L 36504-65

ACCESSION NR: AP5003985

show that the data processing output capacity of a trainee increases with training. Output capacity depends on the complexity of the motor response, and decreases with [illegible]

AS[illegible] Kirova, Leningrad (Military-Medical Lenin Order Academy)

SUBMITTED: 00 ENCL: 00 SUB CODE: PH, DP

NR REF SOV: 000 OTHER: 005

Card 2/2

YEGOROV, V.A.

Transmission time of a proprioceptive impulse to the cerebral cortex in man. Fiziol.zhur. 51 no.4:420-423 Ap '65.

(MIRA 18:6)

1. Voyenno-meditsinskaya akademiya imeni Kirova, Leningrad.

L 11378-67 EWT(1) SCTB DD/GD

ACC NR: AT6036502 SOURCE CODE: UR/0000/66/000/000/0070/0071

AUTHOR: Bondarov, Z. V.; Gurvich, G. I.; Dzhamgarov, T. T.; Yegorov, V. A.; Marishchuk, V. L.; Rassvetayev, V. V.; Shkurdoda, V. A. 20

ORG: none

TITLE: Problem of the functional interaction of analyzers (visual, auditory, and tactile) in flight crews during long flights

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy ... kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 70-71

TOPIC TAGS: visual analyzer, auditory analyzer, proprioception, human physiology, space physiology

ABSTRACT:

The input capacities of visual, auditory, and tactile analyzers were investigated in 24 crew members during nine long flights. Tests were conducted on a special apparatus which supplied light, sound and tactile stimuli in random order, to which the subject responded by pressing the appropriate button as quickly as possible. The following indices of analyzer function were used: time of a simple motor re-

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L 11378-67

ACC NR: AT6036502

0

action, time of a reaction with choice, number of errors, amount of information processed, input (or traffic) capacity, and time required for processing one unit of information. It was found that the input capacity of the visual analyzer increased gradually in the first 9 hrs of flight, and then decreased by the 15th hr. However, the input capacity of the auditory analyzer decreased regularly during the entire flight. The input capacity of the tactile analyzer increased (with some variations) until the 12th hr, and then decreased to initial levels.

The gradual increase in input capacities observed in visual and tactile analyzers in the first 9--12 hrs of flight is probably due to adaptation of the organism to new conditions, with increased analyzer lability. The subsequent decrease in input capacity is caused by fatigue, first noticed in crew commanders. The high noise level in the aircraft contributed strongly to the decrease in auditory analyzer input capacity. Characteristically, the greatest shifts in auditory function were observed in commanders and radio operators, who are responsible for external and internal radiocommunications. The visual analyzer is kept in a continual state of stress by the necessity for constant monitoring of many instruments. In the auditory analyzer inhibitory processes are developed in the cortex due to

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ACC NR: AT6036502

negative induction. The tactile analyzer showed signs of fatigue later than the other two, which suggests expanded use of this analyzer to process necessary information during long flights. [W.A. No. 22; ATD Report 66-116]

SUB CODE: 06 / SUBM DATE: 00May66

Card 3/3 egk

YEGOROV, V.B., student V kursa

Evening errors according to the results of astronomical longitude determinations at first-order points. Trudy MIIGAIK no.45:133-136 '61. (MIRA 14:7)

1. Moskovskiy institut inzhenerov geodezii, aerofotos"yemki i kartografii, geodezicheskiy fakul'tet.
(Astronomy, Spherical and practical)

FOMIN, G.M.; KHROMOV, P.I.; RYABCHIKOVA, O.A.; REVZINA, F.S.; YEGOROV, V.D.

New wire rope construction for skip hoisters on blast furnaces of the Magnitogorsk Metallurgical Combine. Metallurg 6 no.10:31-33 O '61. (MIRA 14:9)

1. Magnitogorskiy kalibrovochnyy zavod i Nauchno-issledovatel'skiy institut metiznoy promyshelnnosti.
(Magnitogorsk--Blast furnaces--Equipment and supplies)
(Wire rope)

KHROMOV, P.I.; REVZINA, F.S.; RYABCHIKOVA, O.A.; YEGOROV, V.D.

Use of ropes on excavators with linear contact of the wires in strands. Gor.zhur. no.5:41-42 My '62. (MIRA 16:1)

1. Magnitogorskiy kalibrovochnyy zavod (for Khromov, Revzina, Ryabchikova). 2. Nauchno-issledovatel'skiy institut metiznoy promyshlennosti (for Yegorov).
(Wire rope)

YEGOROV, V.D., inzh.; KHROMOV, P.I., inzh.; REVZINA, F.S., inzh.

Using polymer materials in the production of steel wire rope.
Stal' 25 no.3:278-280 Mr '65. (MIRA 18:4)

1. Nauchno-issledovatel'skiy institut metiznoy promyshlennosti i Magnitogorskiy kalibrovochnyy zavod.

YEGOROV, V.D.

Recombination of charge carriers in semiconductors with large concentrations of traps. Fiz.tver.tela 1 no.5:832-833 My '59.
(MIRA 12:4)

1. Fizicheskiy fakul'tet i kafedra fiziki poluprovodnikov Moskovskogo gosudarstvennogo universiteta im. M.V. Lomonosova.
(Semiconductors)

G/030/63/003/003/007/007
B107/B186

AUTHORS: Thiessen, K., Yegorov, V. D., and Jungk, G.

TITLE: Kinetics of photoconduction in SiC

PERIODICAL: Physica status solidi, v. 3, no. 3, 1963, 529 - 534

TEXT: The unsteady photoconduction in α-SiC was studied, the steady characteristics for the specimens investigated being published elsewhere (G. Jungk, K. Thiessen, and F. Witt, phys. stat. sol., now printing). Additional charge carriers were excited by light from a mercury lamp in long-time build-up and decay processes and by light flashes in short-time decay processes. The experimental results show that the photoconduction in SiC is due almost exclusively to majority carriers (holes).. Proofs for the adhesive effect of the minority carriers (electrons) are: (1) The decay processes consist of several components among which the short-time component plays a role only with high light intensities (saturation of sites of adhesion). (2) The time constant of the build-up process increases with decreasing intensity. (3) The independence of long-time processes of the testing voltage shows the absence of a minority carrier extraction. The measured lifetimes of the minority carriers are unexpectedly high. It

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Kinetics of photoconduction in SiC

G/030/63/003/003/007/007
B107/B186

seems that the lifetimes in pure SiC crystals compare well with those measured for germanium and silicon. There are 5 figures.

ASSOCIATION: Physikalisch-Technisches Institut der Deutschen Akademie der Wissenschaften zu Berlin (Physicotechnical Institute of the German Academy of Sciences in Berlin)(K. Thiessen, G. Jungk); Physikalische Fakultät der Staatlichen Lomonossow-Universität, Moskau (Department of Physics of the Moscow State University imeni M. V. Lomonosov)(V. D. Yegorov)

SUBMITTED: December 27, 1962

Card 2/2

ACCESSION NR: AP4034920 S/0181/64/006/005/1406/1412

AUTHOR: Vavilov, V. S.; Nolle, E. L.; Yegorov, V. D.; Vintovkin, S. I.

TITLE: Radiative recombination in cadmium telluride as a result of excitation by fast electron pulses

SOURCE: Fizika tverdogo tela, v. 6, no. 5, 1964, 1406-1412

TOPIC TAGS: radiative recombination, cadmium telluride, CdTe, laser material, stimulated emission, semiconductor

ABSTRACT: The recombination radiation spectrum of CdTe excited by fast electrons was investigated in the photon energy interval from 0.7 to 1.6 ev and at temperatures between 10 and 300K. The p-type samples with resistivity of ~ 10 ohm·cm were excited by 1 Mev electron pulses of 2.5 μsec duration from an electrostatic generator. The repetition frequency was 10 cps, and the current density per electron pulse varied betweeen 0.3 and 0.5 mA/cm. Since a 30 hr exposure to this type of irradiation did not affect the recombination

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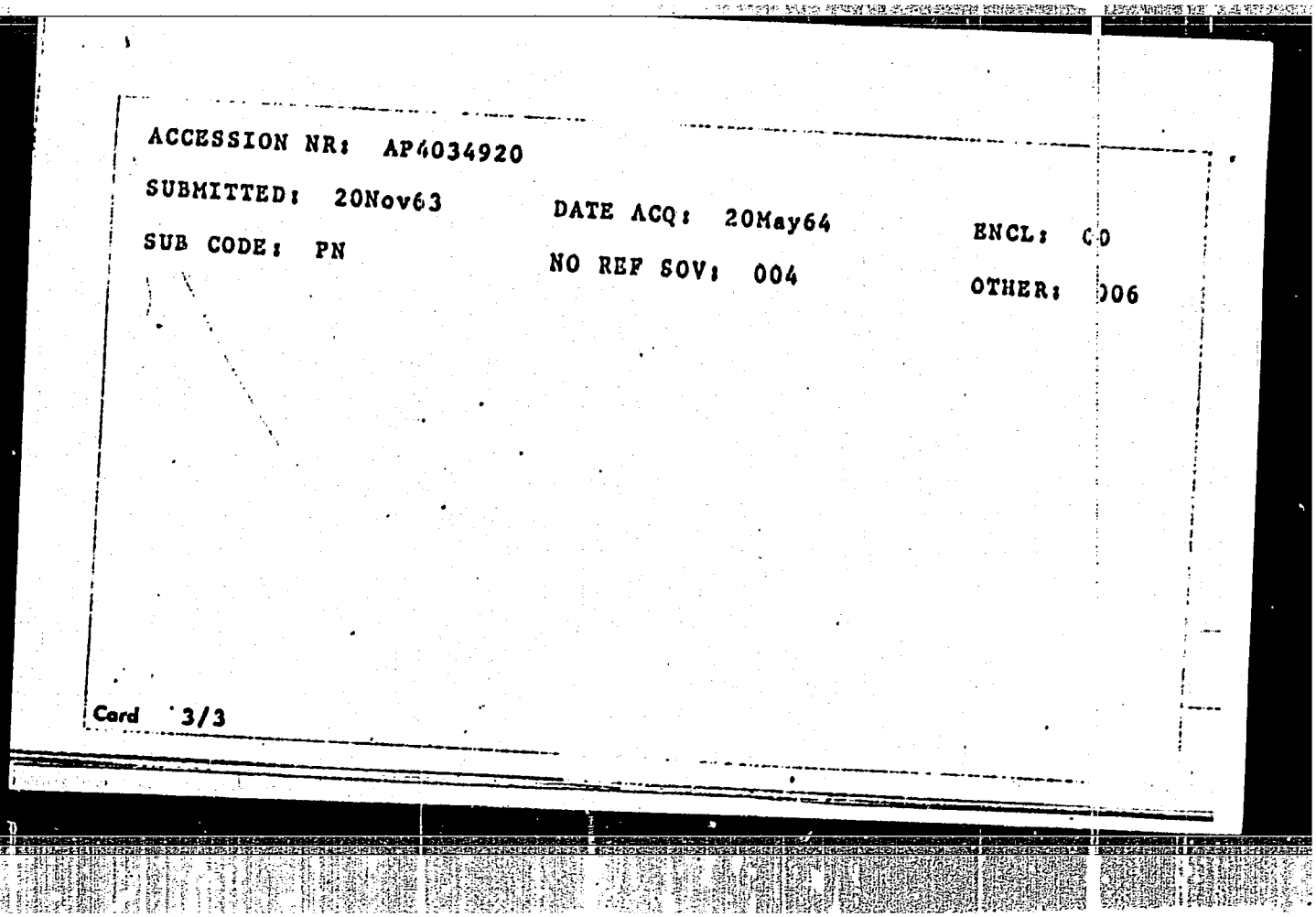
ACCESSION NR: AP4034920

