"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

STEPNIEWSKI, T.J.

Chronic and complicated gonorrhea in women and its control in Poland at the present time. Przegl. derm., Warsz. 2 no.4:489-499 Oct-Dec 1952. (CLML 24:2)

1.Of the Social Scientific Division (Head--T. J. Stepniewski, M. D.) of the Institute of Dermatology and Venereology (Director -- J. Suchanek, M.D.), Warsaw.

APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2"

"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

STEPNIEWSKI, T.J.

Tasks in the field of control of dermatoses and venereal diseases in Poland. Przegl. derm., Warsz. 3 no.1:1-6 Jan-Mar 1953. (CIML 24:5)

1. Of the Division of Methods and Organization (Head--T. J. Stepniewski, M.D.) of the Institute of Dermatology and Venereology (Director--J. Suchanek, M.D.), Warsaw.

APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2"

"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

CAPINSKI, Z.;STEPNIEWSKI, T.

Social significance of latent syphilis. Przegl. derm., Warsz. 3 no.3: 261-264 July-Sept 1953. (CLML 25:4)

1. Of the Institute of Dermatology and Venereology (Director--J. Suchanek, M.D.), Warsaw.

APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2"

"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

SUCHANEK, J.; STEPNIEWSKI, T.

Achievements of public health in the field of venereology and dermatology during 10 years of independence. Zdrowie pub., Warsz. No.4:294-301 July-Aug 54.

(DERMATOLOGY,
in Poland)
(VENEREAL DISEASES, prevention and control,
in Poland)

APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2"

"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

STEPNIEWSKI, Tadeusz

Sanitary education in dermatologic and venereologic services.
Przegl. derm., Warsz. 4 no.5:349-352 Sept-Oct 54.

1. Z Instytutu Dermatologii i Wenerologii. Dyrektor: dr J.Suchanek.
Dzial Metodyczno-Organizacyjny. Kierownik: dr T.Stepniewski.
(HEALTH, education,
in prev. of skin & veneral dis.)
(SKIN, diseases,
prev. & control, health educ.)
(VENERAL DISEASES, prevention and control,
health educ.)

APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2"

"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

STEPNIEWSKI, T., dr.

Health education in rural areas. Zdrowie pub., Warsz. no.5:412-415 Sept-Oct 54.
(HEALTH, education,
rural areas in Poland)

APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2"

"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

STEPNIEWSKI, Tadeusz.

Intensification of the fight against gonorrhea. Jan-Feb. '55.

1. Instytutu Dermatologii i Wenerologii. Dyrektor: doc.dr. J. Suchnew. Dzial Metodyczno-Organizacyjny. Kierownik: doc. dr. T.Stepniewski.
(GONORRHEA, prevention and control in Poland)

APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2"

"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

STEPNIEWSKI, T.

"Are labor accidents and professional diseases a necessary evil?" p.4. (ZDROWIE Vol. 7, No. 1, 1955. Warszawa, Poland)

SO: Monthly List of East European Accession. (EEAL). LC. Vol. 4, No. 4 April 1955. Uncl.

APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2"

"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

WESOLOWSKI, Jan; GASIAR, Stanislaw; MICHALSKI, Kazimierz; STEPNIEWSKI, Waldemar

Measurement of alph-ray radioactivity in the atmosphere over some localities in the Low Silesia district. Nukleonika 6 no.12:801-812 '61.

1. Uniwersytet Wroclawski we Wroclawiu, Katedra Fizyki Doswiadczlnej. Akademia Medyczna we Wroclawiu, Katedra Fizyki.

APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2"

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L 18334-65 EWT(1)/EWG(k)/EPA(w)-2/EEC(t)/EEC(b)-2 Pz-6/Pab-10 IJP(c)/AS(mp)-2/ASD(a)-5/AFWL/ESD(gs)/ESD(t) AT
ACCESSION NR: AP4045519 P/0045/63/024/001/0051/0063

AUTHOR: Sujak, B.; Gasior, S.; Stepniewski, W.

TITLE: On the effect of an external electric field on the emission of electrons from additively colored KCL into a gaseous atmosphere. I.

SOURCE: Acta physica polonica, v. 24, no. 1, 1963, 51-63

TOPIC TAGS: electron emission, external electric field, potassium chloride, single crystal, photoelectric emission, photostimulated emission, colored alkali halide

ABSTRACT: The effect of external accelerating voltages on the time dependence and intensity of photoelectron emission from additively colored KCL single crystals was investigated. The decay curves of photostimulated electron emission in an atmosphere consisting of a mixture of air and ethyl alcohol vapor are presented. The gas flow counter, of the point counter type with a measuring capacitor, is described. Plates measuring about 0.2 cm x 0.2 cm x 0.1 cm were obtained from a KCL crystal which was colored in potassium vapor at about 600C then cleaned. A potential of -15 v was applied to the up-

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ACCESSION NR: AP4045519

per capacitor plate and potentials of -65, -120, -185, or -240 v were applied to the lower plate (specimen support). The time dependence of the intensity of photostimulated emission was measured in single crystal and powdered specimens at the standard accelerating voltages given above. Photostimulated exoelectron emission decay curves were also obtained at these voltages. When freshly colored crystals were tested, the results resembled those obtained with powdered specimens. Inhomogeneity of coloring had a clearly discernable effect on the time dependence of the intensity of photostimulated emission. It was found that the form of the time dependence of the intensity of photostimulated emission from colored KCL single crystals is affected by the value of the accelerating voltage; however, powdered specimens were not so strongly affected by the acclerating voltage. The external accelerating field also had a strong effect on the rate of decay of emission. The present problem is now being investigated in a gaseous atmosphere and in vacuum by means of electron multipliers. The results are to be published separately. Orig art. has: 16 figures.

Card 2/3

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"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

L 18334-65
ACCESSION NR: AP4045519

2

ASSOCIATION: Katedra Fizyki Doswiadczalnej Uniwersytetu Wroclawskiego (Institute of Experimental Physics, Wroclaw University); Katedra Fizyki Akademii Medycznej, Wroclaw (Chair of Physics, Medical Academy)

SUBMITTED: 12Dec62 ENCL: 00 SUB CODE: SS, EM

NO REF SOV: 000 OTHER: 013

Card 3/3

APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2"

"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

ACCESSION NR: AP4024334 P/0045/64/025/002/0247/0253

AUTHOR: Gasior, S.; Stepniewski, W.; Sujak, B.

