const}, \qquad (1)$$

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ACCESSION NR: AP5005783

are given, can be involved only linearly in the functional being minimized and in the related differential equations of motion. In the Euler equations, the conditions of transversality, and in the corresponding equations obtained in maximizing H, terms of order ε^{m-1} are dropped, and in the constraint equations and the boundary conditions, terms of order ε^{m} are dropped. Then the error of the optimal value of the functional has order ε^{m} for $m \geq 2$. On the basis of these theorems the author treats coplanar motion of a point of variable mass in the field of central force. These two theorems simplify the construction of approximate solutions of variational problems. The author determines approximate optimal trajectories of the motion of a point of variable mass. Orig. art. has: 2 figures and 45 formulas.

ASSOCIATION: none

SUBMITTED: 10May63 ENCL: 00 SUB CODE: MA

NO REF SOV: 002 OTHER: 002

Card 2/2

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S/043/60/000/001/012/014
C 111/ C 333

AUTHOR: Novoselov, V. S.

TITLE: Motions of mechanic systems with bindings depending on the variation of the masses

PERIODICAL: Leningrad. Universitet. Vestnik. Seriya matematiki, mekhaniki i astronomii, no. 1, 1960, 132-141

TEXT: The author considers the set up of equations of motion of holonomous or nonholonomous systems with variable masses, where he assumes that the bindings depend on the mass variation.

Assume that a system has holonomous ideal bindings which depend on the Cartesian coordinates, time and masses. The general equation of the mechanics of variable masses

$$\sum_j (m_j \bar{w}_j - \bar{F}_j - \bar{R}_j)\ \delta \bar{r}_j = 0 ,$$

where the reaction forces consist of impulse forces, Coriolis forces and forces depending on the relative accelerations, attains the form:

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Motions of mechanic systems . . .

$$\sum_{i=1}^{s}\left[\sum_{j}\frac{m_j}{2}\left(\frac{d}{dt}\frac{\partial v_j^2}{\partial \dot{q}_i}-\frac{\partial v_j^2}{\partial q_i}\right)-Q'_i-\Psi'_i\right]\delta q_i=0\,,$$

where $\Psi'_i \sum_j \bar{R}_j \frac{\partial \bar{r}_j}{\partial q_i}$ are the generalized reaction forces.

The prime means, that, for calculating the generalized forces, the virtual work must be considered which is caused by the dependence of the bindings on the mass variations. From this one obtains the Lagrange equations

$$\frac{d}{dt}\frac{\partial T}{\partial \dot{q}_i}-\frac{\partial T}{\partial q_i}=Q'_i+G'_i$$

where the additional generalized forces are

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Motions of mechanic systems . . .

$$G'_i = \sum_j \left[\left(\bar{R}_j + \frac{dm_j}{dt} \bar{v}_j \right) \frac{\partial \bar{r}_j}{\partial q_i} - \frac{v_j^2}{2} \frac{\partial m_j}{\partial q_i} \right].$$

As an example the author considers a three-wheeled car which rolls on a coarse horizontal plane, and the wheels of which consist of unwinding absolutely flexible strips.

Then the author considers systems with holonomeous and nonholonomous bindings.

An example with variable mass and nonlinear nonholonomous bindings depending on it is given.

The author mentions: N. G. Chetayev, S. A. Chaplygin and P. V. Voronets.

There are 5 Soviet-bloc references.

SUBMITTED: October 27, 1958

Card 3/3

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AUTHOR: Novoselov, V.S.

TITLE: The Fall of a Ball Drop During Evaporation or Condensation of Vapour on its Surface

PERIODICAL: Vestnik Leningradskogo universiteta, Seriya matematiki, mekhaniki i astronomii, 1960, No.2, pp 116-119

TEXT: The author considers the slow and the quick fall of a spherical drop in a resting atmosphere with consideration of the condensation or evaporation on the surface of the drop. For the slow fall the velocity of condensation is described by the Maxwell law (Ref.2):

(1) $\frac{dm}{dt} = ekr,$

where m is the mass of the drop, r the radius of the drop, k=const. and $e = +1$ for condensation, $e = -1$ for evaporation. For the quick fall the result of Frössling (Ref.3)

(2) $\frac{dm}{dt} = epr\sqrt{rv}$

is used, where p=const 0 and v is the velocity of the drop. For a small v the air resistance is put $-\alpha\pi r^2 v$ and for a large v it is put $-\beta\pi r^2 v^2$. For both cases the author gives motion equations and integrates them approximately.

There are 4 references: 2 Soviet and 2 German.

SUBMITTED: April 10, 1959

Card 1/1

NOVOSELOV, V.S.

Falling of a spherical drop with evaporation from and condensation on its surface. Vest.LGU 15 no.7:116-119 '60.
(MIRA 13:4)

(Drops)

S/103/60/021/06/02/016
B012/B054

AUTHOR: Novoselov, V. S. (Leningrad)

TITLE: Investigation of the Probable Stability by the Example of Automatic Control of Airplane Course

PERIODICAL: Avtomatika i telemekhanika, 1960, Vol. 21, No. 6, pp. 666 - 673

TEXT: It is assumed that the motion of an automatic control or regulating system is determined by differential equations with random parameters and random disturbing forces which, as a whole, are designated as random factors. If these random factors are missing, the motion of the system is called undisturbed. Definitions are suggested for the probable stability, i.e., for the little and for the very probable stability of undisturbed motion. The term of little probable stability is a variant and a certain generalization of stability determination with respect to the upper dispersion limits (Ref. 1). The definition of very probable stability is connected with the terms given in the papers (Refs. 2, 3, 4, 5). Three theorems are set up and confirmed. The explanations given are illustrated

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Investigation of the Probable Stability by the Example of Automatic Control of Airplane Course

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by an example of automatic control of airplane course with the aid of an autopilot at a constant speed of the servomotor. The inequality of Chebyshev and functions of A. M. Lyapunov (Ref. 9) are mentioned. There are 14 references: 13 Soviet and 1 German.

V/B

Card 2/2

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C 111/ C 333

AUTHOR: Novoselov, V. S. (Leningrad)

TITLE: Motion of Nonlinear Gyroscopic Systems

PERIODICAL: Prikladnaya matematika i mekhanika, 1960, Vol. 24, No. 6, pp. 1030-1036

TEXT: In his former paper (Ref.1) the author has shown how to obtain in the general case the rigorous equations of motion of a mechanic system with gyroscopes with the aid of the Routh-function

$$(1.2)\quad R = \sum_{k=1}^{r} C_k(H + h_k)\left(\sum_{j=1}^{s} a_j^k q_j + a_o^k\right) + T^* \quad (H \gg h_k) \ .$$

C_k was the axial moment of inertia of the k-th gyroscope, r the number of gyroscopes, H a sufficiently large constant $h_k = h_k(t)$, a_j^k the cosine of the angle between the vector of the angular velocity $\dot{q}_j$ and the axis of the k-th gyroscope, a_o^k the projection of the angular velocity of the base on the axis of the k-th gyroscope, T^* the kinetic energy of the absolute motion of the elements of the suspensions, of the casings, of the motors etc. Under application of the precession approximation it is put $T^* = 0$.