radiation spectrum, it was assumed that the effect of the formation of radiation defects could be neglected. It was found that at 10K the recombination radiation spectrum consists of three intense bands with maxima at photon energies of 1.05 ± 01, 1.47 ± 0.01, and 1.59 ± 0.01 ev. The short-wave emission band is located in the region of the fundamental absorption band. Analysis of the data shows that vertical transitions with emission of optical phonons with zero momentum occur in CdTe and that the probability of such processes is high. According to criteria developed in: Basov, N. G., O. N. Krokhin, Yu. M. Popov. ZhETF, v. 4, 1961, p. 1203, it may, therefore, be possible to obtain laser action in CdTe at low temperatures when the nonequilibrium charge carrier concentration is considerably smaller than that corresponding to the degenerate state. Orig. art. has: 6 figures.

ASSOCIATION: Fizicheskiy institut imeni P. N. Lebedeva AN SSSR (Physics Institute, AN SSSR)



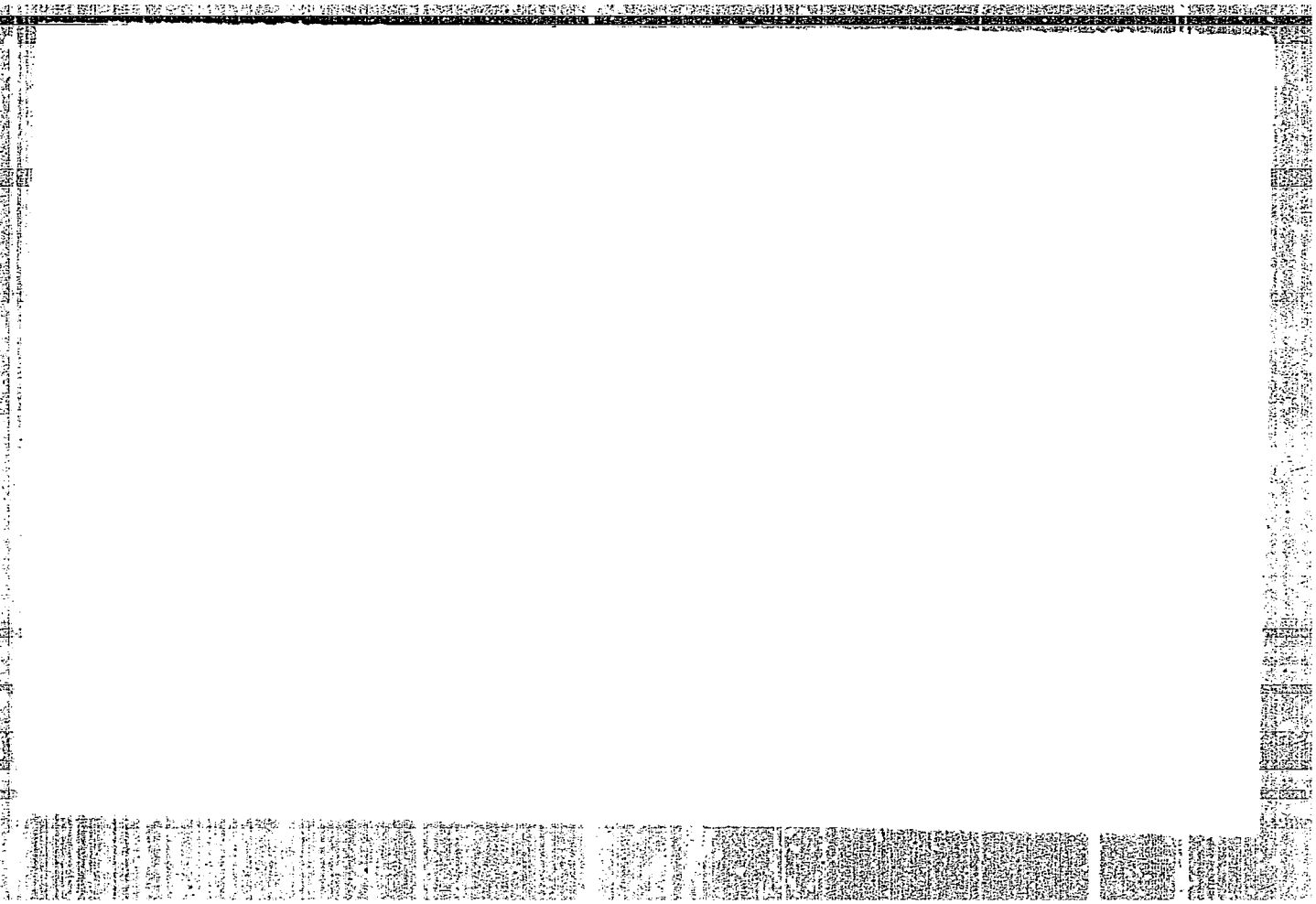
ACCESSION NR: AP4034920

SUBMITTED: 20Nov63 DATE ACQ: 20May64 ENCL: 00

SUB CODE: PN NO REF SOV: 004 OTHER: 006

Card 3/3

SOURCE Fizika tverdogo tela, v. 7, no 3, 1965, 934-936



APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R001962510005-2"

L 15738-66 EWT(1)/EWP(e)/EWT(m)/ETC(f)/EWG(m)/T/EWP(t)/EWP(b) IJP(c) JD/JG/

ACC NR: AP6000900 SOURCE CODE: UR/0181/65/007/012/3702/3704

AT/WH

AUTHORS: Golubev, G. P.; Vavilov, V. S.; Yegorov, V. D.

ORG: Physics Institute im. P. N. Lebedev, AN SSSR, Moscow (Fizicheskiy institut AN SSSR)

TITLE: Energy of ionization by means of electrons in germanium and silicon carbide crystals

SOURCE: Fizika tverdogo tela, v. 7, no. 12, 1965, 3702-3704

TOPIC TAGS: silicon carbide, germanium, ionization, electron bombardment, forbidden band, excitation energy

ABSTRACT: The purpose of the investigation was to determine by means of a new procedure the ionization energy under conditions where the excitation is not confined to the surface region. It is shown briefly that the latter circumstance results in certain errors. The ionization energy was determined from the change in the voltage drop, and consequently from the change in conductivity, resulting from irradiating a crystal with electrons from a 150-keV accelerator. A formula

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L 15738-66
ACC NR: AP6000900

relating the voltage drop with the ionization energy is written under the assumption that the concentration of the nonequilibrium carriers varies linearly with the time after turning on the excitation, and that the current density of the incident electrons is sufficiently small and uniform over the entire surface of the sample. The measurements were made on n-type Ge and α-SiC measuring 4 x 6 x 1 and 2 x 4 x 5 mm respectively. The ionization energies were found to be 9.0 ± 0.7 and 2.4 ± 0.2 ev for the silicon carbide and germanium respectively. In the case of silicon carbide the results agree with the assumption that the ionization energy is approximately triple the width of the forbidden band. In the case of germanium the results agree with data obtained by x-ray and gamma-ray excitation, but are lower than the value obtained for alpha-particle excitation, probably because of recombination losses in the plasma inside the track.
Authors thank B. M. Vul, E. L. Nolle, and G. N. Galkin for help with the work and a discussion of the results. Orig. art. has: 1 figure, 1 table, and 1 formula.

SUB CODE: 20/ SUBM DATE: 26Jul65/ ORIG REF: 007/ OTH REF: 002

Card 2/2

L 40050-66 EWT(1)/T IJP(c) AT

ACC NR: AP6022024 SOURCE CODE: UR/0120/66/000/003/0176/0179

AUTHOR: Vavilov, V. S.; Nolle, E. L.; Yegorov, V. D.; Golubev, G. P.; Mashtakov, V. S.

ORG: Institute of Physics, AN SSSR, Moscow (Fizicheskiy institut AN SSSR)

47 B

TITLE: Outfit for studying the recombination radiation of electron-excited semiconductors

SOURCE: Pribory i tekhnika eksperimenta, no. 3, 1966, 176-179

TOPIC TAGS: semiconductor research, recombination radiation

ABSTRACT: Connected with the outfits described by C. Benoit et al. (Physics of Semiconductors, Paris, Dunod, 1964), an improved outfit developed by the authors is capable of exciting semiconductors by 150-kev electron pulses that have a current density of 3 amp/cm²; pulse duration, 0.25--10 μsec; repetition rate, up to 30 cps. Stimulated radiation of cadmium telluride was achieved in this outfit for the first time. An electron tube with a constant high voltage and a pulsed grid modulation is used for high-power electron excitation of semiconductors; a 20-section steatite tube has been actually used. A block diagram of the outfit, principal circuits of the pulse generator and synchronous detector, and the pulse shape of the electron beam are shown. A He cryostat permits studying the recombination radiation of semiconductors at temperatures down to 10K. "The authors wish to thank S. I. Vintovkin, V. S. Ivanov, and B. D. Kopylovskiy for their valuable advice connected with the development of the outfit." Orig. art. has: 4 figures. [03]

SUB CODE: 20, 09 / SUBM DATE: 25May65 / ORIG REF: 004 / OTH REF: 002

Card 1/1 gd

UDC: 539.293

ACC NR: AP5028610 (N) SOURCE CODE: UR/0337/65/000/011/0036/0037

AUTHOR: Yegorov, V. D.; Mamykina, E. M.; Khromov, P. I.; Revzina, F. S.

