KRAVCHUK, G.L.

Summer phenophases of the landforms in Lvov Province. Geog.sbor. L'vov.otd.Geog.ob-va SSSR no.8:135-139 '64.

(MIRA 18:5)

KRAVCHUK, I.

PROSKURYAKOV, V.; KRAVCHUK, I.

Observations of telescopic meteors made at Kiev Astronomical Observatory in 1940. Publ.Kiev.astron.obser. no.3:77-83 '50. (Meteors) (MLRA 7:9)

KRAVCHUK, I.

We strive for high quality of production. Sil'. bud. 12 no.1:14-15 Ja '62. (MIRA 16:12)

1. Predsedatel' soveta Volodarskoy mezhkolkhoznoy stroitel'noy organizatsii Kiyevskoy oblasti.

SOV/86-58-10-11/40

AUTHOR: Kravchuk, I.A., Guards Maj, Military Navigator First Class

TITLE: Torpedo Bombers Attack Ships at Sea (Torpedonostsy atakuyut korabli v more)

PERIODICAL: Vestnik vozdushnogo flota, 1958, Nr 10, pp 24-28 (USSR)

ABSTRACT: The author discusses methods of attack used by torpedo bombers against ships maneuvering at sea. Three diagrams.

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KRAVCHUK, Ivan Ivanovich, MOROKHIN, Boris Grigor'yevich,; GRISHIN, Yu.A., red.; PETIN, M.I., red. izd-va,; TIKHONOVA, Ye.A., tekhn. red.

[Teaching ship care to first class seaman] Proizvodstvennoe obuchenie matrosov 1 klassa. Moskva, Izd-vo "Morskoi transport," 1958. 218 p. (MIRA 11:11)

(Naval education)

S/076/60/034/012/014/027
B020/B067

AUTHORS: Medvedeva, N. I., Neyman, M. B., Torsuyeva, Ye. S., and Kravchuk, I. P.

TITLE: Kinetic Method of Using Labelled Atoms in the Study of Complex Chemical and Biochemical Processes. X. Study of the Rates of Formation and Consumption of Ethylene in the Cracking of Propane

PERIODICAL: Zhurnal fizicheskoy khimii, 1960, Vol. 34, No. 12, pp. 2780-2788

TEXT: Fig. 1 shows the scheme of a vacuum device for propane cracking, which was made under static conditions in a quartz reaction vessel. The reaction vessel was inserted into a horizontal tube furnace. The temperature of the furnace was controlled by a calibrated chromel-alumel thermocouple. Propane to which labelled ethylene $C_2^{14}H_4$ had been added was cracked and was synthetized from propylbromide via an organic magnesium compound. It contained 0.5% ethane and 1% propylene. The ethylene labelled

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Kinetic Method of Using Labelled Atoms in the Study of Complex Chemical and Biochemical Processes. X. Study of the Rates of Formation and Consumption of Ethylene in the Cracking of Propane

S/076/60/034/012/014/027
B020/B067

with radioactive carbon $C^{14}$ was produced from $BaC^{14}O_3$. A chromatographic column filled with MCM-1 (MSM-1) silica gel was used to isolate the reaction products. Fig. 3 shows the characteristic separation curves of the cracking products of propane: the time or the proportional amount of nitrogen which has passed through the column were plotted along the axis of abscissas, the values read from the interferometer were plotted along the axis of ordinates. The maximum measuring error was 10-15%. By means of the method described the authors studied the cracking of propane by adding labelled ethylene up to a 20-25% conversion at 520, 594, 532, and 510°C. Fig. 4 shows the kinetic curves of the decomposition of propane with a content of 0.5% of ethane and 1% of labelled ethylene at four temperatures. The activation energy of the entire propane cracking process increases from 65,500 cal/mole with a 3% conversion to 72,500 cal/mole with 17% conversion. Fig. 6 shows the change of the specific activity of ethylene (Curve 1) and ethane (Curve 2) with the degree of cracking for four experimental series at different temperatures. Table 1 gives data on

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the activation balance at 580, 554, 532, and 510°C. Fig. 7 graphically illustrates the experimental curves of the accumulation of ethylene (1) and ethane (2) in the course of thermal decomposition of propane. Table 2 gives the rates of formation of ethane from ethylene in millimoles per second which were calculated from the equation $w = (1/\alpha)(dI_{C_2H_6}/dt)$ (2), where w is the rate of formation of ethane from ethylene, $\alpha$ the specific activity of ethylene, and $I_{C_2H_6}$ the total activity of ethane. The rate of accumulation of ethane during the reaction was experimentally determined and found to be equal to the rate of formation of ethane from ethylene which was calculated by the kinetic method (Table 3). Fig. 8 shows the rates of formation of ethylene $w_1$ calculated from four experimental series at different temperatures and without consideration of the ethylene consumption during the reaction. Fig. 9 shows that the temperature course of the initial rates of formation of ethylene leads to an activation energy of this process of E = 62,500 cal/mole. Table 4 shows the concentrations of n-propyl radicals at 580°C. The equation

Kinetic Method of Using Labelled Atoms in the Study of Complex Chemical and Biochemical Processes. X. Study of the Rates of Formation and Consumption of Ethylene in the Cracking of Propane

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$$w_2 = w = fk_o e^{-E/RT}[C_2H_4][H^\cdot]$$

was given for the consumption of ethylene, where the values of H· at 580° with f = 0.01, $k_o = 10^{-10}$ $cm^3 sec^{-1} mole\ sec^{-1}$ and E = 5,000 cal/mole are given in Table 5. A. V. Frost, A. D. Stepukhovich, and S.Z. Roginskiy are mentioned. There are 9 figures, 5 tables, and 15 references: 13 Soviet and 2 US.

ASSOCIATION: Akademiya nauk SSSR, Institut khimicheskoy fiziki (Academy of Sciences of the USSR, Institute of Chemical Physics)

SUBMITTED: March 26, 1959

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ACCESSION NR: AT4020701 S/0000/63/000/000/0100/0106

AUTHOR: Bel'govskiy, I. M.; Kravchuk, I. P.; Nikol'skiy, V. G.; Yenikolopyan, N. S.

TITLE: Low-temperature radiation-induced polymerization of isobutylene

SOURCE: Karbotsepny*ye vy*sokomolekulyarny*ye soyedineniya (Carbon-chain macromolecular compounds); sbornik statey. Moscow, Izd-vo AN SSSR, 1963, 100-106

TOPIC TAGS: polymerization, radiation polymerization, isobutylene, low-temperature polymerization

ABSTRACT: In order to clarify the degree to which the reaction proceeds via an ionic mechanism, the kinetics of the radiation polymerization of isobutylene over a temperature range of -40 to -196C were investigated. With respect to low-temperature radiation polymerization, the following conclusions could be drawn: The independence of the polymerization yield of the intensity of the dose indicates a linear relationship between the polymerization rate and the radiation intensity. The polymerization of isobutylene in the liquid phase is accelerated by a decrease in temperature down to the freezing point of the monomer. The reaction rate has an activation energy of 2.5 kcal/mol. In the solid phase, the reaction rate has a normal temperature dependence with an apparent activation energy of

ACCESSION NR: AT4020701

+1.88 kcal/mol. The maximum rate of polymerization is obtained in the initial stage of irradiation and the process shows a tendency to become saturated as the dose of radiation is increased. The molecular weight of the product has a maximum value during the initial stage of irradiation, after which it drops rapidly to a value of 15,000-20,000; thereafter it is essentially independent of the dose. Orig. art. has: 5 formulas and 5 figures.

ASSOCIATION: Institut khimicheskoy fiziki AN SSSR (Institute of Chemical Physics, AN SSSR)

SUBMITTED: 26Apr62 DATE ACQ: 20Mar64 ENCL: 00

SUB CODE: OC NO REF SOV: 005 OTHER: 005

Card 2/2

89736

5.4700 2209, 1360, 1273

S/020/61/136/003/024/027
B004/B056

AUTHORS: Radich, L., Kravchuk, I. P., and Mardaleyshvili, R. Ye.