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Motion of Nonlinear Gyroscopic Systems

In the present paper the author gives asymptotic estimations which allow for finite variations of the position coordinates and velocities to state how far the precession approximation is satisfactory. The author particularly states:

If the base of the gyroscopic system is fixed, and if the generalized forces of the absolute motion only contain terms of order zero with respect to H, then it holds

(2.6) $\left\{q_i - g_i\right\} = O(H^{-1})$,

where q_i and g_i correspond to the rigorous and to the approximative solution with $T^* = 0$. If the rigorous solution is sought in the form

(2.1) $q_i = q_{i1}(H^{-1}t) + x_i(Ht)$

then estimations of the kind $\left\{x_i - z_i\right\} = O(H^{-2})$, $\left\{\dot{x}_i - \dot{z}_i\right\} = O(H^{-1})$, $\left\{\dot{q}_i - \dot{z}_i\right\} = O(H^{-1})$ can be given, where the z_i satisfy the same initial conditions as x_i and certain simpler equations. In particular:

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Motion of Nonlinear Gyroscopic Systems

If a quickly rotating gyroscope of variable mass (Ref.3) is deflected from the vertical position by the angle Θ_0, then in the variables Θ and Ψ it carries out oscillations around the approximative solution defined by the precession theory, the amplitude of these oscillations has the order H^{-1} and the frequency has the order H.

If the base is movable and if the generalized forces can have the order of H, then the approximative solution ($T^* = 0$) reproduces correctly the gyroscopic motion in the coordinates Θ and Ψ up to terms of order O', where

$$O' = \max\left\{H^{-1},\ O\left(\frac{v_N}{R}\right)^2,\ O(\omega^2),\ O\left(\frac{v_N\omega}{R}\right),\ O\left[\frac{v_N mgl}{CR(H+h)}\right],\ O\left[\frac{\omega mgl}{C(H+h)}\right]\right\}.$$

v_N is the north component of the velocity of the base, R the radius of the earth, ω angular velocity of the earth, Θ and Ψ Eulerian angles (measured from the local vertical and the parallel to the east).

The author thanks A. Yu. Ishlinskiy and Ya. N. Roytenberg for advices.

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C 111/ C 333

Motion of Nonlinear Gyroscopic Systems

There are 3 Soviet references.

[Abstracter's note: (Ref.1) is a paper of the author in Prikladnaya matematika i mekhanika, 1959, Vol. 23, No. 5; (Ref.3) is a paper of the author in Izv. AN SSSR OTN, 1958, No. 11].

SUBMITTED: March 5, 1960

Card 4/4

29029
S/043/61/000/004/007/008
D274/D302

24.4100 1103 1327 1344

AUTHOR: Novoselov, V.S.

TITLE: Extremum property of Euler-Lagrange principle in nonholonomic mechanics

PERIODICAL: Leningrad. Universitet. Vestnik. Seriya matematiki, mekhaniki i astronomii, no. 4, 1961, 138 - 144

TEXT: It is shown that for a mechanical system with nonholonomic constraints of Chetayev type,

$$F_k(q_i, \dot{q}_i, t) = 0, \quad \sum_{i=1}^{s} \frac{\partial F_k}{\partial \dot{q}_i} \delta q_i = 0, \tag{1.1}$$

and variation defined by Voronets,

$$\delta \dot{q}_i = \frac{d}{dt} \delta q_i, \quad \delta \dot{q} = \frac{d}{dt} \delta \dot{q}_i (i = 1, 2, \ldots, s) \quad \delta F_k \neq 0, \tag{1.2}$$

the functional of the Euler-Lagrange principle has a minimum on

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Extremum property of ...

the actual trajectory. In such a formulation, the Euler-Lagrange principle is expressed by

$$\Delta \int_{t_1}^{t} 2T\,dt = 0, \quad \Delta q_i\big|_{t_2} = \Delta q_i\big|_{t_1} = \Delta t\big|_{t_1} = 0. \tag{1.3}$$

If the system motion is considered as the motion of a point in s-dimensional space, then (1.3) is written as the Jacobi integral:

$$W = \int_A^B \sqrt{2(h-\Pi)} \sqrt{\sum_{i,j=1}^{s} \frac{\partial^2 T}{\partial \dot{q}_i \partial \dot{q}_j} dq_i dq_j}, \tag{1.5}$$

where h is the energy integral and II the potential energy. After a change of variables one obtains:

$$W = \int_{q_1^0}^{q_1} \sqrt{2(h-\Pi)} \sqrt{\sum_{i,j=1}^{s} \frac{\partial^2 T}{\partial \dot{q}_i \partial \dot{q}_j} q_i' q_j' dq_1}, \tag{1.6}$$

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Extremum property of ...

Isochronous variation with fixed q_1 is denoted by δ_1; such a variation is called Jacobi's variational method. The constraints are assumed explicitly time-independent:

$$F_k(q_i, q_i') = 0. \qquad (1.7)$$

The extremum problem for the functional (1.6) reduces to that of the Hamilton-Ostrogradskiy principle with a more complex Lagrangian L_1. For the second variation of the functional (1.6) one obtains:

$$\delta_1^2 W = \int_{q_1^0}^{q_1} \sum_{\nu,\tau=2}^{i} B_{\nu\tau} \delta_1 q_\nu' \delta_1 q_\tau' dq_1 + O(q_1 - q_1^0)^2.$$

where the quadratic form $\sum B$ is positive definite. Hence the theorem is proved that for mechanical systems with homogeneous stationary constraints (1.1) and variation (1.2), the functional W has a minimum on the actual trajectory, for small domains of integration. In the case of large domains of integration, another formula applies. As an example, the motion, by inertia, of a disc along a rough

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29029 S/043/61/000/004/007/008
D274/D302

Extremum property of ...

horizontal surface is considered. There are 5 references: 3 Soviet-bloc and 2 non-Soviet-bloc. (both in translation).

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NOVOSELOV, V.S.

Extremum of the Hamilton-Ostrogradskii principle in the nonholonomic mechanics [with summary in English]. Vest. LGU no. 13:121-130 '61. (MIRA 14:7)
(Mechanics, Analytic)

NOVOSELOV, V.S.

Extremum properties of the Euler-Lagrange principle in non-holonomic mechanics. Vest.LGU 16 no.19:138-144 '61. (MIRA 14:10)
(Mechanics, Analytic)

33536

S/043/62/000/001/006/009
D299/D303

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AUTHOR: Novoselov, V.S.

TITLE: Extremum property of integral principles of nonholonomic mechanics in nonholonomiv coordinates

PERIODICAL: Leningrad. Universitet. Vestnik. Seriya matematiki, mekhaniki i astronomii, no. 1, 1, 1962, 124 - 133

TEXT: Variational apparatus (up to the second order) in nonlinear, nonholonomic coordinates is developed; formulas are derived for the second variations of the integrals of the Hamilton-Ostrogradskiy and Euler-Lagrange principles in same coordinates. For nonholonomic systems with constraints of the Chetayev type and variations as defined by Voronets, the Hamilton-Ostrogradskiy principle is written in nonholonomic coordinates as follows:

$$\delta \int_{t_1}^{t_2} \tilde{L}dt = 0,\ \delta\pi_\nu|_{t_1} = \delta\pi_\nu|_{t_2} = 0\ (\nu = 1, 2, \ldots, l;\ l = s - r). \quad (1.2)$$

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D299/D303

Extremum property of integral ...