TITLE: Effect of an external electric field on photostimulated exoelectron emission from additively colored NaCl into a gaseous atmosphere

SOURCE: Acta physica polonica, v.25, no. 2, 1964, 247-253

TOPIC TAGS: external electric field, photostimulated exoelectron emission, additively colored NaCl, gaseous atmosphere, emission decay curve, emission intensity, NaCl

ABSTRACT: The paper is a continuation of a previous study (Acta Phys. Polon., 23, 51,1963) on the effect of an external electric field on the photostimulated emission of exoelectrons from alkali halogenides. It describes the measuring procedure used in studying the dependence of such emission from NaCl single crystals colored additively in sodium vapor versus the accelerating voltage. The measurements produced graphs of the emission decay curves with time at constant voltage, showing three relationships between the decay constants $\lambda_1, \lambda_2, \lambda_3$, and the accelerating voltage applied, U:

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ACCESSION NR: AP4024334

$$\lambda_1 = 1.3-93 \times 10^{-6} \sqrt{U} \quad \text{for } 0 < U \leq 190 \text{ V},$$
$$\lambda_2 = 0.09-25 \times 10^{-7} U^2 \quad \text{for } 0 < U \leq 190 \text{ V},$$
$$\lambda_3 = 0.0089-15 \times 10^{-8} U^3 \quad \text{for } 0 < U \leq 250 \text{ V}.$$

In measurements with accelerating voltages exceeding approximately 200 V (distance 0.5 cm), λ_1 assumed negative values, causing the emission intensity to increase with time during the initial phase of observation. It was found in all cases that, under the given conditions, an initial increase of the emission intensity does indeed occur on illuminating the specimen with natural light, -- a clear proof of the influence of an external accelerating field on the shape of the decay curves. This effect should be taken into account since it can give rise to enormous non-reproducibility in investigations of excited electron emission. Orig. art. has: 8 figures and 6 equations

ASSOCIATION: Uniwersytet Wroclawski, Zaklad Wzbudzonej Emisji Elektronow przy Katedrze Fizyki Doswiadczalnej (Wroclaw University, Department of Induced Electron Emission, Chair of Experimental Physics)

Card 2/2

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"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

L 11099-66 EWT(1)/EWA(m)-2 IJP(c) AT

ACC NR: AP5024612 SOURCE CODE: PO/0045/65/028/003/0299/0309

44 55 44 55 44 55 50

AUTHOR: Stepniewski, W.; Gasior, S.; Sujak, B.

44 55 B

ORG: Physics Department, Medical Academy, Wroclaw; Laboratory for Induced Electron Emission, Institute of Experimental Physics, Wroclaw University 44 55

TITLE: Relation between the spectral distribution of optical absorption in colored NaCl and KCl single crystals and their decay curves of photostimulated (exo) electron emission

SOURCE: Acta physica polonica, v. 28, no. 3, 1965, 299-309

TOPIC TAGS: crystal optic property, exothermic effect, photosensitivity, electron emission

21, 44, 55

ABSTRACT: Previous studies on photostimulated exoelectron emission are continued using monochromatic instead of white light. A flow point counter operating on a mixture of air and ethyl alcohol measured the emission. The wavelength of incident light was varied by an especially constructed micrometer screw. The range of wavelength was from 4000 to 7000 Å. At constant wavelength (σ/ν) of the light incident on the specimen the decay constants λ_i were determined for various accelerating voltages. The values for λ_1, λ_2 and λ_3 at the same accelerating voltage differ for various wavelengths of the applied light. Graphs of a given decay constant λ_i versus the accele-

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rating voltage U were plotted, $(\lambda_i = f_i(U))$ for both NaCl and KCl. The equation of the curve of photostimulated exoelectron emission decay for spectrally decomposed light assumes the form

$$\frac{N}{t} = \left(\frac{N}{t}\right)_{01} e^{-\left[\lambda_{01}\left(\frac{c}{\nu}\right) - \left(A_{0,5000} + A'\frac{c}{\nu}\right)\sqrt{U}\right]t}$$
$$+ \left(\frac{N}{t}\right)_{02} e^{-\left[\lambda_{02}\left(\frac{c}{\nu}\right) - \left(B_{0,5000} - B'\frac{c}{\nu}\right)U^2\right]t}$$
$$+ \left(\frac{N}{t}\right)_{03} e^{-\left[\lambda_{03}\left(\frac{c}{\nu}\right) - \left(C_{0,5000} - C'\frac{c}{\nu}\right)U^3\right]t}.$$

values of the constants A, B, C, A', B', C', for NaCl and KCl are given in a table. The curves for colored alkali halides measured in an atmosphere with high concentration of ethyl alcohol vapor are similar to the curves of optical absorption of F-centers and M-centers at room temperature. The energy depth of donors acting as source of exoelectrons is easily calculated from the absorption curves. Photostimulated exoelectron emission is apparently a two stage process. Orig. art. has: 16 formulas, 11 figures, 1 table.

SUB CODE: 20/ SUBM DATE: 05Feb65/ ORIG REF: 001/ OTH REF: 004

Card 2/2

APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2"

"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

STEPNIK, A.

"Using Compressed Air Instead Of Steam For Blowing Soot" p. 54. (Przegląd Papierniczy, Vol. 9. no. 2, Feb. 1953, Lodz)

SO: Monthly List of East European Accessions, Vol. 3, No. 2, Library of Congress, Feb. 1954

APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2"

"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

STEPNIN, M.O.

Anesthesia in surgery under conditions of cholemia and hepatic insufficiency. Trudy LSGMI 59:22-28 '60. (MIRA 14:9)

1. Gospital'naya khirurgicheskaya kliniki Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta (zav. klinikoy - prof. A.V. Smirnov).
(LIVER—DISEASES) (BLOOD—DISEASES) (ANESTHESIA)

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"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

L 17176-63 EWT(1)/BDS AFFTC/ASD

ACCESSION NR: AP3001743 P/0045/63/023/004/0431/0438

55

AUTHOR: Stepniowski, Ignacy; Sujak, Bogdan

TITLE: Point air-flow counter as an exo-electron detector

SOURCE: Acta physica polonica, v. 23, no. 4, 1963, 431-438

TOPIC TAGS: exo-electron, exo-electron emission, exo-electron detector, point air-flow counter, geiger counter

ABSTRACT: In measuring exo-electron emissions a Geiger air counter requires a linear amplifier with large amplification factor of the order of 10^5 due to the small pulse amplitude produced. If, though, the vapors of some organic or inorganic liquids are pumped through the point air counter, the counter reacts with relatively large pulses (averaging about 2V, depending on the type of vapor), to electrons and slow negative ions, which can be recorded without difficulty. One can also choose a vapor of a liquid whose influence on exo-electron emission is of particular interest to the investigator because of the catalytic decomposition of the vapor on the surface of the investigated sample or contact. Vapors of ethyl alcohol, n-propyl alcohol, n-butyl alcohol and dioxane were used in

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ACCESSION NR: AP3001743

2

this work to study the behavior of the point air counter. Details of the counter used, preparatory steps, operating characteristics and detection of exo-electrons are given. A schematic of the counter is given in Enclosure 01. It follows from these experiments that the point flow counter is quite suitable for recording exo-electrons and can be of great service in investigation of their emission. Background noise can be greatly reduced and only standard, commercial counting circuits need be used. Such a counter has already been used for preliminary investigation of the effect of an external electric field on exo-electron emission from alkali halides. Orig. art. has: 1 figure and 7 graphs.

ASSOCIATION: Katedra Fizyki Wyzszej Szkoly Pedagogiczney w Opolu (Department of Physics, Opole Pedagogical College); Katedra Fizyki Doswiadczalnej Uniwersytetu Wroclawskiego (Department of Experimental Physics, University of Wroclaw)

SUBMITTED: 02Jun62 DATE ACQ: 05Jun63 ENCL: 01

SUB CODE: PH NO REF SOV: 001 OTHER: 023

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"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

L 34698-65 EWT(m)/T IJP(c)

ACCESSION NR: AP4046065 P/0045/64/026/001/0003/0010

AUTHOR: Pirog, Mieczyslaw; Stepniowski, Ignacy; Sujak, Bogdan

TITLE: Point counter with quenching vapor above the free surface of the liquid (exoelectron detector)

SOURCE: Acta physica polonica, v. 26, no. 1, 1964, 3-10

TOPIC TAGS: open point counter, exoelectron emission counter, exoelectron detector, ionizing radiation determination, ionizing radiation, dosimetric determination

ABSTRACT: A special type of open-point counter with quenching vapor above the free liquid surface and a pulse amplitude of approximately 2 v was constructed. It is in many respects superior to the commonly used air point counter and, in particular, to the flow counter. When filled with ethyl alcohol, this counter has the following properties if operated under appropriate conditions: 1) it has a characteristic with a relative steepness of about 0.3% per volt whereas a flow counter

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ACCESSION NR: AP4046065 2

operated under the same conditions has over 1% per volt; 2) its sensitivity to atmospheric humidity can be made exceedingly low while flow counters require drying the air current; 3) it has greater operational stability, owing to the elimination of all variable parameters related to the flow of air; 4) it allows exoelectron counting with frequencies up to 2.5×10^3 pulses per second (the limit for a flow counter is about 5×10^2 pulses per second). Such properties will be very valuable in investigating exoelectron emission from samples that simultaneously give off water of crystallization. Moreover, due to its simplicity, this counter may play a decisive role in the wider application of exoelectron emission in dosimetric determinations of ionizing radiation. Orig. art. has: 10 figures.