TITLE: The Thermal Disintegration of Some Organic Compounds in the Presence of Deuterium

PERIODICAL: Doklady Akademii nauk SSSR, 1961, Vol. 136, No. 3, pp. 657-659

TEXT: The authors study the problem as to whether the method of determining the reaction constants by means of isotopic exchange, which has been developed for photochemical reactions, is applicable also to thermal processes. In the photolytic processes $\dot{R} + R_1H \rightarrow RH + \dot{R}$ (1); $\dot{R} + D_2 \rightarrow RD + \dot{D}$ (2) the activation energy of the reaction (2) may be determined if the ratio RH/RD at various temperatures, and the activation energy of the reaction (2) are known. In thermal reactions, the difficulty consists in the fact that secondary processes occur, in which the same products are able to form as in the reactions (1) and (2). It was the

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The Thermal Disintegration of Some Organic Compounds in the Presence of Deuterium

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purpose of the present paper to find out whether deuterium is applicable for the purpose of determining the constants of thermal processes. Besides, the assumption made by V. V. Voyevodskiy, G. K. Lavrovskaya, and R. Ye. Mardaleyshvili was to be checked, according to which an isotopic exchange between free radicals and $D_2$ occurs, and with an excess of $D_2$ the hydrogen atoms on $\dot{C}$ (with non-saturated valence) are completely substituted (Ref. 3). For this purpose, the separation of the hydrogen atoms by methyl radicals was investigated in the presence of deuterium. The methyl radicals were obtained by pyrolysis with acetaldehyd, acetone, dimethylmercurium, and di-tert-butylperoxyd. The following experimental conditions are given: duration of contact $\tau$ 0.1 - 4 sec; total pressure P = 0.6 - 5 mm Hg, temperature 130 - 850°C, 10 - 15-fold excess of $D_2$. Measurements of the ratio between the various deuteromethanes were made by means of an MC-4(MS-4) mass spectrometer. For the pyrolyses of the acetone, the results are represented in Fig. 1. The other substances yielded similar results. At 500-600°C the degree of thermal decomposition amounts, depending on the duration of contact, to 0.01 - 5%. The methane contains only $CH_3D$ and $CH_4$. The ratio $CH_3D/CH_4$ does not depend on P and $\tau$.

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The Thermal Disintegration of Some Organic Compounds in the Presence of Deuterium

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Above 600°C an intensivation of the processes sets in (10 - 30% yield), and polysubstituted methanes including $CD_4$ occur as a result of these secondary processes. Experiments concerning the effect produced by S/V (ratio between surface and volume of the reaction vessel varied by checking the vessel and the quartz tubes) showed that in the checker vessel $CH_3D/CH_4$ decreases with a falling P (< 4 mm Hg), but also does not depend on $\tau$. The conclusion is drawn that the measurement of the reaction rate by comparing the rate of (1) with (2) is not influenced by secondary processes only up to 500 - 550°C. In Table 2 the activation energies $E_1$ calculated from $CH_3D/CH_4$ are given; $CH_3COCH_3$ : 9.2±0.3; $CH_3CHO$ : 7.9±0.5; $(CH_3)_3CO_2$ : 9.5±0.3; $Hg(CH_3)_2$ : 9.9±0.5. These data agree with those of the photolysis (Refs. 4, 6-10) with the exception of the value of di-tert-butyl-peroxyde. Here, the authors assume that the value given by G. O. Pritchard, H. O. Pritchard, and A. F. Trotman-Dickenson (Ref. 4) is too high. The agreement between $E_1$ in case of the photolysis and pyrolysis permits the conclusion that in the photolysis no "hot" radicals are produced. Besides, the scheme assumed by Voyevodskiy et al. is disproved

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The Thermal Disintegration of Some Organic Compounds in the Presence of Deuterium

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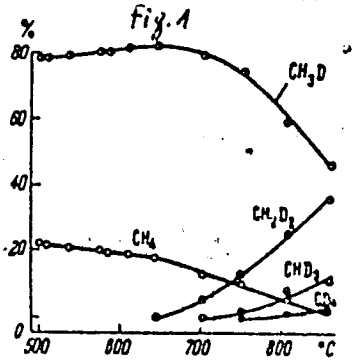
since polysubstituted methanes are produced by secondary reaction only above 600°C. There are 2 figures, 2 tables, and 10 references: 2 Soviet, 6 US, and 2 British.

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

PRESENTED: July 14, 1960, by N. N. Semenov, Academician

SUBMITTED: July 7, 1960

Fig. 1




Card 4/4

KRAVCHUK, I.S.

Repairing switch point pin fasteners. Put' i put.khoz. no.6:15 Je '57. (MIRA 10:7)

(Railroads--Switches)

KRAVCHUK, I.S.

A "teremok" style crossing watcher's booth. Put' i put.khoz. 6 no.6: 13 '62. (MIRA 15:7)

1. Predsedatel' soveta Vsesoyuznogo obshchestva izobretateley i ratsionalizatorov, st. Rossosh', Yugo-Vostochnoy dorogi.
(Railroads—Buildings and structures)

KRAVCHUK, I.S., inzh.-mekhanik

Improve the maintenance of snow removal equipment. Put' i put. khoz. 8 no.5:41 My '64. (MIRA 17:6)

1. Stantsiya Rossosh', Yugo-Vostochnoy dorogi.

KRAVCHUK, L.A.

Curareform properties of derivatives of cis-1,3-cyclobutanedicarboxylic and α-truxillic acids. Farm.i toks. 23 no.1:46-50 Ja-F '60.
(MIRA 14:3)

1. Laboratoriya chastnoy farmakologii (zav. - deystvitel'nyy chlen AMN SSSR prof. V.V.Zakusov) Instituta farmakologii i khimiterapii AMN SSSR.

(MUSCLE RELAXANTS) (CURARELIKE COMPOUNDS)

KHARKEVICH, D.A.; KRAVCHUK, L.A.

Pharmacology of a new curariform drug truxillonium. Farm. toks. 24 no.3:318-324 My-Je '61. (MIRA 15:1)

1. Laboratoriya chastnoy farmakologii (zav. - deystvitel'nyy chlen AMN SSSR prof. V.V.Zakusov) Instituta farmakologii i khimioterapii AMN SSSR.
(MUSCLE RELAXANTS) (TRUXILLIC ACID--PHYSIOLOGICAL EFFECT)

ARENDARUK, A.P.; KRAVCHUK, L.A.; SKOLDINOV, A.P.; KHARKEVICH, D.A.

Chemical and pharmacological research in the series of derivatives of cyclobutanedicarboxylic acids. Uch.zap. Inst. farm. i khimioter. AMN SSSR 3:138-157'63. (MIRA 16:9)

1. Department of Pharmacology (Head - Prof. V.V.Zakusov, Member of the U.S.S.R. Academy of Medical Sciences) and Department of Organic Synthesis (Head - Candidate of Chemical Sciences A.P.Skoldinov) of the Institute of Pharmacology and Chemotherapy of the U.S.S.R. Academy of Medical Sciences.

(CURARELIKE SUBSTANCES)

KHARKEVICH, D.A.; KRAVCHUK, L.A.

Some relations between the structure and the curarelike activity in a series of bis-quaternary derivatives of cyclobutanedicarboxylic acids. Farm. i toks. 26 no.6:702-707 N-D '63 (MIRA 18:2)

1. Laboratoriya chastnoy farmakologii (zav. - deystvitel'nyy chlen AMN SSSR prof. V.V. Zakusov) Instituta farmakologii i khimioterapii AMN SSSR i kafedra farmakologii ( zav. - deystvitel'nyy chlen AMN SSSR prof. V.V. Zakusov) I-go Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M. Sechenova.