The kinematic characteristics e_i, corresponding to the nonholonomic coordinates π_i, are introduced by formulas

$$e_\nu = e_\nu (q_i, \dot{q}_i, t), \qquad (1.3)$$
$$e_{l+k} = F_k (q_i, \dot{q}_i, t).$$

The variations (as defined by Voronets) in nonholonomic coordinates are

$$\delta e_i = \frac{d}{dt} \delta\pi_i - \sum_{j=1}^{s} w_j^i \delta\pi_j, \quad \delta\pi_{l+k} = 0. \qquad (1.5)$$

The functional

$$\tilde{V} = \int_{t_1}^{t_2} \tilde{L} dt$$

(in nonholonomic coordinates) has a minimum on the real trajectory

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Extremum property of integral ...

for small domains of integration. As nonholonomic coordinates are more general than Lagrangian coordinates, it is of interest to develop formal variational apparatus in such coordinates, and to directly calculate $\delta^2 V$ on that basis. A direct expression is derived for the second variation of the Hamilton-Ostrogradskiy functional in nonholonomic coordinates. After computations, one obtains

$$\tilde{A}_{\nu\gamma} = \sum_{i,j=1}^{s} \frac{\partial \dot{q}_i}{\partial e_\nu} \frac{\partial^2 L}{\partial \dot{q}_i \partial \dot{q}_j} \frac{\partial \dot{q}_j}{\partial e_\gamma} \qquad (2.8)$$

and

$$\delta^2 V = \alpha^2 \int_{t_0}^{t_1} \sum_{\nu,\gamma=1}^{r} \tilde{A}_{\nu\gamma} \theta_\nu \theta_\gamma dt + O(t_1 - t_0)^3,$$

where $\delta\pi_\nu = \alpha\theta_\nu$, α being an infinitesimal quantity. If the equations for the Chetayev-constraints are homogeneous in $\dot{q}_i$, the Euler -Lagrange principle can be written in nonholonomic coordinates

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Extremum property of integral ...

$$\Delta \int_{t_1}^{t_2} 2\bar{T}\,dt = 0, \quad \Delta\pi_0|_{t_1} = \Delta t_1 = 0,$$
$$\Delta\pi_i|_{t_1} = \left(e_i - \sum_{k=1}^{r} \frac{\partial \omega_k}{\partial q_i}\dot{q}_k\right)\Delta t_1, \quad \Delta\pi_{i+s}|_{t_1} = 0. \tag{3.3}$$

The following theorem is proved: In determining the Voronets-variation for mechanical systems with stationary homogeneous Chetayev-constraints of first order, the Euler-Lagrange functional in nonholonomic homogeneous coordinates (of first order) has a minimum on the real trajectory for small domains of integration. The above results are illustrated by an example of S.A. Chaplygin (Ref. 6: Issledovaniya po dinamike negolonomnykh sistem (Investigating the Dynamics of Nonholonomic Systems), M.-L. GITTL, 1949); this example involves rotation of a solid body about its vertical axis. There are 6 references: 5 Soviet-bloc and 1 non-Soviet-bloc, (in translation).

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S/146/62/005/003/014/014
D234/D308

AUTHOR: Novoselov, V.S.

TITLE: Shock tests of measuring instruments

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Priborostroyeniye, v. 5, no. 3, 1962, 141-149

TEXT: The author describes a part of the results of an investigation on the design of shock absorbers conducted at the laboratory of vibrations of LGU. Conditions of the shock tests, experimental study of these on a plate and transition shields (wire tensometers, high-speed filming and oscillograms were applied) are described. Dynamical characteristics of the shocks obtained by studying the oscillograms are discussed. Experimental investigation of shock conditions of instruments provided with a shock absorber is described and illustrated with examples. There are 7 figures.

ASSOCIATION: Leningradskiy ordena Lenina gosudarstvennyy universitet im. A.A. Zhdanova (Leningrad State University im. A.A. Zhdanov)

Card 1/2

Shock tests of measuring instruments

S/146/62/005/003/014/014
D234/D308

SUBMITTED: November 10, 1961

Card 2/2

NOVOSELOV, V.S.

Structural characteristics of rubber shock absorbers. Izv.vys.-ucheb.zav.; prib. 5 no.4:105-114 '62. (MIRA 15:9)

1. Leningradskiy ordena Lenina gosudarstvennyy universitet imeni A.A.Zhdanova. Rekomendovana kafedroy teoreticheskoy mekhaniki.

(Shock absorbers)

NOVOSELOV, V.S.

Extremum properties of the integral principles of nonholonomic mechanics in nonholonomic coordinates. Vest. LGU 17 no.1:124-133 '62. (MIRA 15:1)

(Mechanics, Analytic)

NOVOSELOV, V. S.

Movement of a rubber-cushioned instrument mechanism during impact tests. Izv. vys. ucheb. zav.; prib. 6 no.2:107-114 '63. (MIRA 16:4)

1. Leningradskiy ordena Lenina gosudarstvennyy universitet imeni A. A. Zhdanova. Rekomendovana kafedroy teoreticheskoy mekhaniki.

(Shock absorbers)
(Measuring instruments—Testing)

NOVOSELOV, V.S.

Optimum double-impulse transfer between orbits with small inclinations and eccentricities. Biul.Inst.teor.astron. 9 no.5:295-309 '63. (MIRA 17:4)

NOVOSELOV, Viktor Sergeyevich; POLYAKHOV, N.N., otv. red.; MATVEYEVA, V.V., red.

[Dynamics of a material point; methodological instructions no.3, on the course of theoretical mechanics for the third-year correspondence students in state universities with specialties "Mathematics," "Mechanics" and "Astronomy"] Dinamika material'noi tochki; metodicheskie ukazaniia No.3. po kursu teoreticheskoi mekhaniki dlia studentov III kursa zaochnogo obucheniia gosudarstvennykh universitetov po spetsial'nostiam "Matematika," "Mekhanika" i "Astronomiia." Leningrad, 1964. 33 p. (MIRA 17:9)

1. Leningrad. Universitet. Otdel zaochnogo obucheniya. Matematiko-mekhanicheskiy fakul'tet.

NOVOSELOV, V.S. (Leningrad)

"Analytical dynamics and optimum transfers"

Report presented at the 2nd All-Union Congress on Theoretical and Applied Mechanics, Moscow 29 Jan - 5 Feb 64.

NOVOSELOV, Ye.

Equipment on our building sites. Stroi. i dor. mash. 9 no.11: 2-3 N '64 (MIRA 18:2)

1. Predsedatel' Gosudarstvennogo komiteta stroitel'nogo, dorozhnogo i kommunal'nogo mashinostroyeniya pri Gosstroye SSSR, Minister SSSR.