ORG: NIImetiz - MKZ

TITLE: Use of polymeric materials for steel cable coatings 15

SOURCE: Rybnoye khozyaystvo, no. 11, 1965, 36-37

TOPIC TAGS: protective coating, polycaprolactam resin, wire product, connecting cable / LK-O connecting cable, TK connecting cable

ABSTRACT: The results of testing steel cables 17 with coatings made of capron 15 material (polycaprolactam resin and fiber) are presented. The best results were obtained with coating films of up to 0.7-mm thickness formed on steel cable cores of up to 6-mm at temperatures of 230, 240, 255 and 260 C. It is mentioned that parkerized core wires have the best adhesive properties (40 kg/sq cm) while vitrified wires have the lowest adhesion (12 kg/sq cm). The effects of various core temperatures (150 to 600 C) on the adhesive and mechanical properties of capron films were studied and a temperature of about 400 C is recommended for preheating of cores. The cables made of coated strands shows the best endurance (3.3 times greater). The test proved that a 0.5-mm film produced a 2 to 3 times increase in cable endurance. A further increase of the film thickness had little effect on the cable endurance. The steel cables with coated strands of LK-O type (6 x 19 + 7 x 7; d = 25 mm) and of TK type (6 x 37 + 1 core; d = 15 mm) were prepared and successfully used on fishing ships. Their cross-sections are shown. Orig. art. has: 2 figures.

SUB CODE: 11, 13/ SUBM DATE: None

Card 1/1

YEGOROV, V. F., GRIGOVA YE. S.

Fish, Smoked

Accelerated method for cold smoking of fish. Ryb. khoz . 28 no. 7, 1952.

9. Monthly List of Russian Accessions, Library of Congress, November 1953. Unclassified.

YEGOROV, V.G. Deceased

Geology

See ILC

YEGOROV, V.G.

Tuberculosis of the stomach and duodenum. Probl.tub. 34 no.6 supplement:42-43 N-D '56. (MLRA 10:2)

1. Iz khirurgicheskogo otdeleniya (zav. - kandidat meditsinskikh nauk N.S.Yepifanov) Kirovskoy oblastnoy bol'nitsy (glavnyy vrach - zasluzhennyy vrach RSFSR N.K.Popov)
(STOMACH--TUBERCULOSIS) (DUODENUM--TUBERCULOSIS)

YEGOROV, V.G.

Tumors of the mesentery of the small intestine. Vest.khir. 85 no.10:122-123 O '60. (MIRA 13:12)

1. Iz khirurgicheskogo otdeleniya (zav. - kand.med.nauk N.S. Yepifanov) Kirovskoy oblastnoy bol'nitsy.
(MESENTERIES—TUMORS)

YEGOROV, V.G., elektromekhanik; PRONICHEV, G.F., elektromekhanik

Changing the supply circuit of intermediate points of dispatcher communications. Avtom., telem. i sviaz' 2 no.10:28 O '58.
(MIRA 11:10)

1.Krasnoyarskaya distantsiya signalizatsii i svyazi Krasnoyarskoy dorogi.
(Railroads--Communication systems)

YEGOROV, V.G. (Kirov-obl.)

Penetration of a conifer needle from the intestines into the peritoneum; abstract. V.G. Egorov. Kaz. med. zhur. no.1: 111-112 Ja-J'61 (MIRA 16:11)

*

YEGOROV, V. G. and KOZNOV, N. A. (Oblast' Veterinary Bacteriological Laboratory, Smolensk Oblast' and Candidate of Veterinary Sciences)

"Concerning the epizootiology, diagnosis and therapy of leptospirosis of calves"

Veterinariya, Vol. 38, no. 7, July 1961, pp. 39

Yegorov, V. G. - Oblast' Veterinary Bacteriological Lab, Smolensk Oblast'

KOZNOV, N.A., kand.veterinar.nauk; YEGOROV, V.G.

Leptospirosis in calves. Veterinariia 40 no.9:20-21 S '63.
(MIRA 17:1)

1. Smolenskaya oblastnaya veterinarnaya laboratoriya. 2. Zaveduyushchiy epizootologicheskim otdelom Smolenskoy oblastnoy veterinarnoy laboratorii (for Yegorov).

YEGOROV, V. G.

YEGOROV, V. G.

"Stability of Solutions of Systems of Equations in Full Fifferentials." Min Higher Education USSR, Ural State U imeni A. M. Gor'kiy, Sverdlovsk, 1955. (Dissertation for the Degree of Candidate in Physical and Mathematical Sciences)

SO: M-955, 16 Feb 56

YEGOROV, V.G.

USSR/Mathematics - Total diff. equations

Card 1/1 Pub. 22 - 5/53

Authors : Yegorov, V. G.

Title : Stability of the solutions of the systems of equations in total differentials

Periodical : Dok. AN SSSR 102/4, 677-680, June 1, 1955

Abstract : A proof is presented of the stability of solutions of a system of equations in total differentials such as the following:

$$dx_s = P_s(u,x_1,x_2, \ldots, x_n)du - Q_s(v,x_1,x_2, \ldots,x_n)dv \quad (s = 1,2, \ldots, n),$$

where the function $P_s(u,x_1,x_2,\ldots, x_n)$ and $Q_s(v,x_1,x_2,\ldots, x_n)$ are determined together with their derivatives in a certain region H, and satisfy the conditions of their integrability in the region. Six references: 1 USA and 5 USSR (1934-1952).

Institution : The S. M. Kirov Uralskiy Polytechnical Institute

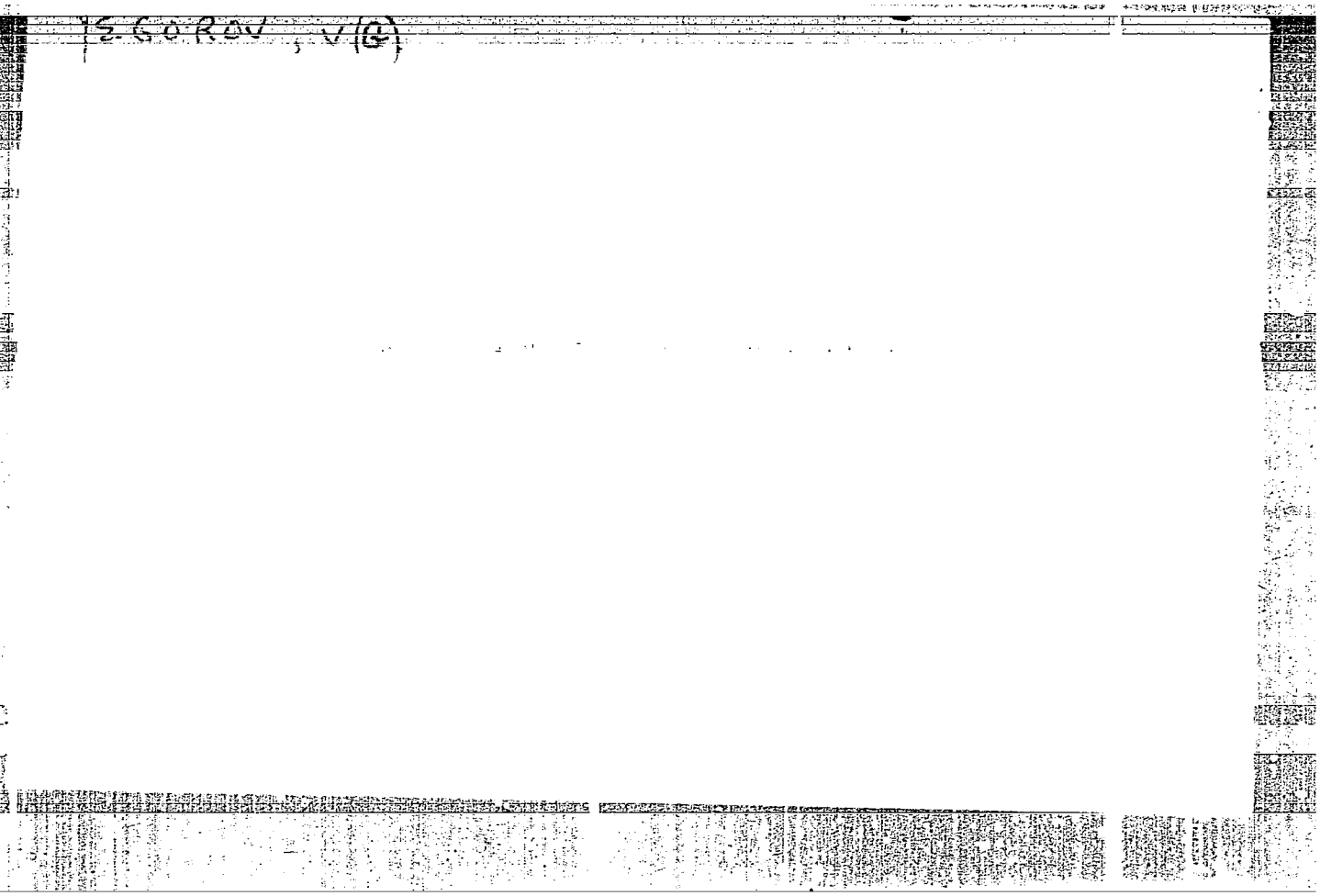
Presented by : Academician I. G. Petrovskiy, March 1, 1955

Call Nr: AF 11 8825

Transactions of the Third All-union Mathematical Congress (Cont.) Moscow, Jun-Jul '56, Trudy '56, V. 1, Sect. Rpts., Izdatel'stvo AN SSSR, Moscow, 1956, 237 pp.

Mention is made of Bernshteyn, S. N.

Card 17/80



APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R001962510005-2"

YEGOROV, V.G.

20-1-2/64

AUTHOR YEGOROV, V.G.