ASSOCIATION: Department of Physics, Pedagogical College, Opole; Laboratory for Induced Electron Emission, Institute of Experimental Physics, Wroclaw University, Wroclaw.

SUBMITTED: 5Dec63 ENCL: 00

SUB CODE: NP NO REF SOV: 000 OTHER: 007

Card 2/2

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"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

0120

ACC NR: AP6031835 SOURCE CODE: PO/0045/66/030/001/0051/0057

AUTHOR: Sujak, B.; Gorecki, T.; Malkiewicz, M.; Stepniowski, I.

ORG: [Sujak] Laboratory for Induced Electron Emission, Institute of Experimental Physics, Wroclaw University, Wroclaw (Zaklad Wzbudzonej Emisji Elektronow przy Katedrze Fizyki Doswiadczalnej, Uniwersytet Wroclawski); Department of Experimental Physics, Opole Pedagogical College, Opole (Katedra Fizyki Doswiadczalnej, WSP w Opolu); [Gorecki; Malkiewicz; Stepniowski] Solid State Surface Physics Laboratory, Department of Experimental Physics, Opole Pedagogical College, Opole (Zaklad Fizyki Powierzchni Ciala Stalego przy Katedrze Fizyki Doswiadczalnej, WSP w Opolu)

TITLE: Photostimulated emission of exoelectrons into the atmosphere during recrystallization of metals and alloys

SOURCE: Acta physica polonica, v. 30, no. 1, 1966, 51-57

TOPIC TAGS: bismuth, cadmium, photostimulated electron emission, bismuth base alloy, cadmium base alloy, bismuth cadmium alloy, metal recrystallization, UV light stimulation

ABSTRACT: The emission of exoelectrons into the atmosphere during recrystallization of bismuth, cadmium, and their alloys has been

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DAMASKIN, B.I., doktor tekhn.nauk prof.; BARSH, kand.tekhn.nauk, dots.; STEPNOV, L.N., assistent; LEVIN, V.I., assistent

Method for experimentally determining the magnitude of active stresses in conveyer chains. Izv.vys.ucheb.zav.; tekh.leg. prom. no.5:146-151 '59. (MIRA 13:4)

1. Moskovskiy tekhnologicheskiy institut legkoy promyshlennosti. Rekomendovana kafedroy detaley mashin.
(Dynamometer) (Conveying machinery--Testing)

APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2"

"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

DAMASKIN, B.I., doktor tekhn.nauk, prof.; STEPNOV, L.N., assistent

Methods of studying the characteristics of the load on sewing machine needles. Nauch.trudy MTILP no.18:124-131 '60. (MIRA 15:2)

1. Kafedra detaley mashin Moskovskogo tekhnologicheskogo instituta legkoy promyshlennosti.
(Sewing machines--Testing)

APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2"

"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

DAVYDOV, B.I., doktor tekhn. nauk, prof.; STEPNOV, L.N., starshiy prepodavatel'

Investigating the heating temperature of sewing machine needles during the puncture of stitched materials. Nauch. trudy MTILP no.24:160-167 '62. (MIRA 16:7)

1. Kafedra detaley mashin Moskovskogo tekhnologicheskogo instituta legkoy promyshlennosti.
(Sewing machines—Testing)
(Thermometry)

APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2"

"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

DAMASKIN, B.I., doktor tekhn. nauk, prof., STERNOV, L.N., starshiy prepodavatel'

Nature of the load on the sewing machine needles. Nauch. trudy MTILP no.29:216-223 '64. (MIRA 18:4)

1. Kafedra detaley mashin Moskovskogo tekhnologicheskogo instituta legkoy promyshlennosti.

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"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

STEPANOV, . N.

"Study of Aging Resistance of Aluminum Alloys in Conjunction with Surface Cold-Hardening." (Dissertation for Degree of Candidate for Technical Sciences) Min Higher Education USSR, Moscow Aviation Technology Inst, Moscow, 1955

SO: M-1036 28 Mar 56

APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2"

"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

18(7);28(5) PHASE I BOOK EXPLOITATION SOV/1970

Serensen, S.V., M.N. Stepnov, V.P. Kogayev, and Ye. V. Giatsintov

Issledovaniye rasseyaniya kharakteristik vynoslivosti konstruktsionnykh alyuminiyevykh splavov v svyazi s tekhnologiyey ikh proizvodstva (Research on the Scattering of Endurance Characteristics of Structural Aluminum Alloys in Connection With Production Technology) Moscow, Oborongiz, 1958. 122 p. 2,600 copies printed (Series: Moscow. Aviatsionyy tekhnologicheskiy institut. Trudy, vyp. 35)

Sponsoring Agency: Moscow. Aviatsionnyy tekhnologicheskiy institut.

Ed.: T.M. Fedorova, Candidate of Technical Sciences; Resp. Ed.: A.S. Zaymovskaya, Engineer; Ed. of Publishing House: E.I. Shekhtman; Tech. Ed.: L.A. Garnukhina.

PURPOSE: The book is intended for engineering, technical, and scientific personnel, and for graduate students (aspiranty) and students of machine building and metallurgy.

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APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2"

"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

tion Materials); M.Ya. Shashin, A.I. Kochetov, and A.D. Krolevetskiy (problems of metal fatigue). There are 37 references: 7 Soviet, 27 English, and 3 German.

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2. Effect of the degree of plastic tension in a cool state 10
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1. Scattering of fatigue-life characteristics and its causes 23
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APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2"

"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

AUTHORS: Serensen, S.V., Kogayev, V.P., Stepnov, M.N., Giatsintov, Ye. V.

TITLE: On the Law Concerning the Distribution of Durability in Fatigue Tests (O zakone respredeleniya dolgovenchnosti pri ustalostnykh ispytaniyakh)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol. 24, Nr 3, pp. 324-329 (USSR)

ABSTRACT: In connection with the statement made to the effect that the logarithmic law of the distribution of durability is not confirmed by experiments, other distribution functions were suggested by Freudenthal and Gumbel [Ref. 6], Weibull [Ref. 7] and others. In the present paper the correctness of the logarithmic standard law was checked, and the existence of a "sensitivity threshold according to cycles" was established as a fact. 163 samples were investigated. A graphical drawing for tensions of 30, 24 and 21 kg/mm² is given; the curve for 21 kg/mm² indicates the phenomenon of the sensitivity threshold. In the course of further experiments the latter is found also in the case of greater stresses. From the experiments and a mathematical process the hypothesis expounded already in an earlier work [Ref.10] is confirmed, so that the conclusion

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On the Law Concerning the Distribution of Durability in Fatigue Tests 32-3-26/52

may be drawn that the law mentioned in the title is applicable in the case of the static treatment of results obtained by fatigue tests. There are 3 figures, 1 table, and 10 references, 6 of which are Slavic.