ACCESSION NR: AP4018429 S/0179/64/000/001/0101/0103

AUTHOR: Novozhelov, V. S. (Leningrad)

TITLE: Influence of a transient combustion regime and rotation of the rocket on the main vector and main moment of the reaction force

SOURCE: AN SSSR. Izv. Otd. tekh. nauk. Mekhanika i mashinostroyeniye, no. 1, 1964, 101-103

TOPIC TAGS: rocket propulsion, rocket, Coriolis force, combustion

ABSTRACT: When the combustion chamber is rotating rapidly with the engine operating, the Coriolis forces and moments may reach very high values. Several evolved equations show that this depends on the angular velocity of rotation. The Coriolis forces and moments must be considered in the investigation of long duration rocket flights, especially when investigating stability. The Coriolis forces and moments, as well as the relative acceleration of particles, significantly influence the motion of rockets of the I. V. Meshcherskiy type, where L is the rocket length and the relative velocity of particle discharge u_r created by a pump is comparatively low. For

Card 1/2

L 12981-65 EWT(l)/EEC(a EWP(k)/FS(v)-3/EEC(t) EEC(b-2)/EWG(k)/EWA(d) Pe-4/
Pa-4/Pg-4/Pg-4 IJP(c) JM

ACCESSION NR: AP4044463 S/0043/64/000/003/0133/0146

AUTHOR: Novoselov, V. S. B

TITLE: Application of analytic dynamics methods in the theory of optimal flights

SOURCE: Leningrad. Universitet. Vestnik. Seriya matematiki, mekhaniki i astronomii, no. 3, 1964, 133-146

TOPIC TAGS: analytic dynamics, optimum process, optimal flight, optimal transfer, Pontryagin principle, Weierstrass condition, performance functional

ABSTRACT: The methods of analytic mechanics are applied to the study of problems in the theory of optimum processes. Under the assumptions that the behavior of the control plant is described by a system of ordinary differential equations and that the control functions are constrained by certain inequalities, the problem of optimal control is defined as the selection from the set of allow-

Card 1/3

0

gble control functions of a control function such that the system is taken from the initial state to the terminal state in a finite time and a certain performance functional (functional of action) is minimized. To derive the necessary and sufficient optimality conditions, the first variation of the performance functional is taken. The expression derived is integrated over the specially defined field of extremals by the known method of analytic mechanics. The derivation of the necessary conditions for the minimality of the performance functional consists in determining the maximum of the Hamiltonian function on the optimal trajectory. This condition coincides with the principal condition of the maximum principle of Pontryagin and is equivalent to the Weierstrass optimality conditions. Additional conditions are presented under which the necessary optimality condition will be also sufficient. The possibility of determining the optimum control by the Hamilton-Jacobi method is indicated. The problem is reduced to the solution of a Hamilton-Jacobi equation, which in this case is a linear, first-order partial differential equation. As an example of the application of the Hamilton-Jacobi method, the optimal impulse transfers between two ellip-

L 12981-63
ACCESSION NR: AP4044463

tic coplanar orbits in the gravitational field of a symmetric central body are considered. Equations describing optimal impulse transfers are derived. Orig. art. has: 58 formulas.

ASSOCIATION: none

SUBMITTED: 10May63 ATD PRESS: 3114 ENCL: 00

SUB CODE: MA, IE NO REF SOV: 006 OTHER: 003

Card 3/3

NOVOSELOV, V.S.

Use of the methods of analytic dynamics in the theory of optimum flights. Vest. LGU 19 no.13:133-146 '64 (MIRA 17:8)

NOVOSELOV, V.S.

Optimum space ascent of an intereplanetary rocket to a circular orbit. Uch. Zap. LGU no.323:169-182 '64.

(MIRA 17:12)

NOVOSELOV, Viktor Sergeyevich; POLYAKHOV, N.N., otv. red.; MATVEYEVA, V.V., red.

[Dynamics of a material system; methodological instructions No.1 on the course of theoretical mechanics for third year correspondence students of state universities specializing in "Mathematics," "Mechanics" and "Astronomy"] Dinamika material'noi sistemy; metodicheskie ukazaniia No.1 po kursu teoreticheskoi mekhaniki dlia studentov III kursa zaochnogo obucheniia gosudarstvennykh universitetov po spetsial'nostiam "Matematika," 'Mekhanika," i "Astronomiia." Leningrad, 1964. 40 p. (MIRA 18:3)

1. Leningrad. Universitet. Otdel zaochnogo obucheniya. Matematiko-mekhanicheskiy fakul'tet.

NOVOSELOV, V.S.

Engineering calculation of optimum shock absorption of measuring mechanisms in shock-resistant instruments. Izv.vys.ucheb.zav.; prib. 7 no.6:98-104 '64. (MIRA 18:2)

1. Leningradskiy ordena Lenina gosudarstvennyy universitet imeni Zhdanova. Rekomendovana kafedroy teoreticheskoy mekhaniki.

L 32208-65 EPF(c)/EPA(w)-2/EWT(m)/T Pr-4/Pab-10 RWH/RM
ACCESSION NR: AP5012138 UR/0243/65/000/002/0163/0164

32
B

AUTHOR: Novoselov, V. S.

TITLE: Change in the radius of a spherical droplet

SOURCE: Leningrad. Universitet. Vestnik. Seriya matematiki, mekhaniki i astronomii, no. 2, 1965, 163-164

TOPIC TAGS: combustion, droplet radius, droplet evaporation, liquid fuel, heterogeneous combustion

ABSTRACT: The motion of a droplet of fuel relative to a horizontal stream of air and the changes of its radius due to evaporation were analyzed. A formula describing the variation of the droplet radius as a function of distance was derived. With this equation and Meshcherskiy's equation for a point of variable mass, it is possible to obtain a formula expressing the increase in horizontal travel due to evaporation. Orig. art. has: 11 formulas. [AC]

SUBMISSION: none

SUBMITTED: 020ct64 ENCL: 00 SUB CODE: PR
NO REF SOV: 003 OTHER: 001 ATD PRESS: 4009

Card 1/1 mb

L 7917-66
AM(J) EWT(d)/FBD/EWT(l)/EBO/EWP(m)/FS(v)-3/FA/EWP(c)/FA(b)/EWA(d)/EWP(h)/FCS(k)/
ETC(m) IJP(c) WW/GW
ACC NR: AP5027363 SOURCE CODE: UR/0043/65/000/004/0147/0156

65
B

AUTHOR: Novoselov, V. S.

ORG: none

TITLE: Variable point-mass transfer trajectory in a central force-field

SOURCE: Leningrad. Universitet. Vestik. Seriya matematiki, mekhaniki i astronomii, no. 4, 1965, 147-156

TOPIC TAGS: variational calculus, orbit transfer, orbit trajectory, circular orbit

ABSTRACT: The problem of orbital transfer for a variable point-mass trajectory between two co-planar circular orbits in a central force-field was considered. The equations of motion for the point-mass are given by

$$\dot{x}_1 = x_2^2 x_3^{-1} - k^2 x_3^{-2} + \beta \cos\phi,$$
$$\dot{x}_2 = -x_1 x_2 x_3^{-1} + \beta \sin\phi,$$
$$\dot{x}_3 = x_1$$

with boundary conditions

UDC: 521.1.01:531.55

Card 1/2

L 7917-66
ACC NR: AP5027363

$$x_1^H=0,\quad x_2^H=kr_H^{-\frac{1}{2}},\quad x_3^H=r_H,$$

$$x_1^K=0,\quad x_2^K=kr_K^{-\frac{1}{2}},\quad x_3^K=r_K$$

where indices H and K indicate initial and final orbits respectively. The problem is solved by minimizing the functional

$$U=\int_{t_H}^{t_K}\beta dt=a_r\ln\frac{m_H}{m_K}$$

under the constraint $0\leqslant\beta\leqslant b,\quad b=\text{const}>0.$

The solution is given to within first-order terms after the manner of Homan, and the various coordinates of the transfer ellipse are calculated. Throughout the analysis it is assumed that the nonpulsed intervals during orbital transfer are known. Orig. art. has: 79 equations and 1 table.