TITLE Stability of Solutions of the Periodical Systems of Equations with Total Differentials.
(Ustoychivost' resheniy periodicheskikh sistem v polnykh differentsialakh -Russian)

PERIODICAL Doklady Akademii Nauk SSSR,1957,Vol 114,Nr 1,pp 11 -13 (U.S.S.R.)

ABSTRACT Let a system of equations with total differentials of the kind dx= = p(u)xdu + q(v)xdv be given,with x denoting a line matrix. p(u) and q(v) are quadratic matrices which are continuous and limited and which also satisfy the integrability condition p(u)q(v)=q(v)p(u) for all u >0, v ⩾0.(In this context,u and v denote parameters). As it is known,this system then has a uniform solution satisfying the initial conditions given. The quadratic matrix, $X(u,v) = \|x_{ik}(u,v)\|_1^n$,the columns of which are the n independent solutions of this system,is called integral matrix of the system of equations given above. Apparently the matrix X(u)(v) satisfies the equation dX = p(u)Xdu+q(v)Xdv. If $\bar{X}$ is a nonsingular particular solution of the equation just given, then the general solution of this equation reads $X(u,v)=\bar{X}(u,v)C$,with C denoting an arbitrary constant matrix. If X(u,v) is the normed integral matrix of the first-mentioned system of equations,and if $\bar{X}(u)$ and $\bar{\bar{X}}(v)$ are the normed integral matrices of the systems dx=p(u)xdu and w.dx=q(v)xdv,respectively, then we have: $X(u,v) = \bar{X}(u)\bar{\bar{X}}(v) = \bar{\bar{X}}(v)\bar{X}(u)$.

Card 1/2 Then the paper under review proceeds to give the proof of this asser-

Stability of Solutions of the Periodical Systems of Equations with Total Differentials. 20-1-3/64

tion. Every arbitrary integral matrix of the first-mentioned system is nonsingular. Then the concept of the reducibility of the system given in the beginning and the concept of the Lyapunov matrix are defined. Finally, the paper under review lists the following two theorems:
Theorem 1: If $p(u)$ and $q(v)$ are periodic matrices, then the system $dx = p(u)xdu + q(v)xdv$ is reducible.
Theorem 2: The zero solution /zeroth solution?/ of the system $dx = p(u)xdu+q(v)xdv+P_1(u,x)du+ Q_1(v,x)dv$ is asymptotically stable, if the characteristic numbers of the systems $dx= p(u)xdu$, $dx=q(v)xdv$ are positive and if the constant $\mathcal{L}$ in the inequality $\mod(P_1,Q_1) \leq \mathcal{L}\sum_{s=1}^{n} |x_s|$ is sufficiently small. If, in particular, $p(u)$ and $q(v)$ are commutative matrices, then also the zero solution of the system given in the beginning is stable.
(No reproductions).

ASSOCIATION Ural Polytechnic Institute.
PRESENTED BY PETROVSKIY I.G., Member of the Academy
SUBMITTED 31.5.1955
AVAILABLE Library of Congress.
Card 2/2

AUTHOR: Yegorov, V.G. SOV/140-58-2-8/20

TITLE: Stability of the Solutions of "Generated" Systems of Differential Equations (Ustoychivost' resheniy "porozhdennykh" sistem differentsial'nykh uravneniy)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy Ministerstva vysshego obrazovaniya SSSR, Matematika, 1958, Nr 2, pp 84-92 (USSR)

ABSTRACT: The author considers the system

(1) $dx = p(u)x\,du + q(v)x\,dv,$

where x is a one-column matrix and p(u), q(v) are quadratic matrices being continuous and bounded for $u,v \geqslant 0$ and satisfying the condition

(2) $p(u)q(v) = q(v)p(u).$

Already several times the author [Ref 1,8] treated the systems (1). It was asserted that the stability of the trivial solution of (1) is determined completely by the stability of the trivial solutions of the systems

(3) $dx = p(u)x\,du$

(4) $dx = q(v)x\,dv.$

Card 1/2

In this connection there arises the problem to investigate the stability of systems of ordinary differential equations "generated" by the system (1) or the systems (3),(4), which arise by the fact that between the parameters u and v a certain functional connection is given. In five theorems, the present paper gives some assertions referring to this. It is a completion to [Ref 1] and [Ref 8].
There are 9 references, 8 of which are Soviet, and 1 German.

ASSOCIATION: Ural'skiy politekhnicheskiy institut imeni S.M.Kirova (Ural Polytechnical Institute imeni S.M.Kirov)

SUBMITTED: December 3, 1957

PETINOV, N.S.; LEBEDEV, G.V.; BAGIROV, A.Yu.; YEGOROV, V.G.

Quality of tea grown under new irrigation conditions. Biokhim. chain. proizv. no.8:26-28 '60. (MIRA 14:1)

1. Institut fiziologii rasteniy imeni K.A. Timiryazeva AN SSSR, Moskva i Avrorskaya chaynaya fabrika Sovnarkhoza AzerbSSR.
(Lenkoran Lowland--Tea--Irrigation)

YEGOROV, V.G. (Rostov-na-Donu)

Singular points of systems of equations in total differentials.
Ukr. mat. zhur. 17 no.6:117-122 '65. (MIRA 19:1)

1. Submitted November 6, 1964.

16(1)
AUTHOR: Yegorov,V.I.

SOV/39-48-2-6/9

TITLE: On Metric Dimension of Point Sets

PERIODICAL: Matematicheskiy sbornik, 1959,Vol 48,Nr 2,pp 227-250 (USSR)

ABSTRACT: The present paper is devoted to the investigation of the notion of the metric dimension of the given point set M (in symbols dm M). dm M is the smallest number r with the property that there exists an arbitrarily small shift of the set M into a locally finite polyhedron with the dimension r. Principal results:
Theorem: Let R be a metric space; we have dm $R \leqslant r$ then, and only then, if in every Lebesgue covering of R an open covering can be inscribed the multiplicity of which is $\leqslant r+1$.
Theorem: Let $M \subset E$. Then dm M is the greatest number r with the property that there exists a uniformly continuous, essential mapping of M into an r-dimensional closed simplex.
Theorem: If dm R = r and $A \subset R$ is an arbitrary set, then every uniform ∇-cycle of A, the dimension of which is $\geqslant r$, can be continued to the whole space R (a uniform ∇-cycle of a set is every ∇-cycle defined on the nerve of a Lebesgue covering of

Card 1/2

On Metric Dimension of Point Sets SOV/39-48-2-6/9

this set). 13 theorems and several definitions and lemmas are given altogether.

The author mentions P.S.Aleksandrov, K.A.Sitnikov, and Yu.M. Smirnov. He thanks Yu.M.Smirnov for the assistance.

There are 10 references, 6 of which are Soviet, 2 American, 1 Dutch, and 1 German.

SUBMITTED: October 9, 1957

YEGOROV, V. I.

16(1) PHASE I BOOK EXPLOITATION SOV/2660

Vsesoyuznyy matematicheskiy s"yezd. 3rd, Moscow, 1956

Trudy. t. 4: Kratkoye soderzhaniye sektsionnykh dokladov. Doklady inostrannykh uchenykh (Transactions of the 3rd All-Union Mathematical Conference in Moscow, vol. 4: Summary of Sectional Reports. Reports of Foreign Scientists) Moscow, Izd-vo AN SSSR, 1959. 247 p. 2,200 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Matematicheskiy institut.

Tech. Ed.: G.M. Shevchenko; Editorial Board: A.A. Abramov, V.G. Boltyanskiy, A.M. Vasil'yev, B.V. Medvedev, A.D. Myshkis, S.M. Nikol'skiy (Resp. Ed.), A.G. Postnikov, Yu. V. Prokhorov, K.A. Rybnikov, P. L. Ul'yanov, V.A. Uspenskiy, N.G. Chetayev, G. Ye. Shilov, and A.I. Shirshov.

PURPOSE: This book is intended for mathematicians and physicists.

COVERAGE: The book is Volume IV of the Transactions of the Third All-Union Mathematical Conference, held in June and July 1956. The book is divided into two main parts. The first part contains summaries of the papers presented by Soviet scientists at the Conference that were not included in the first two volumes. The second part contains the text of reports submitted to the editor by non-Soviet scientists. In those cases when the non-Soviet scientist did not submit a copy of his paper to the editor, the title of the paper is cited and, if the paper was printed in a previous volume, reference is made to the appropriate volume. The papers, both Soviet and non-Soviet, cover various topics in number theory, algebra, differential and integral equations, function theory, functional analysis, probability theory, topology, mathematical problems of mechanics and physics, computational mathematics, mathematical logic and the foundations of mathematics, and the history of mathematics.

Card 1/3

YEGOROV, V. I., inzh.

Radio communication system for municipal electric commuter trains. Avtom., telem. i sviaz' 7 no.4:34-36 Ap '63.
(MIRA 16:4)

(Electric railroads--Communication systems)

YEGOROV, V.I., KASHMENSKIY, Yu.N., PONOMAREV, P.V.

Changes in cardiovscular and renal function in hypothermia [with summary in English]. Exper.khir. 1 no.3:24-33 My-Je '56 (MIRA 11:10)

1. Iz kafedry gospital'noy terapii (nach. - chlen-korrespondent AMN SSSR prof. N.S. Molchanov) i kafedry gospital'noy khirurgii (nach. - prof. I.S. Kolesnikov) Voenno-meditsinskoy ordena Lenina adademii imeni S.M. Kirova.

(HYPOTHERMIA, eff.
on cardiovasc. & kidney funct. (Rus))
(CARDIOVASCULAR SYTEM, physiol.
eff. of hypothermia (Rus))
(KIDNEYS, physiol.
eff of hypothermia (Rus))

PAVLOV, G.S., YEGOROV, V.I.

Cultivation of microorganism under gas recirculation. Antibiotiki, 3 no.3:100-103 My-Je '58 (MIRA 11:7)
(MICROORGANISMS, culture
in gas recirculation phase (Rus))

YEGOROV, V.I.; SPITSYN, N.A. [deceased]

Some characteristics of gas and nitrogen metabolism during the growth and development of Bacillus anthracis. Veterinariia 38 no.2:45-47 F '61. (MIRA 18:1)

FAYBICH, M.M.; YEGOROV, V.I.; PISAREVSKIY, Yu.S.