ASSOCIATION: Moscow Institut for Aviation Technology (Moskovskiy aviatsionnyy tekhnologicheskiy institut)

AVAILABLE: Library of Congress

1. Fatigue (Mechanics) Durability-Distribution 2. Mathematics- theory

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18(4) PHASE I BOOK EXPLOITATION SOV/2686

Moscow. Aviatsionnyy tekhnologicheskiy institut

Voprosy sopротivleniya materialov; prochnost' alyuminiyevykh splavov (Problems of the Strength of Materials; Strength of Aluminum Alloys) Moscow, Oborongiz, 1959. 117 p. (Series: Its: Trudy, vyp. 37) 3,600 copies printed.

Sponsoring Agency: Ministerstvo vysshego obrazovaniya SSSR.

Ed. (Title page): S.V. Serensen; Ed. (Inside book): B.V. Zaslavskiy; Ed. of Publishing House: L.I. Sheynfayn; Tech. Ed.: L.A. Garnukhina; Managing Ed.: A.S. Layzovskaya, Engineer.

PURPOSE: This collection of articles is intended for workers of engineering design offices, industrial laboratories and scientific institutes of the machine-building industry and for research fellows and students of advanced courses in schools of higher technical education.

COVERAGE: This collection consists of 8 articles in which mechanical properties of deformed aluminum alloys are described. The load-carrying capacity of parts made of these alloys is considered and some results of the investigation of the distribution of stresses and strains in parts and joints are given.

4. Stepanov, Ye.P. Investigation of Stresses in a Wedge Under a Triangular Load (Applied to Cutters) 52
The author uses the optic method of investigating stresses which makes possible an analysis of the applicability of corresponding theoretical solutions to the determination of a plane stressed state in cutters.

5. Kogayev, V. P. Basis for the Choice of an Equal Strength Beam for Calibrating Wire Tensometers in the Presence of Transversal Vibrations 62
In connection with the elaboration of equipment for the calibration of transmitters, calculation of an equal strength beam with transversal vibrations present is given.

6. Serensen, S.V., M.N. Stepanov, V.P. Kogayev, and Ye. V. Glatsintov. Stability of the Function of Distribution of Durability in Testing the Stability of Aviation Alloys 69
Problems of the stability of aviation structural alloys are considered in the static aspect in order to obtain a stable distribution of durability at various levels of stress.

7. Vorovich, S.M. [Deceased], and M.N. Stepanov. Fatigue Limit of Aluminum Alloy AK5 With a Slatelike Structure of Fractures 85
The relation of fatigue to slatelike structure of fractures is analyzed in studying the stability of aviation structural alloys.

8. Stepanov, M.N. Surface Strengthing of Aluminum Alloys AK8-1 and D17 by Hammer Hardening 96
Fatigue resistance of cold-hammered samples with changing parameters of the strengthened layer and the mechanical properties of the layer are described. The dependence of the value of final stresses on the hammering technology is shown and the strengthened layer are determined.

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"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

STEPNOV, M.N.; GIATSINTOV, Ye.V.; KOGAYEV, V.P.

Statistical processing of results of fatigue tests based on linear regression analysis. Probl. proch. v mashinostr. no.3: 71-88 '59. (MIRA 12:11)
(Metals--Fatigue--Testing) (Mathematical statistics)

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31646
S/536/61/000/051/001/006
D040/D112

188200 2408 2808 1413

AUTHORS: Borodin, N.A., Giatsintov, Ye.V., Stepnov, M.N.

TITLE: The effect of the technology of fabrication of semiproducts made from D16 and V95 aluminum alloys on the mechanical properties of the latter

SOURCE: Moscow. Aviatsionnyy tekhnologicheskiy institut. Trudy, no. 51, 1961, 5-38. Issledovaniya ustalosti i dlitel'noy staticheskoy prochnosti alyuminiyevykh splavov

TEXT: The article describes experimental investigations made to establish the optimum technological conditions for fabricating blanks of Д16 (D16) and В95 (V95) aluminum alloys, i.e. conditions resulting in the highest static and dynamic strength. The effect of the following factors was studied: The state of the blanks and the method by which they were heated prior to pressing; the pressing temperature; the heating procedure for hardening; the content of Fe and Si. The chemical composition of the alloys is as follows (Table 1):

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31646
S/536/61/000/051/001/006
D040/D112

The effect of the ...

Alloy	Heat no.	The content of elements, %							
		Cu	Mg	Mn	Fe	Si	Ti	Zn	Cr
D16	1	4.49	1.45	0.71	0.22	0.19	0.03	0.07	-
	2	4.50	1.68	0.65	0.14	0.03	0.03	0.10	-
	3	4.47	1.40	0.68	0.32	0.026	0.03	0.10	-
V95	1	1.75	2.45	0.32	0.34	0.22	-	6.49	0.13
	2	1.74	2.76	0.37	0.10	0.03	-	6.46	0.16
	3	1.84	2.82	0.30	0.16	0.50	-	6.51	0.25

The article includes details of procedures used for preparing pressed bars and rods from cast ingots, the shape and dimensions of test specimens, the temperatures and duration of heating, and the mechanical testing techniques. The tests consisted in determining the static strength, the strength after long-time static tests, and the fatigue resistance. Statistically processed data are given in graphs and tables. Conclusions: (1) The dispersion of

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"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

31616
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D040,D112

The effect of the ...

strength and dependability of the D16 and V95 alloys in the following ways: (a) Homogenizing of ingots prior to pressing results in a considerable reduction of the dispersion of the fatigue and long-time static characteristics, and an increase in their life. The life determined by the left confidence limits of the fatigue and long-time strength curves for a 3% destruction probability increases 1.2÷2 times; (b) Heating of ingots in induction furnaces instead of in electric resistance furnaces prior to pressing, results in a slightly shorter life in fatigue tests (up to 10-30%) and has scarcely any effect on the long-time static strength; (c) Increasing the pressing temperature from 360÷380°C to 450÷460°C is accompanied by a continuous increase of the dispersion of the fatigue resistance and the fatigue limit values (upon a temperature increase to 410-420°C). The optimum pressing temperature for the D16 alloy is 420°C, and for the V95 alloy - 360-410°C; (d) Heating for hardening in a saltpeter bath or in a vertical air furnace gives equivalent results as far as the static and fatigue characteristics are concerned; (d) Reduction of the Si and Fe content lowers the dispersion and increases the fatigue resistance in both alloys and increases the D16 alloy. The optimum Si content in the V95 alloy, giving the greatest long-time strength is about 0.3%. Yu. M. Vaynblat.

Card 4/5

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The effect of the ...

P.G. Miklyayev and F.K.Bal'zovskiy participated in the experiments. There are 16 tables, 21 figures and 6 Soviet references.

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"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

31647
S/536/61/000/051/002/006
D040/D112

188200 2408, 2808, 1413

AUTHORS: Giatsintov, Ye.V., Stepnov, M.N., Kogayev, V.P.,

TITLE: The fatigue behavior of an aluminum alloy used for helicopter rotor blades

SOURCE: Moscow. Aviatsionnyy tekhnologicheskiy institut. Trudy, no. 51, 1961, 39-66. Issledovaniya ustalosti i dlitel'noy staticheskoy prochnosti alyminiyevykh splavov.