SUB CODE: ME, SV/ SUBM DATE: 15Jun64/ ORIG REF: 002/ OTH REF: 002

Card 2/2

NOVOSELOV, V.S.

Possibly exact transfer in the field of central force. Uch.zap.LGU no.328:150-159 '65. (MIRA 18:10)

NOVOSELOV, V.S.

Theory of the approximate solution of variational problems and its application to the study of the motion of a point of variable mass. Vest. LGU 20 no.1:110-120 '65. (MIRA 18:2)

NOVOSELOV, V.S.

Variation of the radius of a spherical droplet. Vest LGU 20 no.7:163-164 '65. (MIRA 18:5)

NOVOSELOV, V.S.

Trajectory of a point of variable mass in the central field. Vest. LGU 20 no.19:147-156 '65. (MIRA 18:10)

L 05881-67 EWP(c)/EWT(1) IJP(c) GD

ACC NR: AT6022474 (A) SOURCE CODE: UR/0000/65/000/000/0141/0152

AUTHOR: Novoselov, V. S.

31

B+1

ORG: None

TITLE: Analytical dynamics and optimum flight paths

SOURCE: Vsesoyuznyy s"yezd po teoreticheskoy i prikladnoy mekhanike. 2d, Moscow, 1964. Analiticheskaya mekhanika. Ustoychivost' dvizheniya. Nebesnaya ballistika (Analytical mechanics. Stability of motion. Celestial ballistics); trudy s"yezda, no. 1. Moscow, Izd-vo Nauka, 1965, 141-152

TOPIC TAGS: Hamiltonian Jacobi equation, optimum trajectory, motion mechanics

ABSTRACT: The author considers an object with an equation of motion having the form

$$\dot{x}_i = F_i(x_j, u_k, t) \quad (i, j = 1, 2, \ldots, n; k = 1, 2, \ldots, r)$$

where $u_k(t)$ are controls or controlling functions which may be piecewise-continuous, and t is time. The controls should satisfy the conditions

$$u_{k1} < u_k < u_{k2}, \quad u_{k1} = \text{const}, \quad u_{k2} = \text{const}.$$

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L05881-67

ACC NR: AT6022474

In particular the conditions $u_{k1} = -\infty$, $u_{k2} = \infty$ may be fulfilled for all or some controls. It is assumed that a unique trajectory in the given system corresponds to any permissible control and the explicit conditions relating the boundary values of the variables in the general case are given in terms of the coordinates of the initial and final points of the trajectory with respect to time. Controls are chosen to give a minimum value to a given functional calculated on these controls. The Hamilton-Jacobi method is used for solving the system of canonical equations which determine the optimum trajectory of the given object. Orig. art. has: 41 formulas.

SUB CODE: 12/ SUBM DATE: 04Dec65/ ORIG REF: 008/ OTH REF: 006

kh

Card 2/2

L 05071-67 EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(l) WVH
ACC NR: AM6018032 Monograph UR/

22
B+/

Novoselov, Viktor Sergeyevich

Variation methods in mechanics (Variatsionnyye metody v mekhanike) [Leningrad] Izd-vo Leningrad. univ., 1966. 66 p. biblio. 5900 copies printed.

TOPIC TAGS: analytic mechanics, variational method, integral principle

PURPOSE AND COVERAGE: This book contains a brief elucidation, usually without proofs of the theorems and final formulas, of the basic concepts and methods of analytic mechanics. It discusses some methods for applying the calculus of variations to analytic mechanics and the properties of the trajectories of mechanical systems with holonomic and nonholonomic constraints of the Appel-Chetayev type. The stationarity and the minimality of the Hamilton-Ostrogradskiy and the Euler-Lagrange integral principles are discussed; the minimality of the Gauss principle is justified for mechanical systems of this type; and the integral invariants of canonical systems, contact transformations, the Hamilton-Jacobi method of integration, and perturbation theory are discussed. The book is intended for scientists, engineers, graduate students, and advanced undergraduates as a brief but comparatively complete guide to modern methods of analytic mechanics.

Card 1/2

L 05071-67

ACC NR: AM6018032 O

TABLE OF CONTENTS [abridged]:

SUB CODE: 20/ SUBM DATE: 07Feb66/ ORIG REF: 020

Card 2/2

NOVOSELOV, Ye. (Kazan')

Fundamentals of classical analysis and the theory of analytic functions in a polyadic region. Izv. vys. ucheb. zav.; mat. no. 5:71-88 '63. (MIRA 16:11)

GALAZIY, G.I.; NOVOSELOV, Ye.N.

Baikal. Irkutsk, Limnologicheskii in-t Sibirskogo otd-niia AN SSSR. 1964. 1 v. (MIRA 18:3)

NOVOSELOV, Ye.S., inzhener.

Development of the building and road construction machinery industry. Mekh.stroi.12 no.1:3-10 Ja '55. (MLRA 8:3)

1. Ministr stroitel'nogo i dorozhnogo mashinostroyeniya.
(Building machinery) (Road machinery)

NOVOSELOV, Ye.S.

Immediate tasks of the building and road machinery industry. Stroi. i dor. mashinostr. 1 no.1:5-11 Ja '56. (MLRA 10:1)

1. Ministr stroitel'nogo i doroshnogo mashinostroyeniya.
(Building machinery industry) (Road machinery)

NOVOSELOV, Ye.S.

Building and road construction machinery manufacture in the sixth five-year plan. Mekh. trud. rab. 10 no.8:28-31 Ag '56. (MLRA 9:10)

1. Ministr stroitel'nogo i doroshnogo mashinostroyeniya.
(Building machinery) (Road machinery)

NOVOSELOV, Ye.S.

Building and road machinery industry in the sixth five-year plan.
Mekh.stroi.13 no.11:5-11 N '56. (MLRA 9:12)

1.Ministr stroitel'nogo i dorozhnogo mashinostroyeniya.
(Road machinery) (Building machinery industry)

NOVOSELOV, Ye. S.

AUTHOR: None given. 307/100-58-5-1/15

TITLE: Problems of Mechanization Discussed at an All-Soviet Conference on Building (Voprosy mekhanizatsii na vsesoyuznom soveshchanii po stroitel'stvu).

PERIODICAL: Mekhanizatsiya Stroitel'stva, 1958, Nr 5, pp 3-7.

ABSTRACT: An All-Union Conference on building organized by the TsK KPSS and the Council of Ministers of the USSR was held in Moscow between 10th and 12th April 1958. The main topics discussed were building mechanization and the manufacture of building and road building machines. (Main speakers: Ye. S. Novoselov, Minister and Head of the Gosplan of USSR and I.A. Levin, Chairman of the Gosstroy of USSR). Mr. Novoselov read a paper on the mechanization and the manufacture of building and road building machines during the period 1955/57. Engineer N. Ya. Kozlov of Glavmosstroy presented a new implement for the manufacture of fencing and external walls. Mr. Levin of Gosstroy of USSR reported on the increase in the number of building machines since the second All-Soviet Conference on building. At present the Gosstroy of USSR has 19

Card 1/2

Problems of Mechanization Discussed at an All-Soviet Conference on Building.

factories for the maintenance of building machines. The manufacture of cranes with a capacity of 75 tons is advocated due to the increasing use of precast reinforced concrete constructions. Mr. Rostotskiy of Gosplan of USSR requested the manufacture of certain types of small machines and instruments required in the building trades. Construction workers Tishchenko, Gnitiyev and Kuznetsov pointed out the shortcomings of excavators manufactured by "Rabochiy Metallist" factory. The scraper D-374 was reconstructed. Engineer Gorbunov of Glavstroymekhanizatsiya of the Ministry of Transportation demanded the expansion and co-ordination of scientific research in the field of maintenance of building machinery. The co-ordinating body should be (NIIOMTP Akademii stroitel'stva i arkhitektury SSSR) NIIOMTP of the Academy of Building and Architecture of USSR.