ACC NR: AP6027887 (N) SOURCE CODE: UR/0390/66/029/004/0420/0425

AUTHOR: Kravchuk, L. A

ORG: Laboratory of the Pharmacology of the Nervous System, Institute of Pharmacology and Chemotherapy, AMN SSSR, Moscow (Laboratoriya farmakologii nervnoy sistemy Instituta farmakologii i khimioterapii AMN SSSR)

TITLE: Relationship between structure and duration of curareform action of truxillic acid diesters

SOURCE: Farmakologiya i toksikologiya, v. 29, no 4, 1966, 420-425

TOPIC TAGS: pharmacology, drug effect, truxillic acid, truxillic acid ester, curareform effect chemical structure, quaternary ammonium compound, MYOLOGY

ABSTRACT:

Duration of the curareform action of bis-quaternary dialkylamine esters of α, γ, and ε-truxillic acids was studied. Usually in medical practice, the choice of a myorelaxant depends on the duration of its action. Recently, experiments were made to investigate the relationship between the duration of curareform activity and the chemical structure of bis-quaternary symmetrical dialkylaminoalkyl esters of truxillic acids having the general formula:

Card 1/4 UDC: 615.785.3-015.1

These effects were then compared with those produced by ditiline, d-tubocurarine and diplacine. Table 1 presents data on the duration of the curareform effect of the substances tested. The time required for recovery of the righting reflex was used as an index of the duration of action of the myorelaxant, recovery being marked by the stoppage of the myorelaxant effect. Fig. 1. shows graphically the relationship between duration of curareform action and types of chemical structures of the compounds in this series. The most important factors influencing the length of drug action are: 1) spatial configuration — α-truxillic acid derivatives (nos. 3, 7, 10) have a shorter effective period than their stereoisomers synthesized from γ-truxillic acid (nos. 4, 8, 11), while the curareform action of ε-truxillic acid derivatives (nos. 5, 9, 12) does not last as long as that of α-truxillic acid derivatives. 2) Distance between quaternary nitrogen atoms. As shown in Fig. 1, α-truxillic acid products (nos. 1, 2, 3, 6, 7, 10, 15, 16, 17) are distinguished by long carbon side chains and do not have uniform lengths of curareform activity. When the number of carbon atoms in the side chain is increased from 2 to 7, a progressive shortening of the duration of curareform activity of the compounds occurs. 3) Type of radical on the quaternary nitrogen atom — α- and γ-truxillic acid derivatives with N-methyldiethyl groups are effective longer than

analogous compounds having N-methylpiperidine groups; while in ε-truxillic acid derivatives, compounds with N-methylpiperidine radicals display a longer curareform activity. The table shows the relationship between the time required by mice to recover the righting reflex and the structure of the compound. α-Truxillic acid derivatives with seven carbon atoms in the side chain display the briefest curareform effect (1 1/2—2 1/2 min). All α-truxillic acid derivatives except nos. 15, 16, 17 acted faster than diplacine and d-tubocurarine. Derivatives of γ-truxillic suppressed the righting reflex up to 27 min. The curareform effects of ε-truxillic derivatives did not last as long as those of ditiline and α-truxillic acids. When 5 $LD_{50}$ doses of these compounds were given intravenously to mice, there was a definite connection between the distance between the nitrogen atoms and the length of the latent period (time between administration of the drug and first appearance of its effects). When n is 2 or 3, apnea and myorelaxation set in at once, when n is 4 to 5 the latent period is 3—5 sec; and when n is 7, the period is 5—15 sec. This relationship is revealed more clearly when these substances are administered in minimum therapeutic doses to intact rabbits and decerebrated cats (see Table 1). When n is 2, the latent period of α-truxillic acid derivatives is 3—12 times shorter than when n is 7. Tests showed that truxillic acid deriva-

tives produce a nondepolarized interference with neuromuscular transmission.

[WA-50; CBE No. 11]

SUB CODE: 06/ SUBM DATE: 10Jun65/ ORIG REF: 004/ OTH REF: 001/

Card 1/1

KRAVCHUK, L.F., inzhener; OL'SHANSKIY, Ya.A., inzhener; SUROV, V.S., inzhener

Automatic feed-water flow control for boilers in power plants. Energetik 5 no.2:14-16 F '57. (MLRA 10:3)
(Feed-water regulation) (Automatic control)

USSR / Cultivated Plants. Cereal Crops. M-3

Abs Jour : Ref Zhur - Biologiya, No 13, 1958, No. 58559

Author : Kravchuk, L. I.; Vol'tovs'ka, O. B.; Gudz', G. A.; Dubinina, I. A.; Chekmar'ova, L. N.

Inst : Cherkask. Pedagogical Institute

Title : Preliminary Data on High Yielding Intervarieties of Hybrids of Corn, Produced at the Agrobiological Station of the Pedagogical Institute

Orig Pub : Nauk. Zap. Cherkas'k. derzh. ped. in-t, 1957, 11, 301-311

Abstract : No abstract given

Card 1/1

STETSENKO, A.V.; KRAVETS, L.I.

Cyanine dyes from 2-methylacenaphtheno-4',5' : 4,5-thiazole.
Ukr. khim. zhur. 30 no.1:75-80 '64. (MIRA 17:6)

1. Kiyevskiy gosudarstvennyy universitet imeni Shevchenko.

USSR / Human and Animal Morphology, Normal and Pathologic. S-2
Nervous System. Peripheral Nervous System.

Abs Jour : Ref Zhur - Biol., No 18, 1958, No 83674

Author : Meshkov, N.V.; Romanov, S.S.; Kravchuk, L. M.
Inst : Lvov Zooveterinary Institute
Title : Changes in the Urinary Bladder after Impairment of Its Innervation.'

Orig Pub : Sb. nauchn. tr. L'vovsk. zoovet. in-t, 1956, 8, 143-149.

Abstract : The spinal cord in rabbits was cut in area L3-L4, completely lesioned at level Th5-Th6, or impaired in the lumbar area by puncture with a surgical needle. Most animals showed ulcers in the urinary bladder with blood clots in the cavity or fibrin deposits on the surface of the peritoneum. There were sharply pronounced vascular lesions (enlargement of capillaries, hemorrhages, hemostasis and thromboses); as a consequence, there appeared necrosis of the mucosa, beginning in the epithelium and spreading to its own layer up to the muscular sheath. Vascular lesions play an important part in the mechanism of the development of ulcers in the bladder. -- N. T. Tsarapkin.

Card 1/1

KRAVCHIK, L.S.; KOZNYAK, A.L.; YEROFEYEV, N.V.

Electron paramagnetic resonance signal in a bright blue modification of anhydrous copper formiate. Zhur. strukt. khim. 6 no. 4:645-647 Jl-Ag '65 (MIRA 19:1)

1. Institut fiziko-organicheskoy khimii AN BSSR i Belorusskiy gosudarstvennyy universitet imeni V. I. Lenina, Minsk. Submitted December 7, 1964.

YEROFEYEV, B.V.; KRAVCHUK, L.S.

Chromatcgraphic determination of hydrogen in binary mixtures of gases. Dokl. AN BSSR 7 no.4:247-250 Ap '63. (MIRA 16:11)

KRAVCHUK, L. V., and TRET'YACHENKO, G. N.

"Determination Methods of Thermal Properties Determination At High Temperatures."

Report submitted for the Conference on Heat and Mass Transfer, Minsk, BSSR, June 1961.

KRAVCHUK, L. V., and TRET'YACHENKO, G. N.

"The Methods of Approximate Calculation of Dangerous Temperature Fields and Heat Stability Evaluation of Details Made of Fragile Materials.

Report submitted for the Conference on Heat and Mass Transfer, Minsk, BSSR, June 1961.

S/137/61/000/012/056/149
A006/A101

AUTHORS: Tret'yachenko, G.N., Kravchuk, L.V.

TITLE: On a method of investigating the resistance of brittle materials against thermal failure

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no. 12, 1961, 43, abstract 120304 ("Poroshk. metallurgiya", 1961, no. 2, 53-60, Engl. summary)

TEXT: It is recommended to determine heat resistance of materials with the aid of criteria, reflecting the physical properties of the specimens and the effect of the part shape, its dimensions and heating (or cooling) conditions. The authors analyze experimental methods of determining these criteria. Results of experiments, made with cylindrical and annular specimens, have partially confirmed the theoretical hypotheses.

R. A.

[Abstracter's note: Complete translation]

Card 1/1

S/137/62/000/003/067/191
A006/A101

15.2400

AUTHORS: Tret'yachenko, G. N., Kravchuk, L. V., Mozharovskiy, N. S.

TITLE: On the problem of thermal fatigue of cermet materials

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 2, 1962, 42, abstract 3G293 ("Poroshk. metallurgiya", 1961, no. 4, 94 - 97, English summary)

TEXT: An investigation of the thermal fatigue of SiC compositions has shown that the fatigue limit for these materials begins after several dozens or sometimes several hundreds of cycles. This behavior is connected with differences in the coefficients of linear expansion and moduli of elasticity of C, Si, SiC. It is noted that the nature of failure of cast and cermet materials is different: the latter break down immediately, without cracking. Si nitride and Zr boride-based materials are less thermoresistant than SiC.