Survival of microorganisms during freezing. Zhur.mikrobiol.epid.i immun. 33 no.5:68-72 My '62. (MIRA 15:8)

(MICRO-ORGANISMS) (COLD--PHYSIOLOGICAL EFFECT)
(GLYCEROL--PHYSIOLOGICAL EFFECT)

YEGOROV, V.I.

Lytic effect of dysentery and typhoid bacteriophages on Escherichia coli and Paracolobactrum coliforme. Preliminary report. Zhur. mikrobiol., epid. i immun. 40 no.2:19-20 F '63. (MIRA 17:2)

YEGOROV, V.I.; POBEDONOSTSEVA, N.N.

Graphic method for evaluating the efficiency of diamond bits for deep drilling. Izv.vys.ucheb.zav.; neft' i gaz 6 no.11:113-116 '63. (MIRA 17:9)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti im. akademika I.M.Gubkina i Vsesoyuznyy nauchno-issledovatel'skiy institut burovoy tekhniki.

YEGOROV, V.I.

Experience in the use of fluorescent sera for the diagnosis of dysentery. Zhur. mikrobiol., epid. i immun. 40 no.11:146 N '63. (MIRA 17:12)

YEGOROV, V.I.; NARYAKINA, V.M. (Kuybyshev)

Stimulating effect of weak solutions of ascorbic and nicotinic acids on the growth of dysentery bacteria. Lab. delo no. 11: 695-696 '64. (MIRA 17:12)

YEGOROV, V.I.

Two cases of chondromatosis of the elbow joint. Ortop., travm. i protez. 25 no.8:49-50 Ag '64. (MIRA 18:4)

ACCESSION NR: AR5017260 621.7.022.0

SOURCE: Ref. zh. Tekhnologiya mashinostroyeniya. Svodnyy tom, Abs. 6B470

AUTHORS: Yegorov, V. I.; Igudesman, R. Ye.

[illegible] cleaning of products after electrochemical treatment

CITED SOURCE: Sb. Primeneniye ul'trazvuka v mashinostr. Moscow [illegible] 1964, 123-129

[illegible] electrochemical process, ultrasound grease

[illegible]

[illegible] N [illegible]

ehop No. [illegible] MTZ an ultrasound cleaning method. This method completely removes the

L 32591-66 EWT(m)/EWP(t)/ETI IJP(c) JD

ACC NR: AR5023720 SOURCE CODE: UR/0081/65/000/013/L039/L039

AUTHOR: Pasakh, Ye. V.; Yegorov, V. I.; Kabova, Ts. G.

TITLE: Intensification of a zinc electroplating process by means of ultrasonic oscillations

SOURCE: Ref. zh. Khimiya, Abs. 13L278

REF SOURCE: Sb. Primeneniye ul'trazvuka v mashinostr. Minsk, Nauka i tekhnika, 1964, 118-122

TOPIC TAGS: zinc plating, electroplating, electroplating equipment, electrolyte, zinc plating, ultrasonic effect

ABSTRACT: A study was made of the intensification of a zinc-plating process by means of ultrasonic oscillations in an 800 l plating tank. A diagram is given of the distribution on its bottom of submerged magnetostriction transformers and of the values of sonic pressure on the liquid along the entire mirror of the tank. The irregularities of the plating and the given irregularities of sonic pressure did not exceed 15%. The zinc-plating was done using an electrolyte of the following composition: (in h/l) ZnO 10-14; NH_4Cl 240-260; joiners'

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L 32591-66
ACC NR: AR5023720 O

glue 1-2; pH 6.2-6.8, temperature 18-24°. No satisfactory visible results were obtained in Zn deposits in the 800 l tank under the condition developed for zinc-plating in tanks of 20 and 80 l capacity. An increased electrolyte concentration and a change of pH to 7.2-8.5, allowed increasing D_K to 5 a/dm^2. Under these conditions good-quality deposits were obtained, but the anodes were passivated. In order to minimize the passivation, the anode surface was enlarged. It was noted that in plating metals using ultrasound, the mounting of parts and their orientation in relation to the radiating surface of transformer and anodes are of great importance. Tests under industrial conditions, of this electrolyte with applied ultrasound showed that the work of this electrolyte was steady and that the productivity increased by 5 times. N. Balasheva

SUB CODE: 13,09/ SUBM DATE: 10Jul65

Card 2/2 BK

YEGOROV, V.I. (Moskva, st.Levoberezhnaya, Oktyabr'skoy zheleznoy dorogi. Do vostrebovaniya); KREKNIN, A.F.; KRIVOSHOV, Yu.A.; OBSKIY, V.D.

Healing of fractures in Arctic regions. Ortop., travm. i protez. 26 no.3:29-31 Mr '65. (MIRA 18:7)

L 4007-66 EWT(d)/EWP(c)/EWP(v)/T/EWP(k)/EWP(l)/ETC(m) WW

ACCESSION NR: AP5024419 UR/0286/65/000/015/0105/0106

35
B

AUTHORS: Yegorov, V. I.; Pasakh, Ye. V.; Bedritskiy, A. G.; Voron'ko, M. P.

TITLE: Acoustical detector. Class 42, No. 173490

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 15, 1965, 105-106

TOPIC TAGS: acoustic detector, elastic oscillation

14

ABSTRACT: This Author Certificate presents an acoustical detector for measuring elastic oscillations in noncorrosive media. The detector contains a cylindrical case, a receiver with a piezo element, and a coaxial cable. To increase the accuracy of measurements, the receiver case is placed inside the cylindrical shell with a fixed air gap (see Fig. 1 on the Enclosure). The receiver case can be moved axially relative to the shell, and is coupled to it by separating rings of sound-absorbent material. Orig. art. has: 1 diagram.

ASSOCIATION: Minskiy traktornyy zavod (Minsk Tractor Factory)

SUBMITTED: 10Apr64 ENCL: 01 SUB CODE: EC, ME

NO REF SOV: 000 OTHER: 000

Card 1/2 UDC: 621.3083.8:534.61

L 4007-66
ACCESSION NR: AP5024419

ENCLOSURE: 01

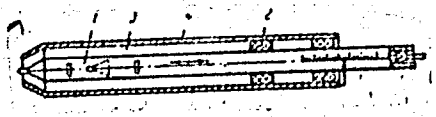

Fig. 1. 1- receiver case; 2- separating rings of acoustical shielding material; 3- air gap; 4- shell

Card 2/2

CHERNOZHUKOV, N.I., prof., doktor tekhn.nauk, red.; ZHIGACH, K.F., prof., otvetstvennyy red.; MURAV'YEV, I.M., prof., red.; TIKHOMIROV, A.I., kand.ekon.nauk, red.; YEGOROV, V.I., kand.ekon.nauk, red.; CHARYGIN, M.M., prof., red.; DUNAYEV, P.F., prof., red.; KUZMAK, Ye.M., prof., red.; CHARNYY, I.A., prof., red.; PANCHENKOV, G.M., prof., red.; DAKHNOV, V.N., prof., red.; NAMETKIN, N.S., doktor khim.nauk, red.; ALMAZOV, M.A., dots., red.; VINOGRADOV, V.N., kand.tekhn.nauk, red.; BIRYUKOV, V.I., kand.tekhn.nauk, red.; TAGIYEV, E.I., red.; GUREVICH, V.M., red.; ZAMARAYEVA, K.M., vedushchiy red.; MUKHINA, E.A., tekhn. red.

[Materials of the Interuniversity Conference on Problems of New Practices in the Petroleum Industry] Materialy mezhvuzovskogo soveshchaniya po voprosam novoy tekhniki v neftyanoy promyshlennosti. Moskva, Gos. nauchno-tekhn. izd-vo neft. i gorno-toplivnoi lit-ry. Vol.2. [Petroleum refining] Pererabotka nefti. 1958. 289 p. (MIRA 11:6)

1. Mezhvuzovskoye soveshchaniye po voprosam novoy tekhniki v neftyanoy promyshlennosti. 1956.
(Petroleum--Refining)

ZHIGACH, K.F., prof, red.; MURAV'YEV, I.M., prof. doktor tekhn.nauk, red.; TIKHOMIROV, A.A., kand.ekon.nauk, red.; YEGOROV, V.I., kand.ekon. nauk, red.; CHARYGIN, M.M., prof., red.; DUNAYEV, F.F., prof., red.; CHERNOZHUKOV, N.I., prof., red.; KUZMAK, Ye.M., prof., red.; CHARNYY, I.A., prof., red.; PANCHENKOV, G.M., prof., red.; DAKHNOV, V.N., prof, doktor geologo-mineralogicheskikh nauk, red.; NAMETKIN, N.S., doktor khim.nauk, red.; AIMAZOV, N.A., dots., red.; VINOGRADOV, V.N., kand.tekhn.nauk, red.; BIRYUKOV, V.I., kand.tekhn.nauk, red.; TAGIYEV, B.I., red.; GUREVICH, V.M., red.; DOBRYNINA, N.P., vedushchiy red.; MUKHINA, E.A., tekhn.red.

[Proceedings of an interschool conference on problems of new techniques in the petroleum industry] Materialy Mezhvuzovskogo soveshchaniya po voprosam novoy tekhniki v neftyanoy promyshlennosti. Moskva, Gos. nauchno-tekhn.izd-vo neft. i gorno-toplivnoi lit-ry. Vo.1. [Prospecting and exploitation of oil and gas fields] Razvedka i razrabotka neftianykh i gazovykh mestorozhdenii. 1958. 311 p. (MIRA 11:4)

1. Mezhvuzovskoye soveshchaniye po voprosam novoy tekhniki v neftyanoy promyshlennosti.

(Petroleum engineering) (Gas, Natural--Geology)

KUZMAK, Ye.M., prof. doktor tekhn. nauk, red.; TARAN , V.D.,prof., doktor tekhn. nauk, red.; ZHIGACH, K.F., prof.,red.; MURAV'YEV, I.M., prof.,red.; TIKHOMIROV,A.A., kand. ekon. nauk, red.; YEGOROV, V.I., kand. ekon. nauk, red.; CHARYGIN, M.M., prof., red.; DUNAYEV, F.F., prof., red.; CHERNOZHUKOV, N.I., prof., red.; CHARNYY,I.A., prof., red.; PANCHENKOV, G.M., prof., red.; DAKHNOV, V.N., prof., NAMETKIN, N.S., doktor khim. nauk, red.; ALMAZOV, N.A., dots., VINOGRADOV, V.N., kand. tekhn. nauk, red.; BIRYUKOV, V.I., kand. tekhn. nauk, red.; TAGIYEV, E.I., red.; GUREVICH, V.M., red.; GOR'KOVA, A.A., ved. red.; FEDOTOVA, I.G., tekhn. red.