TEXT: The article describes an extensive experimental investigation of the fatigue behavior of avial used for the longerons of helicopter rotor blades. Its chemical composition is (in %): 0.23 Cu, 0.99 Mg, 0.01 Mn, 0.34 Fe, 0.82 Si, 0.05 Zn, 0.25 Cr, 0.05 Ti. Tests for fatigue during bending and alternating tension and contraction, as well as for corrosion fatigue in fresh and sea water were carried out with smooth and notched specimens and specimens with circular incisions and holes. The stresses were applied both symmetrically and asymmetrically. The test data were statistically processed, con-

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31647
S/536/61/000/051/002/006
D040/D112

The fatigue behavior ...

fidence limits in fatigue curves being plotted for different failure probabilities. МУИ-6000 (MUI-6000) bending test machines working at 6000 rpm were used for the pure bending tests, and 6-ton pulsators with a frequency of 300 cps were used for the tension-contraction tests. It is stated that the obtained experimental data may help to determine the bearing capacity of the longerons of helicopter rotor blades. Conclusions: (1) The tests of smooth and notched specimens as well as corrosion fatigue tests have demonstrated that the dispersion of life values increases upon a reduction of the stress. (2) The durability limits and the sensitivity to stress concentration decrease noticeably upon decreasing probability of failure. (3) The fatigue tests have revealed a sharp reduction of the life and the fatigue limits under the continual effect of a corrosive medium. (4) The dispersion of the fatigue properties decreases when the corrosiveness of the medium and the concentration of stresses are increased. (5) The investigated alloy is highly sensitive to asymmetry of the stress cycle. N.A. Borodin, F.K. Bal'zovskiy, I.I.Vetkin, M.I.Poretskiy and Z.Ye.Shnurov took part in the investigation. R. Gauland, G.Neyber, I.A.Oding and S.Ye.Gurevich are mentioned. There are 24 figures, 15 tables and 16 references: 12 Soviet and

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31647
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D040/D112

The fatigue behavior ...

4 non-Soviet-bloc. The two references to English-language publications read as follows: Lazan, R.J., and Blatherwick, A.A., Strength Properties of Rolled Aluminum Alloys under Various Combinations of Alternating and Mean Axial Fatigue Stresses, ASTM, 1953, vol. 53; Jensen, H.T., The Elements of a Helicopter Fatigue Substantiation Program, Fatigue in Aircraft Structures, 1956.

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"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

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31648
S/536/61/000/051/003/005
D040/D112

AUTHORS: Giatsintov, Ye.V., Stepnov, M.N., Kogayev, V.I.

TITLE: The effect of stress concentration on the fatigue of V95 aluminum alloy

SOURCE: Moscow. Aviatsionnyy tekhnologicheskiy institut. Trudy, no.51, 1961, 67-73. Issledovaniya ustalosti i dlitel'noy staticheskoy prochnosti alyuminiyevykh splavov

TEXT: Examination of the effect of stress concentration on the fatigue of B95(V95) aluminum alloy, confirmed conclusions made previously for 45 steel (Ref.1, Kogayev, V.P., "Vestnik mashinostroyeniya", 1959, no.1), i.e. that the dispersion of the life values in fatigue tests decreases with increasing stresses, that the dispersion also decreases with rising stress concentration if the comparison is made at equal nominal stresses or at equal mean lives, but that there is no apparent dependence between the dispersion of the life values and the level of the stress concentration, if the comparison is made at equal maximum stresses in the concentration zone. The chemical composition of the alloy is (in %): 1.75 Cu, 2.45 Mg, 0.32 Mn, 0.34 Fe, 0.22 Si, 6.49 Zn.

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31648
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D040/D112

The effect of stress ...

0.13 Cr, 0.07 Zr. Test specimens were prepared from pressed metal of only one heat. The tests consisted in torsional bending at 3000 cycles per minute. Some of the specimens were notched with nearly hyperbolical notches; the hyperbola was straightened by means of G.V.Uzhik's method and the theoretical stress concentration factors (α_σ) were calculated by Neyber's formulas. The obtained data are presented in a table and three graphs, illustrating the dependence of the root-mean-square deviation of the life on the mean life, on the nominal stress, and on the maximum stress. The curves show a sharp increase of the root-mean-square deviation ($\bar{s}$) of the logarithm of the number of cycles lg N upon an increase of the mean life or upon a decrease of the nominal stresses, but the effect of the nonuniformity of the stress distribution in the zone of stress concentration is not reflected by the curves when the comparison is made at equal maximum stresses. This regularity, revealed in the tests of 45 steel and V95 aluminum alloy, may considerably facilitate the plotting of complete fatigue-probability curves and cut the necessary experimental work by using the characteristics obtained on smooth specimens for estimating the probability of failure in stress concentration spots. It is pointed out that the formerly employed characteristic of the sensitivity factor is not entirely correct. The conclusion is made that

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31648

The effect of stress ... S/536/61/000/051/003/006
D040/D112

further studies of the dependence of $\frac{\sigma_{max}}{\sigma_{-1}}$ (where σ_{max} is the maximum stress in the stress concentration zone and σ_{-1} the endurance limit) on the stress gradients and absolute dimensions in light alloys will lead to more accurate strength calculation methods for machine parts. There are 3 figures, 3 tables and 4 Soviet references.

X

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STEPNOV, MIKHAIL NIKITOVICH

SOV/6290

PHASE I BOOK EXPLOITATION

Serensen, Sergey Vladimirovich, Yevgeniy Valentinovich Giatsintov, Vladimir Petrovich Kogayev, and Mikhail Nikitovich Stepnov

Konstruktsionnaya prochnost' aviatsionnykh splavov (Structural Strength of Aircraft Alloys Used in Aviation Engineering). Moscow, Oborongiz, 1962. 100 p. (Series: Moscow. Aviatsionnyy tekhnologicheskiy institut. Trudy, vyp. 54). 2100 copies printed.

Sponsoring Agency: Ministerstvo vysshego i srednego spetsial'nogo obrazovaniya RSFSR. Moskovskiy aviatsionny tekhnologicheskiy institut.

Ed.: B. V. Zaslavskiy, Candidate of Technical Sciences; Ed. of Publishing House: B. V. Zaslavksiy; Tech. Ed.: A. Ya. Novik; Managing Ed.: A. S. Zaymovskaya, Engineer.

PURPOSE: The book is intended for scientific research workers, as well as for design and process engineers working in various branches of the machine-building industry using light alloys.

Card 1/12

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220019-2"

"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

S/032/62/028/007/004/011
B104/B102

AUTHOR: Stepnov, M. N.

TITLE: Determination of the response threshold from the number of cycles of fatigue tests on aluminum alloys

PERIODICAL: Zavodskaya laboratoriya, v. 28, no. 7, 1962, 836 - 838

TEXT: Dynamic fatigue tests determine the number of cycles after which fracture occurs at a given stress. Fatigue curves are plotted, for which purpose it is necessary to estimate the mean $\bar{x}$ of the random quantity, the mean deviation $\bar{S}$, and the response threshold N_o of the cycles. N_o is the value at which S^2 reaches a minimum. The first two of these values can be obtained from 10 to 20 samples per stress level. On the basis of a correlation analysis of fatigue tests, the formula $\log N_o = 0.86 \overline{\log N}$ is derived for indirectly determining N_o. The formula may be used to establish fatigue curves for low probabilities of fracture using a limited number of samples. There are 2 figures.