1. Construction--Equipment 2. Road building equipment--Production

Card 2/2

NOVOSELOV, Ye.S.

SOV/122-58-6-32/37

AUTHOR: Korolev, A.A., Candidate of Technical Sciences

TITLE: Development Prospects for the Manufacture of Metallurgical Equipment (O perspektivakh razvitiya metallurgicheskogo mashinostroyeniya)

PERIODICAL: Vestnik Mashinostroyeniya, 1958, Nr 6, pp 80-82 (USSR)

ABSTRACT: A branch conference on metallurgical engineering plant, convened at the Uralmashzavod in Sverdlovsk by the Otdel mashinostroyeniya Gosplana (Mechanical Engineering Division of the State Planning Commission of the USSR) is reported. 400 delegates representing 22 economic councils, 14 research institutes, 24 design institutes and 29 metallurgical equipment manufacturing plants were present (including the Uralmashzavod, the Novo-Kramatorskiy zavod (Novo-Kramatorskiy Works), Staro-Kramatorskiy mashinostroitel'niy zavod (Staro-Kramatorskiy Plant), Elektrostal'skiy zavod tyazhelogo mashinostroyeniya (Elektrostal' Plant), the Yuzhno-Ural'skiy zavod tyazhelogo mashinostroyeniya (Yuzhno-Ural'skiy Plant), the Irkutskiy mashinostroitel'nyy zavod (Irkutsk Plant), the Novosibirskiy mashinostroitel'niy zavod (Novosibirsk Plant)) as well as 16 steel Works (including the Magnitogorskiy metallurgicheskiy kombinat, the Azovstal',

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the Zaporozhstal', the Novo-Tagilskiy Works, Kuznetskiy metallurgicheskiy kombinat (Kuznetsk Metallurgical Combine). In his opening address, Ye.S. Novoselov, Minister of the USSR, emphasised that the State Planning Commission attached great importance to the conference. Vinogradov, K.K., deputy director of the mechanical-engineering division of the State Planning Commission, pointed out that the production of metallurgical equipment increased 16-fold in the period between 1932 and 1957. The manufacture of rolling-mill equipment increased 24-fold. Between 1951 and 1957, 27 blast furnaces, 57 open-hearth furnaces, 35 rolling and tube mills were built and erected and 22 rolling mills were completed, awaiting erection. This equipment was responsible for an increase of 18.2 million tons of pig iron, 24.9 million tons of steel and 19.3 million tons of rolled products. An improvement in quality and a rise in productivity have taken place. During the period between 1959 and 1965, the manufacturers have the task of constructing powerful blast furnaces of 1 719 m^3 and even 2 286 m^3 capacity, the largest in the world. New designs of automatic skip hoists, weighing carriages, charging

NOVOSELOV, Ye.S.

Manufacture of construction machinery is the principal technical basis of the construction industry. Stroi. i dor. mash. 9 no.1:1-3 Ja '64. (MIRA 18:7)

1. Predsedatel' Gosudarstvennogo komiteta stroitel'nogo, dorozhnogo i kommunal'nogo mashinostroyeniya pri Gosstroye SSSR.

NOVOSELOV, Ye.S.

We welcome participants to the Exhibition. Stroi. i dor. mash.
9 no.8:1-2 Ag '64 (MIRA 18:1)

1. Minister SSSR i Predsedatel' Organizatsionnogo komiteta Mezhdunarodnoy vystavki stroitel'nykh i dorozhnykh mashin i razlichnykh sredstv mekhanizatsii stroitel'no-montazhnykh rabot.

NOVOSELOV, Ya.V.

Topological theory of the divisibility of integers. Uch. zap. EGPI 6:3-23 '60 (MIRA 15:7)
(Topology) (Numbers, Theory of)

NOVOSELOV, Ye.V.

Topological theory of polyadic numbers. Trudy Mat. inst. AN Gruz. SSR 27:61-69 '60. (MIRA 15:3)
(Algebraic topology)

NOVOSELOV, Ye.V.

Integration on one bicompact ring, and applications to the theory of numbers. Izv. vys. ucheb. zav.; mat. no.3:66-79 '61. (MIRA 14:7)

1. Kazanskiy gosudarstvennyy universitet imeni V.I.Ul'yanova-Lenina.

(Rings (Algebra))
(Numbers, Theory of)

NOVOSELOV, Ya.V.

Topological and metric properties of the multiplicative structure of prime numbers. Dokl. AN SSSR 142 no.6:1255-1257 F '62. (MIRA 15:2)

1. Kazanskiy gosudarstvennyy universitet im. N.V.Lomonosova. Predstavleno akademikom I.M.Vinogradovym.
(Numbers, Prime)
(Distance geometry)

NOVOSELOV, Ye.V.

Some formulae related to a reduced residue system. Dokl. AN SSSR 143 no.6:1274-1277 Ap '62. (MIRA 15:4)

1. Kazanskiy gosudarstvennyy universitet im. V.I.Ul'yanova-Lenina. Predstavleno akademikom I.M.Vinogradovym.
(Numbers, Theory of) (Congruences and residues)

NOVOSELOV, Ye.V.

New method in the probability theory [redacted] Inv. AN SSSR. Ser. mat. 28 no.2:307-364 Mr-Ap '64. (MIRA 17:3)

PILINSKIY, V.I., inzh.; NOVOSELOV, Yu.A., inzh.

Determining the thermal field at multiple-pass grinding of hard alloys. Vest.mashinostr. 43 no.11:46-51 N '63. (MIRA 17:2)

KVAL'VASSER, V.I., kand. tekhn. nauk; ANDRUSHEVICH, Yu.M., kand. tekhn. nauk, dotsent; NOVOSELOV, Yu.A., inzh.

Effect of torsional vibrations of the drive from the spindle to support in the 1811 semiautomatic relieving lathe on the quality of machined parts. Izv.vys.ucheb.zav.; mashinostr. no.4:160-167 '64. (MIRA 18:1)

1. Kuybyshevskiy politekhnicheskiy institut.

REZNIKOV, A.N.; NOVOSELOV, Yu.A.

Approximate method for calculating temperature fields in wedges. Inzh. fiz. zhur. 7 no.6:114-119 '64.

(MIRA 17:12)

1. Otraslevaya nauchno-proizvodstvennaya instrumental'naya laboratoriya, Kuybyshev.

NOVOSELOV, Yu.A.

Old erosional surface in the Kichiga River basin. Vop. geog. Kamch. no. 2:106-108 '64 (MIRA 19:1)

NOVOSELOV, Yu. K.