[Proceedings of the conference of technical schools on the problems of new equipment for the petroleum industry] Mezhvuzovskoe soveshchanie po voprosam novoi tekhniki v neftianoi promyshlennosti. 1958. materialy... Moskva, Gos. nauchno-tekhn. izd-vo neft. i gorno-toplivnoi lit-ry. Vol. 3. [Manufacture of petroleum industry equipment] Neftianoe mashinostroenie. 1958. 222 p. (MIRA 11:11)
(Petroleum industry--Equipment and supplies)

CHERNOZHUKOV, N.I., prof., doktor tekhn.nauk, red.; ZHIGACH, K.F., prof., red.; MURAV'YEV, I.M., prof.,red.; TIKHOMIROV, A.A., kand.ekon. nauk, red.; YEGOROV, V.I., kand.ekon.nauk, red.; CHARYGIN, M.M., prof., red.; DUNAYEV, F.F., prof., red.; KUZMAK, Ye.M., prof., red.; CHARNYY, I.A., prof., red.; PANCHENKOV, G.M., prof., red.; DAKHNOV, V.N., prof., red.; NAMETKIN, N.S., doktor khim.nauk, red.; ALMAZOV, N.A., dotsent, red.; VINOGRADOV, V.N., kand.tekhn.nauk, red.; BIRYUKOV, V.I., kand.tekhn.nauk, red.; TAGIYEV, B.I., red.; GUREVICH, V.M., red.; ZAMARAYEVA, K.M., vedushchiy red.; MUKHINA, E.A., tekhn.red.

[Petroleum refining; articles] Pererabotka nefti; materialy. Moskva, Gos.nauchno-tekhn.izd-vo neft. i gorno-toplivnoi lit-ry. Vol.2. 1958. 289 p. (MIRA 12:1)

1. Mezhvuzovskoye soveshchaniye po voprosam novoi tekhniki v neftyanoy promyshlennosti, Moscow, 1956. 2. Moskovskiy neftyanoy institut (for Chernozhukov, Panchenkov).
(Petroleum--Refining)

ZHIGACH, K.F., prof., otv.red.; MURAV'YEV, I.M., prof., red.; TIKHOMIROV, A.A., kand.ekonom.nauk; red.; VINOGRADOV, V.N., kand.tekhn.nauk, red.; SIDORENKO, N.V., red.; BRENTS, A.D., red.; CHARYGIN, M.M., prof., red.; DUNAYEV, F.F., prof., red.; CHARNYY, I.A., prof., red.; CHERNOZHUKOV, N.I., prof., red.; KUZMAK, Ye.M., prof., red.; DAKHNOV, V.N., prof., red.; PANCHENKOV, G.M., prof., red.; NAMETKIN, N.S., prof., red.; TAGIYEV, E.I., prof., red.; BIRYUKOV, V.I., kand. tekhn.nauk, red.; YEGOROV, V.I., kand.tekhn.nauk, red.; ALMAZOV, N.A., dotsent, red.; GUREVICH, V.M., red.; ISAYEVA, V.V., vedushchiy red.; POLOSINA, A.S., tekhn.red.

[Development of the gas industry of the U.S.S.R.; from the proceedings of the Interuniversity Scientific Conference on the Problems of the Gas Industry] Mezhvuzovskaia nauchnaia konferentsiia po voprosam gazovoi promyshlennosti. Razvitie gazovoi promyshlennosti SSSR; materialy. Moskva, Gos.nauchno-tekhn.izd-vo neft. i gorno-toplivnoi lit-ry, 1960. 405 p. (MIRA 13:11)

1. Mezhvuzovskaya nauchnaya konferentsiya po voprosam gazovoy promyshlennosti. 2. Glavgaz SSSR (for Brents). 3. Moskovskiy institut neftekhimicheskoi i gazovoi promyshlennosti im. akad.Gubkina (for Charygin, Charnyy).

(Gas industry)

GORKIN, S.F.; YEGOROV, V.I.

Improve the economic training of engineers of the petroleum and gas industries. Izv. vys. ucheb. zav.; neft' i gaz 4 no.4:3-6 '61. (MIRA 15:5)

(Petroleum engineers--Education and training)
(Economics--Study and teaching)

POBEDONOSTSEVA, N.N.; YEGOROV, V.I.

Determining the efficiency of using rotary and turbine methods in drilling extra-deep wells. Izv. vys. ucheb. zav.; neft' i gaz 4 no.6:131-137 '61. (MIRA 15:1)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti imeni akademika I.M.Gubkina.
(Oil well drilling)

POBEDONOSTSEVA, N.N.; YEGOROV, V.I.

Graphic method evaluating the efficiency of using turbine and rotary systems in deep drilling. Izv.vys.ucheb.zav.; neft' i gaz 4 no.7:109-113 '61. (MIRA 14:10)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti im. akademika I.M.Grubkina.
(Oil well drilling--Graphic methods)

YEGOROV, V.I.

"Financing oil and gas industries" by I.M.Broide. Reviewed by V.I.Egorov. Neft. khoz. 39 no.4:69-71 Ap '61. (MIRA 14:6)
(Petroleum industry—Finance)
(Gas industry—Finance)
(Broide, I.M.)

YEGOROV, V.I.; POBEDONOSTSEVA, N.N.

Practice of using jet bits in southern areas of our country. Neft. khoz. 39 no.11:11-14 N '61. (MIRA 14:12)
(Oil well drilling--Equipment and supplies)

YEGOROV, V.I., red.; TKACHENKO, O.V., vod. red.

[Economic problems of petroleum production] Voprosy ekonomiki neftodobyvaiushchei promyshlennosti. Moskva, ITEIneftegaz, 1962. 120 p. (MIRA 16:12)

1. Institut tekhnicheskoy informatsii i ekonomicheskikh issledovaniy po neftyanoy i gazovoy promyshlennosti.
(Petroleum production)

POBEDONOSTSEVA, N.N.; YEGOROV, V.I.

General improvement of methods and equipment is the basis for improving the economic indices of deep drilling. Izv. vys. ucheb. zav.; neft' i gaz 5 no.1:105-110 '62. (MIRA 16:11)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti imeni akademika I.M. Gubkina.

DOBROVOL'SKIY, M.B.; DUNAYEV, F.F.; YEGOROV, V.I.

Comparative measurement of petroleum reserves of various categories. Izv.vys.ucheb.zav.; neft' i gaz 5 no.12:107-110 '62.
(MIRA 17:4)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti imeni akademika Gubkina.

POBEDONOSTSEVA, N.N.; YEGOROV, V.I.

Possibilities of increasing the efficiency of deep drilling. Trudy MINKHiGP no.40:3-22 '63. (MIRA 16:4)
(Oil well drilling)

YEGOROV, V.I., dotsent

Electrodrill as an important reserve in deep drilling. Izv. vys. ucheb. zav.; neft' i gaz 6 no.1:3-7 '63. (MIRA 17:10)

1. Moskovskiy ordena Trudovogo Krasnogo Znameni institut neftekhimicheskoy i gazovoy promyshlennosti im. akad. Gubkina.

YEGOROV, V.I.; POBEDONOSTSEVA, N.N.

Economic efficiency in the use of diamond bits. Izv.vys.ucheb. zav.; neft' i gaz 6 no.9:101-105 '63. (MIRA 17:2)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti im. akad.I.M.Gubkina i Vsesoyuznyy nauchno-issledovatel'skiy institut tekhniki.

STELETSKAYA, L.N.; YEGOROV, V.I.

Dependence of the maximum length of gas pipelines of various diameters on efficiency factors. Izv. vys. ucheb. zav.; neft' i gaz 7 no.8:117-120 '64. (MIRA 17:10)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti imeni akademika Gubkina.

YEGOROV, V.I.

Remarks on I.A.Ostroushko's book "Disintegration of rock during drilling; theory of bore-hole bottom processes". Reviewed by V.I.Egorov. Razved. i okh.nedr. 20 no.6:60-61 N-D '54. (Boring) (Ostroushko, I.A.) (MLRA 9:6)

YEGOROV, V.I. gornyy inzhener

Effect of energy absorption by rock on the productivity of a percussion cable tool. Gor. zhur. no.4:24-27 Ap '55. (MLRA 8:7)
(Boring machinery)

SEREBRYAKOV, V.N.; GALYGIN, Ye.L.; YEGOROV, V.I.

The BSMR boring machine. Gor.zhur. no.4:53-54 Ap '55. (MLRA 8:7)
(Boring machinery)

YEGOROV, V.I.

99-58-5-8/10

AUTHORS: Bogushevskiy, A.A.; Yegorov, V.I.; Sheynkin, G.Yu.