Ca Card 1/2

"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

S/032/62/028/007/005/011
B104/B102

AUTHOR: Stepnov, M. N.

TITLE: Estimating the probability of fracture in fatigue tests

PERIODICAL: Zavodskaya laboratoriya, v. 28, no. 7, 1962, 838 - 839

TEXT: The formula $p = (m - 1/2)/n$ (m = number of samples breaking when $N \leq N_m$; n = number of samples tested per stress level) is proposed for determining the probability of fracture in static, dynamic, and other fatigue tests. The curve obtained from this formula for the probability of fracture is shown to be much closer to the empirical distribution functions than are those calculated from W. Weibull's formula $p = m/(n + 1)$ (Trans. of royal institute of technology. Stockholm, no. 27 (1949)). There is 1 table.

ASSOCIATION: Moskovskiy aviatsionnyy tekhnologicheskiy institut (Moscow Aviation Technological Institute)

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"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

ACCESSION NR: AT4044778 S/2536/64/000/061/0005/0018

AUTHOR: Kogayev, V. P., Giatsintov, Ye. V., Stepnov, M. N.

TITLE: Fatigue strength of AVT alloy and the scale factor

SOURCE: Moscow. Aviatsionny*y teknnologicheskiy institut. Trudy*, no. 61, 1964. Konstruktsionnaya prochnost' legkikh splavov i staley (Structural strength of light alloys and alloy steels), 5-18

TOPIC TAGS: AVT alloy, aluminum alloy, alloy fatigue, fatigue strength, scale factor, stress concentration, statistical strength theory, fatigue limit distribution

ABSTRACT: Samples of AVT alloy (diam., 40 or 8 mm; tensile strength 36.4 kg/mm^2, yield point 33.5 kg/mm^2, relative elongation 14.2%) were fatigue tested (rotary bending, 2^6 - 10^8 cycles, 10 - 19 kg/mm^2) to determine the effects of absolute dimensions of sample cross section on fatigue strength. Statistically processed results were plotted as fatigue curves corresponding to various failure probabilities, as endurance distribution functions in relation to sample diameter or stress level, or as fatigue limit distribution functions in relation to sample diameter or number of cycles. Ratios of primary significance to principles governing the effects of the scale factor and of stress concentrations on endurance (considering dispersion) are illustrated, a nomogram is evolved for deter-

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ACCESSION NR: AT4044778

mining $\xi = \sigma_{max}/u$ in relation to d/G, P in % and the distribution function parameters m and u/σ_0 (P = failure probability, u = minimal strength threshold below which P = O) and the authors present numerical calculations of stress concentration sensitivity. It is concluded that these basic ratios describe adequately the effects of scale factor and stress concentration on fatigue strength, considering dispersion of endurance characteristics. Values found for m, u and σ_0 can serve for the calculation of fatigue limits of actual parts in relation to P, and can therefore be used in fatigue calculations based on assumptions of probability. Orig. art. has: 3 tables, 9 graphs, and 18 numbered formulas.

ASSOCIATION: Aviatsionny*y tekhnologicheskiy institut, Moscow (Institute of Aviation Technology)

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SUB CODE: MM NO REF SOV: 005 OTHER: 003

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APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2"

"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

ACCESSION NR: AT4044779 S/2536/64/000/061/0019/0025

AUTHOR: Stepnov, M. N. (Candidate of technical sciences, docent)

TITLE: Linear regression analysis of fatigue test results

SOURCE: Moscow. Aviatsionny*y tekhnologicheskiy institut. Trudy*, no. 61, 1964. Konstruktsionnaya prochnost' legkikh splavov i staley (Structural strength of light alloys and alloy steels), 19-25

TOPIC TAGS: fatigue testing, fatigue data statistical processing, linear regression analysis, linear regression equation, cycle sensitivity threshold, alloy D16, aluminum alloy, fatigue, endurance calculation, failure probability

ABSTRACT: The report illustrates a technique for statistical processing of fatigue test results based on a linear regression analysis and consideration of the sensitivity threshold in relation to number of stress cycles. The procedure is exemplified for samples of aluminum alloy D16 (diam. = 8 mm, tensile strength 53.8 kg/mm^2, yield point 40.8 kg/mm^2, relative elongation 13.7%; maximum stress 19, 20, 25 or 30 kg/mm^2). N_0 is found from $\lg N_0 = 0.86 \lg N$, where N is the number of cycles to failure. The author evolves an equation for the line of regression $Y = 18.6833 - 9.4270\,x$ (where $x = \lg \sigma_{max}$), constructs graphs for the dependence of $\lg(N-N_0)$ dispersal ($\tilde{S}$) on stress level and the dependence of

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"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

ACCESSION NR: AT4044780 S/2536/64/000/061/0026/0037

AUTHOR: Borodin, N. A., Glatsintov, Ye. V., Kogayev, V. P., Stepnov, M. N.

TITLE: Fatigue strength of aluminum alloys during an asymmetric stress cycle

SOURCE: Moscow. Aviatsionny*y tekhnologicheskiy institut. Trudy*, no. 61, 1964. Konstruktsionnaya prochnost' legkikh splavov i staley (Structural strength of light alloys and alloy steels), 26-37

TOPIC TAGS: aluminum alloy, alloy fatigue strength, asymmetric stress cycle, critical stress amplitude, mean stress, endurance characteristic dispersal, mean alloy life, alloy AVT, alloy AVG, alloy AVT1, alloy VD17, alloy AK4-1, alloy 24S-T4, alloy 14S-T6, alloy 75S-T6

ABSTRACT: Experimental data obtained by others were processed statistically to analyze the effects of an asymmetric stress cycle on fatigue strength of aluminum alloys. Results for a group of ten alloys indicate that the latter are quite sensitive to cycle asymmetry, with $\psi = 0.25 - 0.4$ for $N = 10^7$ cycles. A sharper decrease in the peak stress amplitudes $\sigma_{a\,p}$ accompanied low values of mean stress σ_m for a number of the tested alloys and ψ proved variable. The function $\sigma_a = \sigma_{-1}(1 - \frac{\sigma_m}{\sigma_v})$, where σ_v is tensile strength and σ_a

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ACCESSION NR: AT4044780

is stress amplitude, is evolved for approximate evaluations of σ_a p_ψ for asymmetric cycles when σ_m varies by 0 - 0.3 from the tensile strength. The factor p_ψ decreases as endurance increases, down to 50% of its initial value when N increases from 10^4 to 10^7. Dispersal of endurance characteristics increases for an asymmetric cycle as σ_a drops and endurance increases. It is lower for the asymmetric than for the symmetric cycle at equal absolute σ_a. The discrepancy in mean square deviation $\bar{S}$ decreases as σ_a increases. Dispersal is nearly identical at equal average endurance for either stress cycle, except that it is somewhat lower for the symmetric cycle at high average endurance values. Orig. art. has: 5 tables, 12 graphs and 3 formulas.

ASSOCIATION: Aviatsionny*y tekhnologicheskiy institut, Moscow (Institute of Aviation Technology)

SUBMITTED: 00 ENCL: 00

SUB CODE: MM NO REF SOV: 002 OTHER: 001

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"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

S/2536/64/000/061/0038/0044

ACCESSION NR: AT4044781

AUTHOR: Stepnov, M. N.