"Effect of Grass Mixture Covers of Different Composition and Some Other Agrotechnical Methods on the Flax Yield." Cand Agr Sci, Moscow Agricultural Acad imeni Timiryazev, Moscow, 1953. (RZhBiol, No 4, Oct 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (10)

So: Sum. No. 481, 5 May 55

M

Country : USSR
Category: Cultivated Plants. Commercial. Oil-Bearing. Sugar-Bearing.

Abs Jour: RZhBiol., No 11, 1958, No 49022

Author : Novoselov Yu. K.
Inst : Timiryazev Agricultural Acad.
Title : The Influence of the Standard Quantity and the Manner of Sowing on the Quality of Fiber-Flax Seed.

Orig Pub: Izv. Timiryazevsk. s.-kh. akad., 1956, No 3, 63-68

Abstract: In the years of 1953 and 1954, investigations on the effect of the manner of sowing (wide, double and dense rows) of fiber-flax, together with different standard quantities, on the harvest and quality of seeds have been carried out at the flax

Card : 1/3

M-106

Country : USSR
Category: Cultivated Plants. Commercial. Oil-Bearing. Sugar-Bearing.

M

Abs Jour: RZhBiol., No 11, 1958, No 49022

experimental station of the Timiryazev Agricultural Academy. If the flax was planted sparsely, the number of fruits on the plants increased. The total harvest of seeds was practically the same for thin and dense sowing, but the propagation coefficient was higher by a factor of 2 - 5 for thin sowing. The formation of seeds is more intense in the case of dense sowing. If the stems are thick, the absolute weight of seeds is lower. The absolute weight of the seeds is higher in the first periods after seed formation than at later times. This distinction is particularly acute in the case of thin sowing.

Card : 2/3

Country : USSR
Category: Cultivated Plants Commercial. Oil-Bearing. Sugar-Bearing.

Abs Jour: RZhBiol., No 11, 1958, No 49022

The most even seed material has been obtained from dense cultures. The sowing of linseeds obtained from sparsely sown cultures somewhat decreases the harvest of seeds and quality of the straw. -- D.D. Bakhmistrov

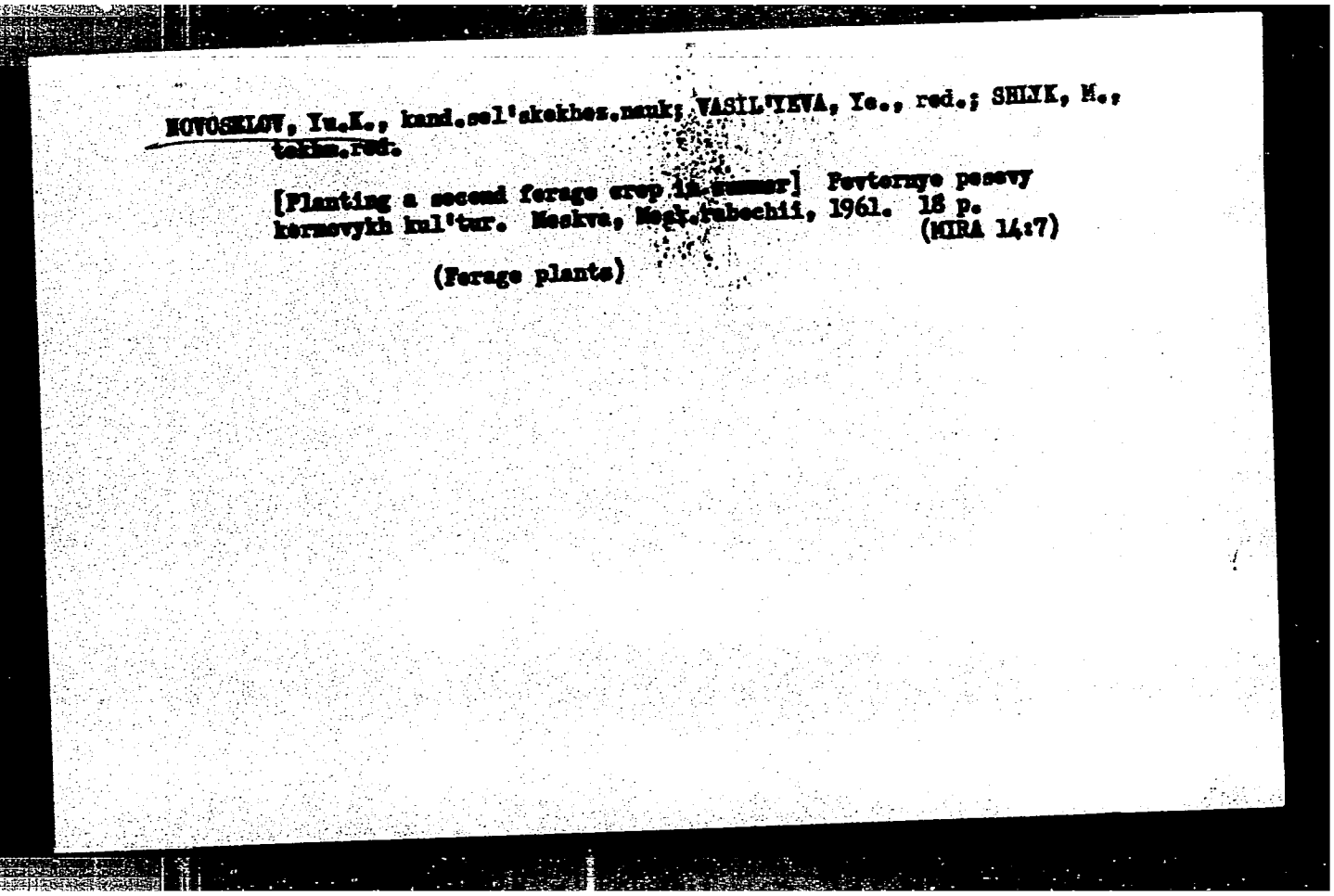
Card : 3/3

M-107

NOVOSELOV, Yu.K., kand.sel'skokhozyaystvennykh nauk; NOGOV, N.S.

Sowing annual forage plants along with other plants and on stubble is of great importance in increasing the feed supply. Zemledelie 8 no.6:37-40 Je'60. (MIRA 13:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut kormov im. V.R.Vil'yamsa.
(Forage plants) (Companion crops)



NOVOSELOV, Yu.K., kand.sel'skokhoz.nauk; VASIL'YEVA, Ye., red.; SHLYK, M., tekhn.red.

[Planting a second forage crop in summer] Pevternye posevy kormovykh kul'tur. Moskva, Mosk.rabochii, 1961. 18 p. (MIRA 14:7)

(Forage plants)

NOVOSELOV, Yu.K., kand.sel'skokhozyaystvennykh nauk

For more intensive utilization of cropland in the non-Chernozem zone. Zemledelie 23 no.3:18-21 Mr '61. (MIRA 14:3)

1. Vsesoyuznyn nauchno-issledovatel'skiy institut kormov imeni.

(Agriculture)

NOVOSELOV, Yu.K., kand. sel'khoz. nauk; ROGOV, M.S.; POLYAKOVA, V., red.; POKHLEBKINA, M., tekhn. red.