TITLE: Anniversary Scientific Conference of the Moscow Institute of Engineers of Hydraulic Engineering imeni V.R. Wiliams (Yubileynaya nauchnaya konferentsiya Moskovskogo instituta inzhenerov vodnogo khozyaystva imeni V.R. Vil'yamsa)

PERIODICAL: Gidrotekhnika i Melioratsiya, 10 Nr 5, pp 56-59 (USSR)

ABSTRACT: This conference was convened in Moscow in November 1957, on the occasion of 40-th Anniversary of the October revolution. Representatives of 38 institutes, ministries, academies of sciences, and other organizations participated: 80 reports were made on different branches of hydro-melioration engineering among them the review lectures of Dotsents S.F. Aver"yanov, N.A. Karambirov, N.D. Kremenetzkiy, Academicians A.N. Askochenskiy, Ye.A. Zamarin, and Professors M.F. Poyarkov, D.Ya. Sokolov and M.M. Florinskiy. In the Section of Agricultural Melioration and Water-Supply 27 reports were read. The melioration of bottom lands was the subject of the reports of: Candidate of Agricultural Sciences Ye.S. Markov, Professor

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Anniversary Scientific Conference of the Moscow Institute of Engineers of Hydraulic Engineering imeni V.R. Williams

I.I. Plyusnin, Dotsents T.A. Lobanova and I.A. Vernikovskaya (MIIVKh). The projecting-type of meliorative systems, construction and operation of drainage were reported by: Engineer P.G. Fialkovskiy (Rosgiprovodkhoz) Candidate of Technical Sciences V.A. Rozin (SevNIIGiM), Engineer P.B. Sviklis (LatNIIGiM) and Candidate of Technical Sciences R.Ya. Narodetskaya (Rosgiprovodkhoz). New techniques in the field of irrigation were reported on by: Candidates of Technical Sciences A.A. Bogushevskiy and M.Z. Gankin (Giprovodkhoz) and the Engineer S.Z. Tsanov (MIIVKh). Questions of planning in cotton-growing regions of Central Asia were reported on by Candidates of Technical Sciences, A.N. Lyabin (TIIIMSKh) and N.P. Samsonova (VNIIGiM). The questions of rural water supply were reported on by: Dotsent N. A. Karambirov (MIIVKh), Dotsent S.N. Gusev (MIIVKh)and Rosgiprovodkhoz), Engineer N.P. Frog (Giprovodkhoz) and Engineer V.A. Ruzhinskaya (Lengiprovodkhoz). Professor A.L. Rubinshteyn and Dotsent I.I. Trofimov(MIIVKh) reported on the problem

Anniversary Scientific Conference of the Moscow Institute of Engineers of Hydraulic Engineering imeni V.R. Williams

of loess soil. The water losses to irrigation canals and the question of reducing them were the objects of the reports by: Academician V.V. Poslavskiy, Candidates of Technical Sciences S.A. Girshkan (Glavvodkhoz MSKh USSR) and G.V. Abelishvili (GruzNIIGiM) and Doctor of Technical Sciences N.P. Chebotarev (Kiyev GMI). In the section of hydro-technical constructions 16 reports were read. Professor K.V. Popov (MIIVKh) eulogized the late Professor V.V. Podarev. Reports concerning irrigation structures, automation and mechanization of irrigation systems, etc., were made by: Dotsents M.V. Korovchinskiy (MIIVKh), A.N. Ivanov (MIIVKh), I.A. Vasil'yeva (MIIVKh), Candidate of Technical Sciences S.G. Melik-Nubarov, Engineer V.A. Andreyev (Sredazgiprovodkhlopok), Assistant S.A. Bryzgalov. Other reports in this section were read by: Candidates of Technical Sciences Z.M. Guzov (Kiyev GMI) and T.I. Aref'yeva (MIIVKh), Professor L.M. Emel'yanov and Dotsent S.V. Vinogradov (MIIVKh), Dotsent G.I. Kolyayev (Kiyev GMI), and Engineers V.S. Misenev (MIIVKh) and V.G. Sokolovskiy (LatNIIGiM). In the section

Anniversary Scientific Conference of the Moscow Institute of Engineers of Hydraulic Engineering imeni V.R. Wiliams

of utilization of water energy, of pumping stations, hydro-mechanics and hydraulic engineering 19 reports were read. Professor M.F. Poyarkov (MIIVKh), Doctor of Technical Sciences Ya.N. Flekser, Dotsent Kovalenko reported on achievements in rural electrification, exploitation of hydro-electric stations. Professor N.P. Chebotarev and Candidate of Technical Sciences F.T. Markovskiy (Kiyev GMI) reported on calculations of hydraulic power projecting. On problems of projecting and exploitation of pumping stations, reports were read by: Professor M.M. Florinskiy, Dotsents A.A. Tret"yakov and M.I. Lyatskiy, and Candidate of Technical Sciences N.A. Gretsov (MIIVKh). The questions of hydro-mechanics and hydro-dynamics were reported on by: Professors S.S. Byushgens (MIIBKh), F.I. Pikalov (MIIVKh) and G.V. Zheleznyakov, Dotensts V.P. Pilatovskiy, M.V. Korovchinskiy, G.T. Dmitriyev, V.P. Kazakov, Engineer I.G. Kobernik and O.M. Ayvazyan (MIIVKh).

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Card 4/4 1. Conferences-Hydraulic Engineering-Moscow 2. Irrigation systems-USSR 3. Water supplies-USSR 4. Drainage-USSR 5. Agriculture-USSR

YEGOROV, V.I.; FEYGIN, Z.S.; SAKHAROV, V.A.

Application of ultrasonic waves in the cleaning of the waste catcher tubes of spinning machinery. Tekst. prom. 25 no.5:32-34 My '65. (MIRA 18:5)

1. Nachal'nik Bazovoy laboratorii ul'trazvukovoy i elektroerozionnoy obrabotki materialov Soveta narodnogo khozyaystva BSSR (for Yegorov). 2. Starshiy inzh. Bazoroy laboratorii ul'trazvukovoy i elektroerozionnoy obrabotki materialov Soveta narodnogo khozyaystva BSSR (for Feygin). 3. Nachal'nik pryadil'nogo tsekha Minskogo kamvol'nogo kombinata (for Sakharov).

Yegorov, V.I

81821

S/129/60/000/07/006/013
E193/E235

18.8200

AUTHORS: Fridman, Ya. B., Doctor of Technical Sciences, Professor, and Yegorov, V. I., Engineer

TITLE: The Effect of Work-Hardening on the Tendency to Failure due to Thermal Fatigue

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov, 1960, No. 7, pp. 27-30

TEXT: The object of the present investigation was to study the effect of cyclic temperature variation on the mechanical properties of work-hardened and annealed austenitic steel 1Kh18N9T," containing 0.1% C, 1.1% Mn, 20% Cr, 11% Ni, 0.97% Ti, 0.019% S, and 0.014% P. The experiments were carried out on test pieces 6 mm diameter which, after quenching from 1100°C, were subjected to cyclic temperature changes, both in the as-quenched (annealed) condition and after a preliminary plastic deformation (in tension) of 5 and 20%. The duration of each cycle was 9 min, 7 min being allowed for the specimen to reach the upper temperature limit (600, 720, or 800°C) and 2 min to cool down to room temperature by quenching in water. After a number (up to 700) of such cyclic temperature variations,

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the true tensile strength S_K, U.T.S. (σ_y), and the reduction of area, ϕ, of the specimens were determined. To check whether the observed changes in the mechanical properties of the investigated material were not produced by heating the material to high temperature alone, several specimens were held at 720°C for periods equal to those during which the corresponding specimens, subjected to cyclic temperature variation, stayed at this temperature, after which their mechanical properties were also determined. Finally, the effect of the cyclic temperature variation on the notch sensitivity of the investigated steel was studied on specimens in which holes 1.5 mm diameter had been drilled prior to the experiments. Several conclusions were reached. (1) Cyclic temperature variation lowers the strength and ductility of both annealed and work-hardened austenitic steel to the extent which depends on the upper temperature limit of the heating/cooling cycles and the number of cycles. (2) The observed reduction in strength and ductility is due to the action of

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stresses set up in the material during cyclic heating and cooling. Prolonged heating at temperatures employed in the course of the present investigation, has no harmful effect on the properties of the steel studied. (3) Preliminary plastic deformation has no significant effect on the sensitivity of steel 1Kh18N9T to cyclic temperature variation when the number of the heating/cooling cycles is relatively small. However, when a certain critical number of cycles, which depends on the upper temperature limit, is exceeded, strength and ductility of work-hardened steel decrease more rapidly than those of the annealed material. (4) The harmful effect of preliminary plastic deformation is apparently not removed by the processes of recovery and recrystallization which must take place when the specimens are heated. (5) The presence of stress risers in the specimens of steel 1Kh18N9T, subjected to cyclic temperature variation between 800 and 20°C, results in a sharp decrease in their

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The Effect of Work-Hardening on the Tendency to Failure due to Thermal Fatigue

strength. There are 5 figures and 7 references: 5 Soviet and 2 English.

ASSOCIATION: Moskovskiy inzhenergo-fizicheskiy institut
(The Moscow Institute of Physics and Technology)*
*[Annotation: Correctly Moscow Engineering-Physical Institute]

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4

S/032/60/026/04/2 /046
B010/B006

AUTHORS: Fridman, Ya.B., Sobolev, N.D., Yegorov, V.I.

TITLE: Thermal Fatigue Tests Under Conditions of Pure Shearing Stresses

PERIODICAL: Zavodskaya labcratoriya, 1960, Vol. 26, No. 4, pp. 467-472

TEXT: Giving several examples, the state of stress in workpieces subjected to cyclic temperature variations is discussed. It is pointed out that all states of stress and deformation (monoaxial, biaxial, triaxial) can occur under the influence of temperatures realized under practical conditions. It would therefore be necessary to lay down the technical theory of strength, since the behavior of material in an arbitrary state of stress can, according to the well known criterion of strength, be determined from the test results of a simple state of stress. First experiments in this direction were made by V.N. Kuznetsov (Ref. 2) and L. Coffin (Ref. 3). Kuznetsov regarded the deformation energy as criterion of strength. As the results obtained by the two investigators are in good agreement, it may be assumed that the deformation energy can be regarded as criterion of strength. In the present publication, a

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Thermal Fatigue Tests Under Conditions of Pure Shearing Stresses

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B010/B006

method for testing thermal fatigue under pulsating torsion is described, in which an alternating state of pure shearing stress occurs. The fact that the extreme deformation values correspond to the extreme values of test temperatures was taken into account when working out the test method, and a corresponding testing apparatus (Fig. 3, scheme) was designed. The amplitude of the torsion angle of the sample can be varied within a wide range. Specimen heating is effected by passing a current through, while the coolant flows through the specimen via an electromagnetic EMK valve. An EPV-012 potentiometer is used to control the heating-cooling cycle. Tests were carried out using special thin-walled tube specimens (Fig. 5) made of refractory alloys. Temperature cycles of 630°±70° and various mechanical deformation amplitudes were applied. From test results obtained, the fatigue curves were plotted in the semilogarithmic coordinates "deformation change - number of stress cycles up to destruction" (Fig. 7). A publication by S.V. Serensen and P.I. Kotov is mentioned in the present paper. There are 8 figures and 4 references, 3 of which are Soviet.

ASSOCIATION: Moskovskiy inzhenerno-fizicheskiy institut (Moscow Institute of Engineering and Physics)

Card 2/2

S/032/60/026/008/001/
B015/B064

AUTHORS: Fridman, Ya. B., Yegorov, V. I.