R. Andriyevskiy

[Abstracter's note: Complete translation]

Card 1/1

S/170/61/004/008/016/016
B125/B201

AUTHORS: Tret'yachenko, G. N., Kravchuk, L. V.

TITLE: Regular thermal behavior of bodies of complicated structure

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, v. 4, no.8, 1961, 132-137

TEXT: The authors conducted a great number of experiments and also performed a theoretical analysis of the results yielded by fundamental studies of G. M. Kondrat'yev and G. N. Dul'nev, the founders of the theory of the regular thermal behavior of bodies (which studies, in the authors' opinion, contain important errors). The following was established: G.M.Kondrat'yev studied the rules governing regular operation for any system of bodies or for an arbitrarily complicated body. In doing so, he proceeded from the following principal theorem: The general integral of Fourier equations for the problem of cooling a homogeneous and isotropic body having any shape (also any complicated shape) is expressed by an infinite series, whose terms are rapidly decreasing functions of time:

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Regular thermal behavior of...

S/170/61/004/008/016/016
B125/B201

$$t = A_o U_o e^{-m_o \tau} + A_1 U_1 e^{-m_1 \tau} + \ldots . \quad (1)$$

Here, the positive numbers $m_o$, $m_1$,... form the sequence $0 < m_o < m_1 < m_2 < \ldots$ (2); $U_o$, $U_1$ are finite functions of the coordinates of the points of the body. The likewise finite numbers $A_o$, $A_1$ are functions independent of time and of the coordinates. According to G. M. Kondrat'yev, the higher terms in (1) can be neglected with respect to the first term. Then, in case of a regular behavior, the temperature in any point of the body would amount to $\vartheta = AUe^{-m\tau}$ (3). In the authors' opinion, this assumption, upon which the whole theory by Kondrat'yev-Dul'nev is based, is inappropriate since the effect of the values of the eigenfunctions $U_j$ upon the total sum of series (1) can be so large that not only the first term but also any other n-th term of the series can be the "characteristic term". For a wedge, the first terms can be smaller than some "characteristic" terms. These characteristic terms are displaced depending on the coordinates of the

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point to be investigated. The cooling rate of a homogeneous body in case of a regular operation is usually a quantity depending on the coordinates. In special cases where the products of the constant coefficients with the eigenfunctions assume their maximum values with the first term of the series (1), the cooling rate may be independent of the coordinates. The first inaccuracy of the theory of Kondrat'yev-Dul'nev consists in that it does not apply to bodies of any complicated shape. In fact, it applies to a particular category of bodies only. This fundamental defect has given rise to a number of erroneous assumptions: G. M. Kondrat'yev's assumption of a constant ratio between any two points is usually incorrect. In general, this ratio constitutes an exponential function of time. The first theorem by Kondrat'yev then assumes the following new meaning: The rate of variation of the mean volume temperature is proportional to the surface of the body, and inversely proportional to its specific heat. At a constant cooling rate at a given point, the rate of variation of the mean volume temperature is variable with time. G. M. Kondrat'yev's paper Sb. "Issledovaniya v oblasti teplovykh izmereniy i priborov" LITMO, vyp. 21, L., 1957 (Investigations in the field of thermal measurements and

devices) is, in the authors' opinion, based on wrong premises from beginning to end, and the same applies to papers by G. N. Dul'nev, L. P. Lozitskiy, and many others. In conclusion, the theory by G. M. Kondrat'yev-Dul'nev on regular operation is correct only when applied to bodies of simplest shape. This has also been confirmed by the authors' experiments on the cooling of wedge-shaped specimens with different vertical angles of the wedge under the most different conditions. There are 2 figures and 14 references: 13 Soviet-bloc and 1 non-Soviet-bloc.

ASSOCIATION: Institut metallokeramiki i spetsial'nykh splavov AN USSR g. Kiyev (Institute of Powder Metallurgy and Special Alloys, AS UkrSSR Kiyev)

SUBMITTED: January 2, 1961

TRET'YACHENKO, G.N., kand.tekhn.nauk; KRAVCHUK, L.V., inzh.

Methods for testing the heat resistance of powdered metal materials. Energomashinostroenie 7 no.6:42-44 Je '61. (MIRA 14:7)

(Powder metallurgy—Testing)

88289

15.2201

S/032/61/027/001/027/037
B017/B054

AUTHORS: Tret'yachenko, G. N. and Kravchuk, L. V.

TITLE: Gasdynamic Stand for Tests of Refractories

PERIODICAL: Zavodskaya laboratoriya, 1961, Vol. 27, No. 1, pp. 93-95

TEXT: A special gasdynamic stand was developed to test the resistance of powder-metallurgic materials, the thermal stress and thermal stability in fast temperature changes and fast gas currents. By means of this device, it is possible to determine the thermal constants of refractories (coefficients of heat conductivity and thermal diffusivity, coefficient of heat liberation on the sample surface) at different temperatures. Differently shaped materials can be used in the determination. The gas-dynamic stand comprises the following systems: a chamber for generating a high-velocity flow of gas with high temperature, a system for introducing the gas, a system for feeding the stand with fuel, a lubricating system, and a control and measuring apparatus. By determining the thermal constants it is possible to establish the factors influencing the amount of thermal stress, which permits a proper choice of profiles for materials in powder

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Gasdynamic Stand for Tests of Refractories

S/032/61/027/001/027/037
B017/B054

metallurgy. There is 1 figure.

ASSOCIATION: Institut metallokeramiki i spetsial'nykh splavov Akademii nauk USSR (Institute of Powder Metallurgy and Special Alloys, Academy of Sciences UkrSSR)

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TRET'YACHENKO, G.N.; KRAVCHUK, L.V.; MOZHAROVSKIY, N.S.

Thermal fatigue of ceramic metal materials. Porosh. met. no.4: 94-97 Jl-Ag '61. (MIRA 16:5)

1. Institut metallokeramiki i spetsial'nykh splavov AN UkrSSR.
(Ceramic metals--Testing)
(Metals, Effect of temperature on)

PISARENKO, Georgiy Stepanovich; KOZLOV, Igor' Andreyevich; TRET'YACHENKO, Georgiy Nikolayevich; KRAVCHUK, Leonid Vasil'yevich; LEBEDEV, Igor' Vladimirovich; GRYAZNOV, B.A., red. izd-va; LIBERMAN, T.R., tekhn. red.

[Strength of blades and disks of gas turbines; thermal fatigue resistance of blades and ultimate carrying capacity of disks] Nekotorye voprosy prochnosti lopatok i diskov gazovykh turbin; stoikost' lopatok protiv teplosmen i predel'naia nesushchaia sposobnost' diskov. Kiev, Izd-vo Akad.nauk USSR, 1962. 74 p. (MIRA 15:7)

(Gas turbines)

TRET'YACHENKO, G. N.; KRAVCHUK, L. V.

Methods for determining the thermophysical characteristics of materials at high temperatures. Teplo- i massoper. 1: 70-76 '62. (MIRA 16:1)

1. Institut metallokeramiki i spetsial'nykh splavov AN UkrSSR.

(Materials—Thermal properties)
(Materials—Testing)

TRET'YACHENKO, O.N., kand.tekhn.nauk; KURIAT, R.I.; KRAVCHUK, L.V.

Study of the thermal fatigue of turbine nozzle blades made from EI 607A and EI 765 alloys. Energ.i elektrotekh.prom. no.4:19-22 O-D '62. (MIRA 16:2)

(Gas turbines) (Metals--Fatigue)

TRET'YACHENKO, G.N., kand. tekhn. nauk; MOZHAROVSKIY, N.S., kand. tekhn. nauk; KRAVCHUK, L.V., inzh.; KURIAT, R.I., inzh.