TITLE: Evaluation of failure probability in fatigue testing

SOURCE: Moscow. Aviatsionny*y tekhnologicheskiy institut. Trudy*, no. 61, 1964. Konstruktsionnaya prochnost' legkikh splavov i staley (Structural strength of light alloys and alloy steels), 38-44

TOPIC TAGS: fatigue testing, failure probability, failure probability formula, Weibull formula

ABSTRACT: The author finds that systematic deviations from the empirical line of distribution occur when the Weibull formula

$$P = \frac{m}{n+1}, \quad (1)$$

for failure probability is used in processing the results of fatigue tests. He cites another formula

$$P = \frac{m - \frac{1}{2}}{n}. \quad (2)$$

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"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

ACCESSION NR: AT4044785 S/2536/64/000/061/0086/0104

AUTHOR: Stepnov, M. N.; Glatsintov, Ye. V.; Kogayev, V. P.

TITLE: Resistance of alloyed Cr-Ni-V steel to recurrent loads in the elastic-plastic range

SOURCE: Moscow. Aviatsionnyy tekhnologicheskiy institut. Trudy, no. 61, 1964. Konstruktsionnaya prochnost' legkikh splavov i staley (Structural strength of light alloys and alloy steels), 86-104

TOPIC TAGS: alloy steel, martensitic steel, chromium nickel vanadium steel, recurrent load resistance, recurrent stress test, recurrent stress compression test, recurrent bending test, pulsating recurrent stress cycle, plastic deformation growth, hysteresis loop width, stainless steel

ABSTRACT: Samples of a martensitic Cr-Ni-V steel (yield point 59.3 and 51.9 kg/mm^2, tensile strength 71.0 and 60.0 kg/mm^2 at 20 and 325C, respectively) were subjected to pulsating cycles of recurrent stress (7--10 cpm, asymmetry factor $\rho = 0.1$), recurrent stress-compression (7--10 cpm, $\rho_2 = -08$ to -1.0, deformation $e_{max} = 0.30$--1.5%, $N = 4^2$--2^5, $\sigma_{max} = 33.2$--59.0 kg/mm^2, $\sigma_{min} = -17.8$---54.8 kg/mm^2) and recurrent bending load (cylce duration 15--20 sec., N = 1000 cycles, max load 26.7 T or 32 T for one sample, 29.3 T for another). The results indicate that rupture

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ACCESSION NR: AT4044785

under recurrent pulsating stress is due to accumulation of plastic deformation and the resultant increase in actual stress to levels corresponding to single loading rupture. The width and height of the hysteresis loop stabilized after 2--3 stress-compression cycles, endurance was closely related to loop width (10^4 cycles at a width of 0.1%, 8^2 cycles at 0.82%). Rupture at N = 1000 occurs at max stress equal to 0.65--0.75 of nominal tensile strength, with e_{max} = 0.8--1.0%. Life of N = 10^4 cycles resulted at e_{max} = 0.4%. Observed pre-rupture cracks attested to fatigue origin of the rupture. Results of bending tests show accumulation of deformation in the outer layers (in relation to stress recurrence) at a progressively attenuated rate. Rupture did not occur after 1000 cycles at initial e_{max} = 3.61% (ρ = 0.48, final e_{max} = 5.16%) or e_{max} = 10% (ρ = -0.61, final e_{max} = 10.18%). Orig. art. has: 7 tables and 14 figures.

ASSOCIATION: Moskovskiy aviatsionny*y tekhnologicheskiy institut (Moscow Institute of Aviation Technology)

SUBMITTED: 00 ENCL: 00 SUB CODE: MM

NO REF SOV: 001 OTHER: 002

Card 2/2

APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2"

"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

KOGAYEV, V.P.; GIATSINTOV, Ye.V.; STERNOV, M.N.

Fatigue resistance of the AVT alloy and the dimensional factor. Trudy MATI no.61:5-18 '64.

Resistance of alloyed chromium-nickel-vanadium steel to repeated loading in the elastoplastic area. Ibid.:86-104 (MIRA 19:10)

APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2"

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[illegible], [illegible], kand. tekhn. nauk. [illegible]

Linear regressive analysis of the results of fatigue tests. Trudy MATI no.41:9-25 [illegible].

Evaluating the probability of a breakdown during fatigue tests. Ibid.:30-44 (MIRA 17:1[illegible])

APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2"

"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

BOR[illegible], N.A.; GIATSINTOV, Ye.V.; KOGAYEV, V.P.; [illegible], M.[illegible]

Fatigue resistance of al[illegible] alloys in case of an asymmetric [illegible] cycle. Trudy MAI no.61:26-37 '[illegible]. (MIRA 17:10)

APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2"

"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

L 32462-65 EWT(d)/EWP(w)/EWT(m)/EWP(v)/EWA(d)/EWP(t)/T/EWP(h)/EWP(k)/EWP(l)/EWP(b) Pf-4/Pad IJP(c) JD/HW/JG

ACCESSION NR: AT4044786 S/2536/64/000/061/0105/0132

42
41
B+1

AUTHOR: Serensen, S. V.; Stepnov, M. N.; Kogayev, V. P.; Giatsintov, Ye. V.

TITLE: Brittle strength of alloy steel

SOURCE: Moscow. Aviatsionny*y tekhnologicheskiy institut. Trudy*, no. 61, 1964. Konstruktsionnaya prochnost' legkikh splavov i staley (Structural strength of light alloys and alloy steels), 105-132

TOPIC TAGS: alloy steel, steel strength, steel brittle strength, bending strength, stress concentrator, critical brittleness temperature

ABSTRACT: This study dealt with the brittle strength of Cr-Ni-Va alloy steel of the martensite class. The brittle strength was determined from dynamic and static bending tests, using specimens with two-step notches. In addition, static tensile tests were made, using smooth and notched specimens 6 mm in diameter and the IM-5r rupture machine. During static elongation tests, the specimens were kept in a special container, thermally insulated and filled with a cooling liquid; at 0 to -75C, the cooling medium was a mixture of gasoline with solid CO_2; at -110C - gasoline and liquid nitrogen; at -196C - liquid nitrogen. The results show that des-

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ACCESSION NR: AT4044786

truction during static elongation at +40 to -110C is ductile in nature. There is no significant decrease in static bending strength between +40 and -60C, but at -196C there is a 15% decrease and destruction is caused by rupture; resistance to rupture, determined on smooth specimens, was equal to 146-148 kg/mm^2. A drop in temperature from +40 to -196C causes the resistance to plastic deformation to increase 1.6-1.8 fold and the rupture strength to increase by 7%. The conditional maximum strength of notched specimens is 1.6-1.8 times greater during ductile destruction (+40 to-110C) and 30% lower during brittle destruction (-196C) than for smooth specimens. The results of dynamic bending tests confirm that it is possible to evaluate the critical brittleness temperature from the deformation criterion. The critical brittleness temperature as evaluated during bending tests of notched specimens from the strain characteristic, nature of the fracture, and load size at moment of rupture, has approximately the same value. The effect of the stress concentrators on stress distribution at the bottom of the notch and the effect of the heat treatment and size of the speciment on residual stress and bending strength are also discussed. Orig. art. has: 25 figures, 8 tables, and 1 formula.

ASSOCIATION: Moskovskiy aviatsionnyy tekhnologicheskiy institut (Moscow aeronautical engineering institute)

Card 2/3

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ACCESSION NR: AT4044786

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"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

L 62071-65 EPF(c)/EPR/EWP(k)/EWP(z)/EWT(d)/EWT(m)/EWP(h)/EWP(b)/T/EWA(d)/EWP(w)/EWP(v)/EWP(t)/EWP(1) Pf-4/Ps-4 IJP(c) MJW/JD/WB

ACCESSION NR: AR5014032 UR/0277/65/000/003/0013/0013 620.194.8: 669.715

40

B

SOURCE: Ref. zh. Mashinostroitel'nyye materialy, konstruktsii i raschet detaley mashin. Gidroprivod. Otdel'nyy vypusk, Abs. 3.48.96

AUTHOR: Giatsintov, Ye. V.; Stepnov, M.N.