[Raising forage beans for seed] Kormovye boby na semena. Moskva, Mosk. rabochii, 1962. 14 p. (MIRA 15:6)

1. Nauchnyy rabotnik volostnogo ispolnitel'nogo komiteta Moskovskoy oblasti (for Rogov).
(Moscow Province--Beans)

SHAPIRO, I.D., kand.sel'skokhoz.nauk; KARAVYANSKIY, N.S., kand.sel'skokhoz. nauk; NOVOSELOV, Yu.K., kand.sel'skokhoz.nauk

Mixed plantings and the Swedish fly. Zashch.rast.ot vred.i bol. 7 no.4:37-38 Ap '62. (MIRA 15:12)

1. Vsesoyuznyy institut zashchity rasteniy (for Shapiro). 2. Vsesoyuznyy institut kormov (for Karavyanskiy, Noveselov).
(Corn (Maize))—Diseases and pests) (Frit flies)

KORENEVSKIY, B.S.; NOVOSELOV, Yu. N.

Standardizing electric actuating mechanisms. Standartizatsiia 25 no.6:22-24 Je '61. (MIRA 14:6)
(Electric motors--Standards)

NOVOSELOVA, A.

137-58-4-8434

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 4, p 302 (USSR)

AUTHOR: Novoselova, A.

TITLE: Rare Elements (Redkiye elementy)

PERIODICAL: Oktyabr', 1957, Nr 9, pp 177-179

ABSTRACT: Bibliographic entry

1. Rare earth elements--Bibliography

Card 1/1

MENDLINA, N.G.; NOVOSELOVA, A.A.; RYCHKOV, R.S.

Dissolution of micropowders of fused aluminum oxide and the determination of impurities it contains. Zav.lab. no.11:1293-1294 '59. (MIRA 13:4)

(Aluminum oxides) (Metals-- Analysis)

S/020/62/147/004/018/027
B107/B186

AUTHORS: Korenev, Yu. M., Simanov, Yu. P., (Deceased), Novoselova, A. A., Corresponding Member AS USSR

TITLE: A rhombic modification of beryllium fluoride

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 147, no. 4, 1962, 846-848

TEXT: The structures of BeF_2 are similar to the SiO_2 structures. So far, the following types of structures have been found: β-quartz, α-quartz, β-cristobalite, and α-cristobalite. The present paper describes a new, rhombic modification of BeF_2 which is assumed to be of structure similar to tridymite. This modification had already been detected during the thermal analysis of the NaF - BeF_2 system (A.V. Novoselova, M.Ye. Levina, and M.P. Savel'yeva, ZhNKh, v. 3, 2562 (1958)), but it could not be found by X-ray photography. The authors succeeded in preparing a mixture of BeF_2 containing 4% ZrF_4 at 590 - 600°C and 10 - 20 mm Hg argon pressure by 25-hr tempering suitable for X-ray analysis. Powder patterns were

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A rhombic modification of ...

S/020/62/147/004/018/027
B107/B186

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova (Moscow State University imeni M.V. Lomonosov)

SUBMITTED: July 18, 1962

Card 3/3

LEYKIN, Ye.R.; GUTINA, S.L.; CHEREMUKHIN, I.K.; GRANKINA, L.G.; PAVLOV, A.A.; NOVOSELOVA, A.A.

Introducing the battery method for ion-exchange purification of xylose syrups. Gidroliz. i lesokhim. prom. 16 no.2:15-16 '63. (MIRA 16:6)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut gidrolliznoy i sul'fitnospirtovoy promyshlennosti (for Leykin, Gutina). 2. Perganskiy gidrolliznyy zavod (for Cheremukhin, Grankina, Pavlov, Novoselova).
(Xylose) (Ion exchange)

USSR/ Physical Chemistry - Crystals B-5

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 10941

Author : Kirkina D.F., Novoselova A.B., Simanov Yu.P.
Inst : Academy of Sciences USSR
Title : On Polymorphism of Beryllium Fluoride

Orig Pub : Dokl. AN SSSR, 1956, 107, No 6, 837-838

Abstract : Tetragonal BeF_2 (I) formed on thermal decomposition of ammonium fluoro-beryllate and having the structure of low-temperature christobalite, is endothermally transformed at 130° into cubic form (face centered lattice, a 6.78, kX), analogous to the high-temperature form of christobalite. In a number of instances on heating of I endothermal effect is observed at 400°, but transformation into new form is not revealed roentgenographically. I begins to melt at 545° but main bulk of I melts at 740°; stepwise melting of I indicates slow transformation of its modifications.
I must be regarded as a pseudo single-component system.

Card 1/1

NOVOSELOVA, A.I.

PROCESSES AND PROPERTIES INDEX

11B

Fractionating proteins by electrodialysis. III. Elec-trodialysis of antipneumococcus serum. A. V. Marko-vich, A. I. Novoselova and I. M. Khaustova. *J. Applied Chem.* (U. S. S. R.) 12, 1755-8(in English, 1758) (1939).—The isolabile globulin of antipneumococcus horse serum consists of (1) the passive "acid" fraction and (2) the "alkaline" fraction of isolabile globulin with which are connected the specific antibodies. These fractions of isolabile globulins were sepd. by direct electrodialysis of the serums. Cf. *C. A.* 33, 6894[4].

A. A. Boehtlingk

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

NOVOSELOVA, A.I.

KOROVIN, A.A.; NOVOSELOVA, A.I.; KANTOROVICH, R.A.

Clinical and laboratory characteristics of influenzal pneumonia.
Trudy AMN SSSR 28;189-197 28:189-197 '53. (MLRA 7:8)

1. Iz Otdela virusologii Instituta epidemiologii im. Pastera i propedevticheskoy terapevticheskoy kliniki I Leningradskogo meditsinskogo instituta im. I.P.Pavlova.

(INFLUENZA,
influenzal pneumonia)
(PNEUMONIA,
influenzal pneumonia)

NOVOSELOVA, A.I.; GODUNOV, S.F., doktor meditsinskikh nauk, zaveduyushchiy; KUPRIYOV, P.A., professor, direktor.

Lymphangioma of the right leg. Vest.khir. 73 no.5:65-66 S-O '53. (MLRA 6:11)

1. Klinika protezirovaniya Leningradskogo nauchno-issledovatel'skogo instituta protezirovaniya. (Lymphatics--Tumors) (Leg--Tumors)

NOVOSELOVA, A.I.

Mobilization of stumps of the upper extremities. Vest.khir.74 no.7:63-66 O-N '54. (MLRA 8:10)

1. Iz kliniki protezirovaniya (zav.-d-r meditsinskikh nauk, S.F.Godunov) Leningradskogo nauchno-issledovatel'skogo instituta protezirovaniya Adres avtora: Leningrad, Borovaya ul. D 78,kv. 11.

(AMPUTATION STUMP,
arm, mobilization)

Novoselova, A.I.

GODUNOV, S.F., doktor med. nauk; NOVOSELOVA, A.I.

Levels and methods of amputation in necrosis of the extremities in endarteritis obliterans. Vest. khir. 76 no.11:38-45 '55 (MLRA 9:4)

1. Iz kliniki protezirovaniya (zav.--doktor meditsinskikh nauk S.F. Godunov) Leningradskogo nauchno-issledovatel'skogo instituta protezirovaniya.

(ENDARTERITIS OBLITERANS, compl. surg., necrosis of extremities, levels & methods of amputation)
(EXTREMITIES, gangrene, caused by endarteritis obliterans, surg., levels & methods of amputation)
(GANGRENE, extremities, caused by endarteritis obliterans, surg., levels & methods of amputation)