Investigation of the thermal fatigue of the 1Kh18N9T alloy taking into consideration boundary conditions of heat exchange. Izv. vys. ucheb. zav.; mashinostr. no.2:43-50 '63. (MIRA 16:8)

1. Kiyevskiy politekhnicheskiy institut.

ACCESSION NR: AT4002338 S/3036/63/000/000/0212/0221

AUTHOR: Tret'yachenko, G. N. (Kiev); Kuriat, R. I. (Kiev); Kravchuk, L. V. (Kiev)

TITLE: Some results of gas turbine blade thermal fatigue tests

SOURCE: Voprosy* vy*sokotemperaturnoy prochnosti v mashinostroyenii. Vtoroye nauchnotekhnicheskoye soveshchaniye, 1962. Trudy*. Kiev, 1963, 212-221

TOPIC TAGS: gas turbine blade, thermal fatigue, E1765 alloy thermal fatigue, E1607 alloy thermal fatigue, E1787L alloy thermal fatigue, E1827 alloy thermal fatigue, nickel base alloy, gas turbine solid blade, gas turbine hollow blade, gas turbine, turbine solid blade, turbine hollow blade, E1765 alloy, E1607 alloy, E1787L alloy, E1827 alloy, hollow blade, solid blade

ABSTRACT: The purpose of this study was to test the thermal fatigue of hollow turbine blades made of materials most typical for such use under conditions approaching actual operation, and to analyze possible irreversible changes of interest in relation to the current status of this problem in the literature. The tests involved actual solid first-stage turbine blades of one design but 3 different materials (alloys E1765, E1607A, E1827), and somewhat larger hollow blades from the second stage of a turbine (see Fig. 1 in the Enclosure), made of alloy E1787L. The test was based on 1000 cycles, with temperatures increasing to 800-

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ACCESSION NR: AT4002338

1000C in 90 seconds; temperature changes were recorded by means of a model N-700 oscillograph, and the number of fissures and changes in dimensions produced were determined. The formation of fissures is shown in Fig. 2 of the Enclosure. The changes in dimensions of the specimen during the test are presented in an extensive table. Changes in the microstructure of the material are shown in Fig. 3 of the Enclosure. Orig. art. has: 2 tables, 3 graphs, 4 illustrations.

ASSOCIATION: IMSS AN USSR

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|---|---|---|
| SUBMITTED: 00 | DATE ACQ: 03Dec63 | ENCL: 03 |
| SUB CODE: AP, MA | NO REF SOV: 009 | OTHER: 002 |

Card 2/5

PISARENKO, G.S.; VDOVENKO, V.V.; GOGOTSI, G.A.; GRYAZNOV, B.A.; KRAVCHUK, L.V.; KURIAT, R.I.; TRET'YACHENKO, G.N.

System for testing materials in a high-temperature flow. Energ. i elektrotekh. prom. no.4:22-23 O-D '64.

(MIRA 18:3)

L 21751-66 EWA(h)/EWP(e)/EWP(j)/EWP(k)/EWT(d)/EWT(l)/EWT(m)/EWG -5/T/EWA(d)/EWP(l) EWP(t) IJP(c) EM/RM/WH/WW/JD/HW

ACC NR: AP6007552 SOURCE CODE: UR/0198/66/002/001/0141/0143

247
112
B

AUTHOR: Kravchuk, L. V.

ORG: none

TITLE: Conference on problems of high-temperature strength /Kiev, 21-24 September 1965/

SOURCE: Prikladnaya mekhanika, v. 2, no. 1, 1966, 141-143

TOPIC TAGS: fatigue strength, turbine blade, thermal fatigue, cyclic load, high temperature strength, static load test, alloy, ceramic material, turbine compressor, physics conference

ABSTRACT: The Fourth Scientific and Technical Conference on Problems of Static and Dynamic Strength of Materials and Structural Elements at High Temperatures was held at Kiev on 21-24 September 1965. It was organized by the Section on Thermostability of the Scientific Soviet for the Problem of "Scientific Bases of Strength and Plasticity" at the Division of Mechanics and Process Management, AN SSSR (Sektsiya termoprochnosti Nauchnogo Soveta po probleme "Nauchnyye osnovy prochnosti i plastichnosti" pri Otdelenii mekhaniki i protsessov upravleniya AN SSSR), Institute of the Problems of Materials Science, AN UkrSSR (Institut problem materialovedeniya AN UkrSSR), and Kiev Polytechnic Institute (Kiyevskiy politekhnicheskiy institut). G. S. Pisarenko opened the conference with a survey report on the state of science.

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ACC NR: AP6007552

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M. G. Lozinskiy, G. Ye. Vishnevskiy, and V. A. Smirnova reported on work and new apparatus with temperatures above 3000K. V. K. Kharchenko, A. I. Baykov, G. G. Paullor, A. M. Suvorov, I. S. Malashenko, I. S. Mayauskas, A. Ya. Feras, Z. I. Pavlova, V. A. Chornyshev, T. A. Novikova, and V. I. Tumanov reported on new methods and apparatus for providing a high temperature and allowing testing in a vacuum or an inert medium. V. D. Burlakov, V. Ye. Ivanov, A. I. Somov, V. N. Golovin, V. I. Savchenko, O. M. Utva, V. A. Gladkovskiy, V. A. Smirnov, M. L. Zinshteyn, Yu. P. Smetannikov, V. K. Kharchenko, S. S. Gorodetskiy, L. I. Struk, V. K. Kozakov, T. V. Dubovik, V. Ya. Mezis, A. Ye. Fokin, and L. I. Dmitriyev reported on results of studies of the strength characteristics as related to processes of preparing materials and their structure. Ye. I. Molchanov, A. A. Salamov, and Z. F. Goncharenko reported on a method of theirs that permits deformation curves to be obtained for various materials over a wide range of temperatures. A. F. Beloivan, E. K. Keler, Ye. I. Kozlovskaya, G. V. Isakhanov, L. N. Churilov, S. F. Kozlovskiy, V. S. Gumenyuk, A. A. Kritsuk, V. I. Loshtskiy, G. A. Yakovlev, and G. V. Panteleyev reported on studies of the physicomechanical characteristics of glass plastics, pyroceramics, and ceramic materials and design methods. L. P. Nikitina, G. Kh. Listvinskiy, Ye. A. Kheyn, L. Ya. Liberman, T. V. Zubarev, L. B. Getsov, A. P. Kuznetsov, V. A. Trubiy, et al. reported on long-life strength, creep, and relaxation. E. A. Ugorskiy, I. I. Ostapchuk, M. G. Kabelevskiy, L. I. Stolyarova, V. T. Derevyanchenko, Yu. I. Zvezdin, Ye. I. Boldyrev, and A. A. Chizhik reported on new apparatus and methods of studying creep and long-life strength of various structural elements. V. N. Kiselevskiy gave an evaluation of the long-life strength of

materials in the plane stressed state with programmed temperature change. T. P. Zakharova reported on the dynamic creep of high-temperature alloys. A. M. Borzdyka reported on relaxation in age hardening alloys. A. A. Pozdoyev spoke on the successful application of methods of heredity theory for determining creep. L. Z. Polyak reported on methods of determining creep and its prediction for high-melting materials. A. P. Gusenkov and R. M. Shneyderovich touched on the determination of cyclic deformation diagrams. V. T. Gorbatyuk told of an accelerated method of determining the fatigue strength of alloys. A. G. Lanin, V. B. Fedorov, V. S. Yegorov, V. I. Shvidenko, and B. A. Lyashenko reported on apparatus and methods for studying friable materials. V. I. Shvidenko and B. A. Lyashenko proposed a method of studying the thermal stability of single crystals. Yu. F. Balandin, V. T. Troshchenko, and Ye. I. Uskov examined the case of a constant load and a cyclically varying temperature. V. A. Strizhalo and V. T. Troshchenko examined the possibility of a programmed variable load. N. S. Mozharovskiy gave the results of a study of the effect of time factors on the durability of materials. V. N. Filipenko and V. Ya. Pavlov reported on the thermal fatigue of sheet materials. F. F. Khalimon, N. A. Yashkir, R. I. Kuriat, L. V. Kravchuk, and G. N. Tret'yachenko reported on the effect of operating factors on the state of aircraft turbine blades. V. G. Chubarov, M. S. Khazanov, T. N. Fedorova, and A. A. Rabinovich examined the basic properties of materials that determine the efficiency of turbine blades. R. I. Kuriat, L. V. Kravchuk, and G. N. Tret'yachenko gave the results of calculations of thermal stress of blades. A. D. Balyuk, I. A. Kozlov, V. V. Matveyev, I. L. Meyerson, and Yu. Kh. Gazaryan reported on the deformability of turbine blades and compressors. Ye. I. Molchanov and V. P.