TITLE: Influence of the Yielding of the Loading Device on the Process of Deformation and Destruction of Materials

PERIODICAL: Zavodskaya laboratoriya, 1960, Vol. 26, No. 8, pp. 980-984

TEXT: The process of the extension of cracks in some materials was investigated at varying yielding of the loading device in consideration of [illegible] advice given by T. K. Zilova. A special device (Fig. 1) was designed which allows static bending tests with simultaneous microscopic examination of the crack formation. The tests were carried out at a yielding of the loading device of $6 \cdot 10^{-3}$ mm/kg and $31 \cdot 10^{-3}$ mm/kg. Notched specimens of oriented organic glass as well as of metal alloys of the type B 95 (V 95) and Д 16 (D 16) were examined. The tests made with organic glass showed that the effect of the yielding of the loading device on the breaking load depends on the diameter of the notch (Table). The results obtained in testing the above alloys also showed that the yielding of the

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loading device exerted an influence upon the diagram of static bending of the specimen. This influence is greater in the V 95 alloy (Fig. 4). V. R. Regel' is mentioned in the paper. A paper by B. V. Perov and M. M. Gudimov (Ref. 13) is referred to in connection with the physical and mechanical properties of organic glass. There are 4 figures, 1 table, and 14 references: 12 Soviet and 2 German.

ASSOCIATION: Moskovskiy inzhenerno-fizicheskiy institut (Moscow Physics and Engineering Institute)

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18.8200 2808, 1454, 1416

21.1300 (1138, 1425, 1504)

S/089/61/010/006/005/011
B136/B201

AUTHORS: Fridman, Ya. B., Sobolev, N. D., Borisov, S. V. Yegorov, V. I., Konoplenko, V. P., Morozov, Ye. M. Shapovalov, L. A. and Shorr, B. F.

TITLE: Some problems of thermal strength in reactor construction

PERIODICAL: Atomnaya energiya, v. 10, no. 6, 1961, 606 - 619

TEXT: The general idea of the failure of thermal strength includes two types of fracture: the gradual (subcritical) fracture as a consequence of an extreme deformation or of a great number of cracks or of large-sized cracks; causes and manifestations of those fractures are discussed, and the loss of elastic or plastic strength on the passage through the critical state. Either type of fracture may be brought about by four causes of stress: 1, mechanical or thermal shock stresses; 2, brief static loads for some minutes or hours; 3, static loads for some months or years; 4, periodic loads. Fig. 1 presents examples in the variation of elastic and plastic conditions in a tube, and a fictitious elastic tension is shown to arise in the plastic zone (dashed line), while the forms of mechanical

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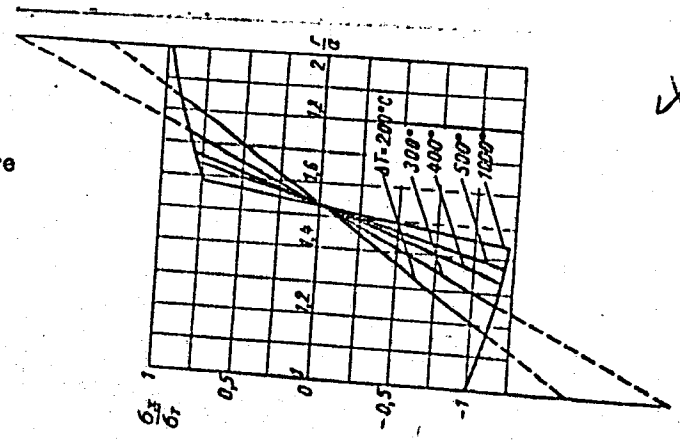
and thermal stress are intercompared in Fig. 4. Creep arises in nonuniformly heated structural elements, and cracks appear as a consequence of plastic deformation, particularly with materials having a low plasticity at room temperature. For calculating the creeping process the assumption is made on the basis of the creep theory that there is a functional relationship between the rate of creep v_i, the instantaneous stress σ_i, the temperature T, the time τ, and the plastic deformation P, namely, $v_i = v_{i_*}\left(\frac{P}{P_*}\right)^{-\alpha}$. Here, $P = \int_0^{\tau} v_i d\tau$; $v_{i_*} = f_{i_*}(\sigma_i, T)$; $P_* = f_*(\sigma_i, T)$. The thermal fatigue fracture has much in common with the mechanical one. It can be therefore determined from the known mechanical properties of a material. Whereas, however, the thermal fracture appears already after 10^3-10^4 cycles, the mechanical one takes 10^7-10^8 cycles to appear. A characteristic feature of the thermal fracture is the local deformation in zones with a particularly large temperature difference also in homogeneous fields of stress. This is also related to the appearance of high microstresses (Table 3). For sudden thermal shocks the temperature jump giving rise to a brittle fracture may

be estimated by an equation. Of importance in the practice, however, is the creep cha: ıter and the durability of the material under combined mechanical and nonsteady thermal loads. Experimental results are illustrated in Fig. 9, where the curves of variation of length-versus-time (scale 400:1) are compared with the cyclic temperature curve II and the thermal and elastic deformation III. As opposed to combined stress conditions, in which the strain-stress characteristic concerned is worsened with increased temperatures, stresses in case of a purely thermal stress are of a thermal origin and lead to bulging of structural elements in the hot zones, without, however, causing their breakdown. The micromechanical properties were checked in two ways. The principle of the second is illustrated in Fig. 13, while the results of the former - for static elongations and at 1400 - 1500°C in vacuum or in a controlled atmosphere, are presented in Fig. 12. In Fig. 13, 1 denotes the sample with a cross section of 2 X 1 or 3 X 1 mm, that is placed in a groove milled out from block 2. The pressure is yielded by stamp 3 made of tungsten briquettes 4. The resulting breakdown is indicated over contact 7. There are 13 figures, 3 tables, and 39 references: 27 Soviet-bloc and 12 non-Soviet-bloc. The three most recent references to English-language publications

Some problems of thermal strength ...

read as follows: Fracture, New York, Wiley and Sons, 1959; E. Sternbery, I. Chakravorty, Quart. Appl. Math., 17, no. 2, 205 (1959); E. Glenny et al. J. Inst. Metals, May (1959).

SUBMITTED: September 19, 1960



Legend to Fig. 1: Distribution of axial stresses and enlargement of the plastic zone in a thick-walled tube with various temperature jumps: r - radius of an arbitrary point; a - inner radius

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S/659/62/009/000/011/030
I003/I203

AUTHORS: Yegorov, V. I. and Sobolev, N.D.

TITLE: Investigation of the resistance to thermal fatigue under various conditions of stress

SOURCE: Akademiya nauk SSSR. Institut metallurgii. Issledovaniya po zharoprochnym splavam v. 9. 1962. Materialy Nauchnoy sessii po zharoprochnym splavam (1961 g.), 81-88

TEXT: Failures caused by thermal fatigue are of great importance in the construction of airplanes, rockets and thermonuclear installations. Thin-walled tubes of ЭИ-888 (EI-888) austenitic and ЭИ-852 (EI-852) steels were investigated for a temperature range from 650° to 250°C. The samples were heated by an electric current and cooled by a stream of air. The duration of one cycle was 30 sec. Heating by an electric current increases the sensitivity of the test because it causes overheating of the defective spots and therefore the failure of the sample takes place soon after the first crack occurs. In the discussion, Nikitina L. P. expressed the opinion that the heating-cooling cycles were too short, and that it may be necessary to keep the materials for a more prolonged time at the elevated temperatures for a truer evaluation of the thermal fatigue resistance. N. I Kononchuk pointed out that it is not exactly clear what the authors mean by a failure, whether it is the occurence of a crack or a breaking-up of the sample. He also sees no way of using the results of this investigation so as to include an evaluation of the strength of materials under different combinations of stresses There are 3 figures and 1 table.

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S/032/62/028/010/007/009
B117/B186

18.9200

AUTHORS: Sobolev, N. D., and Yegorov, V. I.

TITLE: Methods of testing thermal fatigue in the case of uniaxial stress

PERIODICAL: Zavodskaya laboratoriya, v. 28, no. 10, 1962, 1238 - 1242

TEXT: Testing methods were developed with allowance for the condition that the rates of mechanical deformation may be both smaller and greater than those of thermal deformation. First, if the mechanical deformation is equal to or smaller than the thermal deformation, a testing machine is used which is similar to that employed in tests with variable load rigidity (S. V. Serensen and P. I. Kotov. Zavodskaya laboratoriya, XXV, 10 (1959)). "Softer" load conditions with the mechanical deformation less than the thermal deformation are obtained by a free play between the sample and the clamping bolt or by using elastic elements (calibrated Belleville springs). Although the kind of deformation is different owing to the two types of load involved it does not affect the endurance of the sample before cracking. Evaluation of the total endurance indicates that load

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Methods of testing thermal...

rigidity is easier to vary with the free play. Similar conditions were observed for mechanical fatigue (R. D. Vagapov and Ya. B. Fridman. Zavodskaya laboratoriya, XXVII, 2, 183 (1961)). Secondly, if the mechanical deformation is stronger than the thermal deformation, fatigue is tested with a tensile-and-compression-testing machine. The samples are subjected to an additional pressure while being heated and to additional elongation while being cooled. Thermal and mechanical cycles were programmed only for the basic conditions of thermal fatigue; that extreme values of deformation correspond to extreme temperatures. Under actual condition for the great variety of temperature and deformation variations per cycle, a special follow-up system has to be used in programming. The methods proposed here were used to set up fatigue curves for a wide range of stress-strain variations (200 - 10,000 cycles) under equal thermal conditions ($650 \rightleftarrows 250^{\circ}C$) for the steel grades ЭИ852 (EI852) and ЭИ888 (EI888). The results were comparable to those obtained by determining the fatigue of a material at a constant temperature or in other states of stress within the same temperature range (Ya. B. Fridman, N. D. Sobolev and V. I. Yegorov. Zavodskaya laboratoriya, XXVI, 4, 467 (1960)). There are 5 figures.

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Methods of testing thermal... S/032/62/028/010/007/009
B117/B186

ASSOCIATION: Moskovskiy inzhenerno-fizicheskiy institut (Moscow Engineering Physics Institute)

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