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Trushechkin presented the results of a study of the effect of heat exchange parameters on the stressed state of a disk. I. A. Kozlov, V. M. Leshchenko, and V. G. Bazhenov reported on the plastic deformation of nonuniformly heated rotating disks. S. I. Bogomolov and N. P. Grinchenko reported on the oscillations of nonuniformly heated disks. V. A. Ablamskiy and G. A. Dzhepa gave the results of an approximate calculation of thermal stresses in seamless forged rotors. A. V. Ratner examined problems of the strength of steam pipe fittings. L. M. Akimov, B. N. Vasil'yev, N. D. Zhukov, N. I. Zverev, N. I. Kononchuk, M. P. Krivenko, N. M. Lazareva, Yu. A. Lapitskiy, A. I. Michurin, I. K. Skladnov, and L. I. Filippov reported on the development of criteria for evaluating reliability and reserve of materials at high temperatures. S. V. Serensen concluded the plenary session with a report on problems of the characteristics of the long-life strength of materials and limiting-state diagrams.

SUB CODE: 11, 20/SUBM DATE: none,

L 22983-66 EWT(m)/EWP(w)/T/EWP(t) IJP(c) JD/HW/JG/GS/WH

ACC NR: AT6008669 (N) SOURCE CODE: UR/0000/65/000/000/0244/0249

AUTHOR: Kravchuk, L. V. (Kiev)

ORG: none

TITLE: Thermal stability investigation of brittle metal-ceramic materials

SOURCE: Vsesoyuznoye soveshchaniye po voprosam staticheskoy i dinamicheskoy prochnosti materialov i konstruktsionnykh elementov pri vysokikh i nizkikh temperaturakh, 3d. Termoprochnost' materialov i konstruktsionnykh elementov (Thermal strength of materials and construction elements); materialy soveshchaniya. Kiev, Naukova dumka, 1965, 244-249

TOPIC TAGS: thermal stability, stress analysis, metal ceramic material, thermal shock

ABSTRACT: The thermal shock characteristics of 24 metal-ceramic materials were investigated in a gas dynamic test bed. Ring-shaped specimens were used (50 x 25 x 12.5 in size) in groups of 5 to 7. The thermal stability criterion was determined from the temperature difference D between the heated specimen and cold gas flow for which failure or rupture occurred. The results show that the chemical composition of the metal ceramic or the percent additives in the specimens had a strong influence on the thermal stability. For example, the weakest specimens were titanium nitrides

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ACC NR: AT6008669

and molybdenum silicides. On the other hand, satisfactory thermal stability was obtained from titanium borides, silicon carbides, and silicon nitrides. A very clear thermal shock curve was obtained for a molybdenum base specimen showing a decrease in D as a function of percent increase in $ZrO_2$. A special signal sensor was used on some of the specimens to determine the moment of rupture of aluminum nitride metal ceramics. The technique used here also shows that the theory of maximum normal stress explains successfully the failure of some of the metal ceramics. Orig. art. has: 3 figures.

SUB CODE: 11, 13/ SUBM DATE: 19Aug65/ ORIG REF: 002

Card 2/2

L 31115-66 EWT(1)/EWP(m)/EWT(m)/EWP(w)/EWA(m)/EWP(v)/T/EWP(t)/EWP(k)/EWA(1)/
ETC(m)-6 IJP(c) JD/EM/WB/GS

ACC NR: AT6008671 (N) SOURCE CODE: UR/0000/65/000/000/0261/0268

AUTHORS: Pisarenko, G. S. (Academician AN UkrSSR) (Kiev); Tret'yachenko, G. N. (Kiev); Gogotsi, G. A. (Kiev); Kravchuk, L. V. (Kiev); Kuriat, R. I. (Kiev); Vdovenko, V. V. (Kiev); Gryaznov, B. A. (Kiev)

ORG: none

TITLE: Apparatus for investigating characteristic strength of materials and structural elements in high-temperature gas streams

SOURCE: Vsesoyuznoye soveshchaniye po voprosam staticheskoy dinamicheskoy prochnosti materialov i konstruktsionnykh elementov pri vysokikh i nizkikh temperaturakh, 3d. Termoprochnost' materialov i konstruktsionnykh elementov (Thermal strength of materials and construction elements); materialy soveshchaniya. Kiev, Naukova dumka, 1965, 261-268

TOPIC TAGS: high temperature strength, gas flow, temperature test, test chamber, aerodynamic environment test

ABSTRACT: The details of a test apparatus for investigating the high-temperature strength of materials and parts are described. This apparatus is used to evaluate the fatigue strength of brittle and plastic structural elements (such as gas turbine blades), the thermal shock characteristics of various materials, their thermal

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L 31115-66

ACC NR: AT6008671

stability, oxidation resistance at high temperatures, etc. The apparatus consists of a gas dynamic test bed, a high-temperature flow generator (from 600 to 3000K), and an instrumentation complex for measuring and recording the flow temperature and other parameters. The gas flow can attain velocities up to Mach 1.5 at a flow rate of 1.7 kg/sec, and pressures of 80 newtons/cm$^2$. The air stream is heated successively in three combustion chambers and pumped through a blow-through chamber. Three types of blow-through chambers are used as test sections: one for a continuous test run, another for a controlled duration test run, and a third type for instantaneous exposure and removal of the model. The instrumentation consists of thermocouples, automatic recording potentiometers, calorimeters, pyrometers, oscillograms, and flow meters. The apparatus also contains a device for controlling the mixture of the test gas. Orig. art. has: 4 figures.

SUB CODE: 20,13/ SUBM DATE: 19Aug65

Card 2/2

ACC NR: AP6021618 SOURCE CODE: UR/0021/66/000/006/0835/0836

AUTHOR: Kashtalyan, Yu. A.; Kravchuk, L. V.

ORG: none

155
104

TITLE: The fourth symposium on high-temperature static and dynamic strength of materials and structural elements

SOURCE: AN UkrRSR. Dopovidi, no. 6, 1966, 835-836.

TOPIC TAGS: scientific conference, high temperature material, high temperature strength, high temperature research, metallography, stress analysis, high temperature phenomenon, synthetic material, scientific personnel

ABSTRACT: The fourth symposium on high-temperature static and dynamic strength of materials and structural elements was held on 21-24 March 1965 in Kiev. The Institute of Problems in Material Science, Institute of Mechanics, Institute of Electric Welding, Institute of Engineering Physics (all four of the Ukrainian Academy of Sciences), Institute of Metallurgy im. A. A. Baykov, Central Boiler and Turbine Institute im. I. I. Polzunov, All-Union Heat Engineering Institute im. F. Ye. Dzerzhinskiy, Institute of Silicate Chemistry, and the Leningrad Metal Works were represented.

Academician G. S. Pisarenko (Ukrainian Academy of Sciences), in his opening statement, emphasized the importance of such symposia for the development and coordination of research on high-temperature strength, and reported

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on investigations conducted at the Institute of Problems in Material Science. Numerous methods and units have been developed for investigating the tensile strength, rupture strength, hardness and elasticity of refractory materials at high temperatures in vacuum, inert environments, and aggressive media. A considerable effort has been made in research on thermal fatigue under simultaneous action of thermal and mechanical stresses, as occurs in turbine blades and disks.

M. G. Lozinskiy (Moscow) spoke on the contemporary status of high-temperature metallography and on methods and equipment which he and his co-workers developed for observation, photography and cinematography of specimens subjected to stresses at temperatures over 3000C.

V. S. Ivanova, Yu. G. Ragozin and M. A. Vorob'yev (Moscow) reported on the energy method they used in the analysis of processes of deformation and fracture and showed that a consideration of fracture energy can lead to the establishment of certain basic relationships for diverse stress conditions.

V. K. Kharchenko (Kiev) discussed the effects of environment, deformation rate, and duration of heating on the high-temperature mechanical properties of tungsten, molybdenum and niobium. It was found that all the above factors have a considerable effect not only under creep conditions, but also in the short-time tests.

G. S. Malashenko spoke of the strengthening effect of carbide phases in niobium alloys at room and high temperatures. It was shown that carbide phases are effective strengtheners for niobium alloys, especially those intended for high temperature service.

I. S. Mayenskas, A. Ya. Peras (Kaunas) and V. K. Kharchenko, S. S. Corodets'kiy, and V. K. Kozakov (Kiev) discussed the strength characteristics of oxide ceramics and oxygen free compounds. Both types of materials are believed to have numerous advantages over refractory metals and alloys.

Reports of Ye. K. Keler and E. I. Kozlovskaya (Leningrad), and A. F. Biloivan, G. V. Isaklanov, M. G. Lozinskiy, G. E. Vishnevskiy, and M. A. Malakhov dealt with the effect of stress state, temperature, environment, and intensive one-side heating on the physical and mechanical properties of synthetic materials, such as sitall, glass and glass-reinforced plastics.

V. M. Kiselevskiy (Kiev) reported on research on rupture strength of metals under conditions of high stresses and programmed temperature changes. V. I. Danknis, and T. Ya. Prantskavichus (Kaunas) spoke on the thermal shock resistance and erosion resistance of oxide refractories under conditions simulating those which occur in a magnetohydrodynamic generator.

L 42120-66

ACC NR: AP6021618

Reports of F. F. Khalimon, N. A. Yashkir, R. I. Kuriat, L. V. Kravchuk, and G. N. Tret'yachenko dealt with the effect of operational conditions on the state of jet engine blades. Thermal fatigue tests performed on blades in an aerodynamic stand yielded results used for the calculation of thermal stresses in the blades.

O. M. Borzdyka (Moscow) spoke on specific features of the relaxation process in age-hardenable alloys. I. A. Kozlov, V. M. Leshchenko, and V. G. Bazhenov (Kiev) reported on an investigation of plastic deformations in non-uniformly heated turbine disks.

E. I. Molchanov and V. P. Trushechkin discussed the effect of heat exchange on the stress state of turbine disks. [ATD PRESS: 5039-F]

SUB CODE: 11, 05 / SUBM DATE: none

Card 4/4 af

MUSHENKO, S.P.; KRAVCHUK, M.G.

Using a torsion balance for determining interfacial tension by the method of weighing drops. Trudy KF VNII no.5:80-83 '61.
(MIRA 14:10)

(Surface tension)

[illegible] ; [illegible], P.I.

[illegible]ally nilpotent finite groups. Sib. mat. zhur. 6 no.3:477-483 May-Je '65. (MIRA 18:8)

FILOFEENKO, Ye.G., prof., otv. red.; ZAYKO, K.N., prof., zam. otv. red.; OKHRIMENKO, Yu.M., red.; KOLOMYTCHENKO, M.S., zasl. deyatel' nauki Ukr.SSR prof., red.; SHAKHBAZYAN, G.Kh., prof., red.; IVANCHENKO, T.L., prof., red.; GURVICH, S.S., dots., red.; KHAVCHUK, M.I., dots., red.

[Philosophical problems in medicine and biology] Filosofskie voprosy meditsiny i biologii. Kiev, Zdorov'ia, 1965. 255 p. (MIRA 18:10)

1. Kiev. Medychnyi Instytut. 2. Chlen-korrespondent AMN SSSR (for Shakhbazyan).

KRAVCHUK, M.I.

On GF-quasi-nilpotent groups. Sib. mat. zhur. 6 no.5:1185-1189 S-O '65. (MIRA 18:10)

KRAVCHUK, M.S.

Calculating oil reserves in reservoir rocks of mixed type Miocene sediments in the western Kuban trough. Trudy KF VNII no.6:313-319 '61. (MIRA 15:2)

(Kuban-Azov Lowland--Petroleum geology)

KRAVCHUK, M.S.

Determination of the residual saturation and oil factor of depleted pools of the Shirokaya Balka type based on geophysical data. Trudy KF VNII no.10:252-254 '62.
(MIRA 15:11)

(Shirokaya Balka region--Petroleum geology)

KRAVCHUK, M. V.

"Technology of Direct Current Electrical Machines of Aviation Type," Part I, Air-Engineering Acad., 1948.

KRAVCHUK, M.V., kand. tekhn. nauk; ALEKSEYEV, A.M.; AVRUSHKIN, Yu.I.

Selection of the power of automobile generators. Avt. prom. 30 no.12:32-35 D '64. (MIRA 18:2)

1. Moskovskiy avtomekhanicheskiy institut.

DANILOV, I.N.; YEVSTEFEYEV, L.F.; KRAVCHUK, N.I.; VANHONIN, L.S.

Experience in the work with IT9-2 and IT9-6 units equipped with DP-6C electronic knockmeters. Khim. i tekh. topl. i masel 10 no.7:60-62 Jl '65. (MIRA 18:9)

1. Bashkirskiy nauchno-issledovatel'skiy institut po pererabotke nefti.

VASIL'TSOVA, M.T., inzhener; KRAVCHUK, N.K., inzhener; KUZ'MIN, V.P., tekhnik.

Increasing the temperature of steam ahead of the turbine. Energetik 2 no.6:14-15 Je '54. (MLRA 7:7)
(Steam turbines)

KRAVCHUK, N.V.

Nerve plexus of the thoracic aorta and its connections with the nerves of the spinal column. Trudy KirgNOAGE no.2:141-143 '65.

Connecting branches of the superior ganglion of the marginal truncus sympatheticus with the spinal nerves and their participation in the innervation of the cervical vertebrae. Ibid.:143-146 (MIRA 18:11)

1. Iz kafedry normal'noy anatomii (zav. - prof. N.N.Lavrov) Kirgizskogo gosudarstvennogo meditsinskogo instituta.

LAVROV, Nikolay Nikolayevich; KRAVCHUK, Nadezhda Vasil'yevna; ZNAMENSKIY, M.S., prof., red.

[Central nervous system; methodological textbook for conducting practical work] TSentral'naia nervnaia sistema; metodicheskoe posobie k provedeniiu prakticheskikh zaniatii. Frunze, Kirgizskii gos. med. in-t, 1961. 66 p. (MIRA 18:8)

KRAVCHUK, N. V.

KRAVCHUK, N. V.: "The anatomy of the dorsal and ulnar arteries of the wrist." Gor'kiy State Medical Inst imeni S. M. Kirov. Gor'kiy, 1956. (Dissertation for the Degree of Candidate in Medical Science.)

Knizhnaya letopis', No. 30, 1956. Moscow.

USSR / Human and Animal Morphology. Circulatory System. S-3

Abs Jour: Ref Zhur-Biol., No 14, 1958, 64851.

Author : Kravchuk, N. V.
Inst : Gorkiy Medical Institute.
Title : Concerning the Anatomy of the Rear Arteries of the Wrist.

Orig Pub: Uch. zap. Gor'kovsk. med. in-ta, 1957, vyp. 1, 109-119.

Abstract: On the rear surface of the wrist in 95 per cent of adults and in 83 per cent of children, the posterior arterial arc (PAA) is well defined. The rear carpal branch of the radial artery, the rear branch of the interosseous artery of the palm, the rear carpal branch of the elbow artery, and in 7.5 per cent - the posterior interosseous artery participate in its formation. In 50 per

Card 1/2

USSR / Human and Animal Morphology. Circulatory System. S-3

Abs Jour: Ref Zhur-Biol., No 14, 1958, 64851.

Abstract: cent a radial interosseous form of the PAA, was found in 38.2 per cent - a radial interosseous ulnar form. More frequently (52.8 per cent) three carpal arteries go off from the PAA, less frequently four (30.9 per cent), and still less frequently two (16.3 per cent). In 26 per cent of cases the perforating branches of the deep arc of the palm are the main source of the rear carpal arteries. The carpal arteries are connected with the PAA by a thin anastomotic branch. The rear arteries of the wrist anastomose with the deep arterial arc of the palm. -- V. P. Golev.

Card 2/2

KRAVCHUK, P.F.; KHRENNIKOV, A.M.

Working 20 minutes without a technical control division.
Mashinostroitel' no.8:39-40 Ag '60. (MIRA 13:9)

1. Direktor Moskovskogo zavoda portativnykh pishushchikh mashin (for Kravchuk). 2. Zamestitel' glavnogo inzhenera Moskovskogo zavoda portativnykh pishushchikh mashin (for Khrennikov).
(Moscow--Typewriters)

KRAVCHUK, P. L., agronom po zashchite rasteniy

High indices. Zashch. rast. ot vred. i bol. 5 no.6:4 Je '60.
(MIRA 16:1)

1. Rayonnaya traktornaya stantsiya Krasilovskogo rayona, Khmel'nitskoy obl.

(Plants, Protection of)

KRAVCHUK, S.G.

Centralized elivery of petroleum products. Transp. i khran. nefti i nefteprod. no.8:30 '65. (MIRA 18:9)

1. Nal'chikskaya perevalochnaya neftebaza.

ALEKSANDROV, B.I.; KRAVCHUK, S.P.

Effect of temperature on the operation of wire-wound converters of ohmic resistance. Dokl. AN BSSR 9 n. [illegible] '65 (MIR 19:1)

1. Institut mashinovedeniya i avtomatizatsii Gosudarstvennogo komiteta po mashinostroyeniyu pri Gosplane SSSR.

KRAVCHUK, S.P., inzh.

Device for winding wire strain gauges with various bases. Mash. Bel. no.6:197-200 '59. (MIRA 13:6)
(Strain gauges)

KRAVCHUK, S.P.

Determining accelerations by an accelerometer equipped with strain gauges. Sbor.nauch.trud.Bel.politekh.inst. no.72: 45-52 '59. (MIRA 13:6)
(Accelerometers) (Motor vehicles--Dynamics)

BESPALOV, P.M., inzh.-gidrogeolog; KRAVCHUK, S.V., inzh.-gidrogeolog

Water-lowering operations in the Mikhlovka open-pit mine of the Kursk Magnetic Anomaly. Gor. zhur. no.10:38-42 O '61. (MIRA 15:2)

1. Filial Instituta gornogo dela im. A.A.Skochinskogo, g. Gubkin.

(Kursk Magnetic Anomaly--Mine drainage)

GAZIZOV, M.S., kand. geol.-miner. nauk; LEBEDYANSKAYA, Z.P., inzh.; UNKOVSKAYA, N.F., inzh.; KOSTENKO, V.I., inzh.; PROZOROV, L.B., kand. tekhn.nauk; BESPALOV, P.M., inzh.; KRAVCHUK, S.V., inzh.; KRUPKIN, L.V., inzh.; KRUPKIN, L.V., inzh.; BEZPALOVA, S.I., inzh.; SHCHERBATENKO, A.P., inzh.; KOROTKOV, G.V., kand. geol.-mineral. nauk, retsenzent; VASIL'YEV, P.V., doktor geol.-mineral. nauk; retsenzent; SHEVYAKOV, L.D., akad., otv.red.; MAN'KOVSKIY, G.I., otv.red.; STOLYAROV, A.G., red.izd-va; GUSEVA, A.P., tekhn.red.; RYLINA, Yu.V., tekhn. red.

[Experience in lowering the water table in mineral deposits under complex hydrogeological conditions] Opyt vodoponizheniia na mestorozhdeniiakh poleznykh iskopaemykh so slozhnymi gidrogeologicheskimi usloviiami. Moskva, Izd-vo Akad. nauk SSSR, 1963. 411 p. (MIRA 16:5)

1. Akademiya nauk SSSR. Institut gornogo dela. 2. Chlen-korrespondent Akademii nauk SSSR zaveduyushchiy Laboratoriyey spetsial'nykh sposobov prokhodki gornykh vyrabotok i vodoponizheniya Nauchno-issledovatel'skogo instituta Kurskoy magnitnoy anomalii (for Man'kovskiy).

(Water, Underground) (Ore deposits)

KRAVCHENKO, Ya.S; KRAVCHUK, T.S.

Using the EPV-01 potentiometer as a dividing device. Priborostroenie no.6:24-25 Je '64. (MIRA 18:3)

LITOVKIN, Ye., trener sbornoy komandy; KRAVCHUK, V., komandir shlyupki sbornoy komandy

Discrepancies in the new decathlon program. Voen. znan. 35 no.5:36 My '59. (MIRA 12:12)

1.Dobrovol'noye obshchestvo sodeystviya armii, aviatsii i flotu USSR. (Aquatic sports)

LITOVKIN, Ye., trener po morskomu mnogobor'yu (UkrSSR); KRAVCHUK, V., trener po morskomu mnogobor'yu (UkrSSR)

Preparation of a boat for races. Voen.znan. 39 no.9:29 S '63. (MIRA 16:10)

LITOVKIN, Ye., zasluzhennyy trener UkrSSR; KRAVCHUK, V.

Training of participants in sea sports competitions. Voen. znan. 40 no.9:41-42 S '64. (MIRA 17:12)

KRAVCHUK, V.A. [deceased].

For field works on ichthyology [with English summary in insert]. Zool.zhur. 35 no.9:1419-1420 S '56. (MLRA 9:12)

1. Sibirskoye otdeleniye Vsesoyuznogo nauchno-issledovatel'skogo instituta ozernogo i rechnogo rybnogo khozyaystva.
(Fishes) (Scientific apparatus and instruments)

FROLOVA, V.G., KRAVCHUK, V.F., DOBRYNINA, I.L.

Material on the epidemiology of ascariasis in Stalinsk. Med. paraz. i paraz. bol. 27 no.2:215 Mr-Ap '58 (MIRA 11:5)

1. Iz Stalinskogog instituta usovershenstvovaniya vrachey i Stalinskoy gorodskoy sanitarno-epidemiologicheskoy stantsii.
(ASCARIASIS, epidemiology
in Stalinsk, Russia (Rus))

KRAVCHUK, V.F., inzh.; KORCHAGINA, V.I., inzh.; GINZBURG, S.A., inzh.; LONGRE, G.A., inzh.; RUTMAN, L.I., inzh.; FIN'KO, A.A., inzh.; DAVYDOV, I.V., inzh.; LAVRINOVICH, D.A., inzh.

Express method for determining water content in highly viscous mazuts using their dielectric constant. Elek. sta. 35 no.9:22-26 S '64.
(MIRA 18:1)

KRAVCHUK, V.I., polkovnik med.sluzhby

Medical practice of military physicians in a garrison hospital. Voen.-med.zhur. no.10:83-84 O '58. (MIRA 12:12)
(MEDICINE, MILITARY AND NAVAL
med.practice in Russian garrison hosp. (Rus))

ZAKHARENKO, I.P., kand. tekhn. nauk; FEDOSEYEV, L.A.; KRAVCHUK, V.I.

Diamond sharpening of woodcutting hard-alloy tools at the Kiev Woodworking Plant No.1. Bum. i der. prom. no.4:32-34 O-D '64 (MIRA 18:2)

KRAVCHUK, V.L.

We are meeting the needs of the hospital. Farmatsev. zhur. 17 no.3: 82-83 '62. (MIRA 17:10)

1. Apteka Ternopol'skoy oblastnoy bol'nitsy.

KLEYNER, Yu.M.; KRAVCHUK, V.N.; NEVZOROV, N.Ye.; URETSKIY, B.Z.; SHARAPOV, A.I.; EBERZIN, A.G.

Pontic deposits of the northern Ust-Urt. Dokl. AN SSSR 140 [redacted] no.3:670-672 S '61. (MIRA 14:9)

1. Vsesoyuznyy aerogeologicheskiy trest, Paleontologicheskiy institut AN SSSR. Predstavleno akademikom A.L.Yanshinym.
(Ust-Urt--Geology, Stratigraphic)

KIRYUKHIN, L.G.; KRAVCHUK, V.N.; FEDOROV, P.V.

Recent data on the terraces of the Aral Sea. Izv. AN SSSR. Ser. geog. no. 1:68-72 Ja-F '66 (MIRA 19:2)

1. Vtoraya ekspeditsiya Vsesoyuznogo aerogeologicheskogo tresta Ministerstva geologii SSSR i Geologicheskiy institut AN SSSR.

BOGORODSKIY, S.M.; KRAVCHUK, V.N.; CHERNYAKHOVSKIY, A.G.

Lower-Middle Miocene eluvium in the Ust-Urt. Kora vyvetr. no.5:371-373 '63. (MIRA 16:7)

1. Vsesoyuznyy aerologicheskiy trest.
(Ust-Urt—Weathering)

MYACHKIN, V.I.; KRAVETS, V.V.; SOLOV'YEVA, R.P.

Ultrasonic studies of the physicomechanical properties of iron ores and enclosing rocks in the Krivoy Rog Basin. Geofiz. sbor. no.7:45-50 '64. (MIRA 17:11)

1. Institut geofiziki AN UkrSSR.