TITLE: Fatigue strength of alloy AD33 under a programmed attack by a corrosive environment

CITED SOURCE: Sb. Korrozion. ustalost' metallov. L'vov, Kamenyar, 1964, 113-126

TOPIC TAGS: aluminum alloy, alloy fatigue strength, corrosive environment, alloy corrosion/alloy AD33

TRANSLATION: The authors studied the effects of various tester operation programs and of a corrosive environment (sea water) on the fatigue strength of aluminum alloy AD33 in simple bending tests on an NU unit. It was found that sea water substantially reduces the fatigue strength of alloy AD33. Compared to tests in air, σ_{-1} decreases to 1/3 at $N=5\cdot10^6$ cycles when the sample is subjected to the continuous action of sea water.

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"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

L 62071-65

ACCESSION NR: AR5014032

The divergence of lifetime values in air and sea water increases with an increase in mean lifetime.

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Card 2/2

APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2"

"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

STEPNOV, M.N. (Moskva)

Regularities in the dispersion of strength limit of structural aluminum alloy. Mashinovedenie no.4:99-102 '65. (MIRA 18:8)

APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2"

"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

L 15[illegible] EWT(1)/EWP(m)/EWP(e)/EWP(w)/EWA(d)/T/EWP(t)/EWP(k)/EWP(z)/EWP(b)

ACC NR: AT5027920 EWP(e) JD/WW SOURCE CODE: UR/2536/65/000/062/0057/0066

AUTHOR: Glatsintov, Ye. V. (Candidate of technical sciences); Stepnov, M. N. (Candidate of technical sciences)

ORG: Moscow Aviation Technology Institute (Moskovskiy aviatsionnyy tekhnologicheskiy institut)

TITLE: Study of the fatigue limit of SAP-1 sintered aluminum powder

SOURCE: Moscow. Aviatsionnyy tekhnologicheskiy institut. Trudy, no. 62, 1965. Obrabotka davleniyem legkikh splavov (Pressure working of light alloys), 57-66

TOPIC TAGS: sintered aluminum powder, fatigue test, metal cladding, corrosion, sheet metal, metal stress/ SAP-1 sintered aluminum powder

ABSTRACT: Three types of specimens of SAP-1 sintered aluminum powder were investigated with respect to their fatigue limit: flat bare sheets and flat Al-clad sheets (bending tests) and cylindrical specimens cut from pressed strips (loading tests). Fatigue tests always involve a considerable scatter of experimental findings owing to the statistical nature of the process of fatigue breakdown. Hence the authors employed a statistical method of processing the findings on the fatigue tests of the specimens. The nature of this method was as follows: a curve of service life as a function of probability of rupture for a given stress is plotted on the basis of test

Card 1/5 UDC: 669.716:539.434

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findings for a group of specimens at some stress level. To this end the experimental findings (numerical totals of cycles until rupture) are ordered as follows

$$N_1 \leqslant N_2 \leqslant N_3 \ldots \leqslant N_i \ldots \leqslant N_n.$$

The probability of rupture is estimated according to the accumulated frequency

$$\frac{i-0.5}{n},$$

where n is the number of specimens tested at a given stress level and i is the ordinal number of the corresponding specimen in the progressively increasing series of cycle totals. Findings: the cladding of sheet specimens of SAP-1 reduces the fatigue limit in the case of a service life of $N < 5 \cdot 10^5$ cycles when the probability p of rupture is 50% and in the case of $N < 1.8 \cdot 10^5$ cycles when p = 5% (Fig. 1). If $N > 5 \cdot 10^5$ cycles, on the other hand, the service life of clad sheets virtually coincides with that of nonclad sheets. (The fatigue limit of the cylindrical specimens proved to be somewhat higher.) Thus, cladding sharply reduces the scatter of points on the curve of service life. The additionally performed corrosion-fatigue tests in fresh water showed that the relative corrosion resistance of SAP is extremely high. The decrease in fatigue limit as a function of stress (Fig. 2) owing to the corro-

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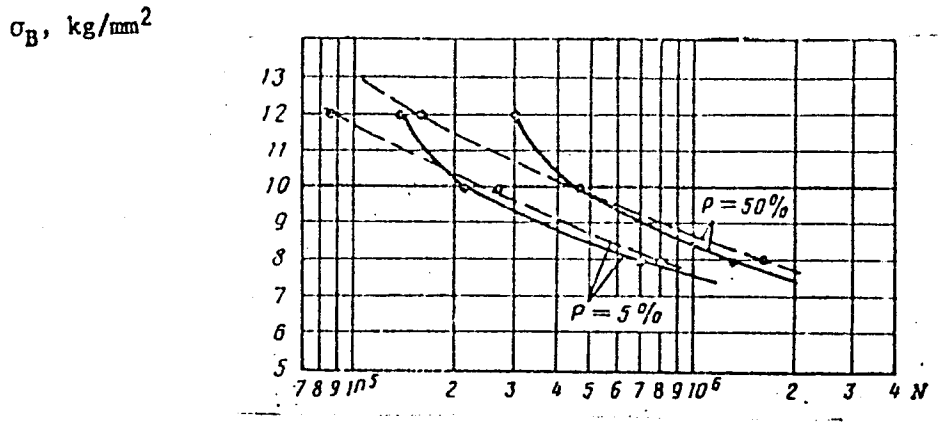

Fig. 1. Fatigue curves

- - - - - - - - clad specimens

_____ nonclad specimens

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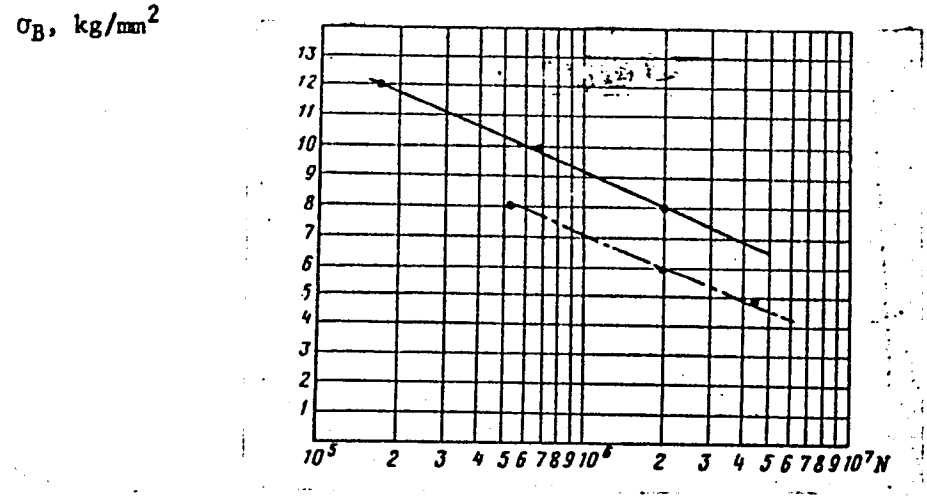

Fig. 2. Fatigue curves (cylindrical specimens)

——————— in air

- - - - - - - - - - in fresh water

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sive effect of fresh water averages 2 kg/mm^2 over the interval of service life from $N = 5 \cdot 10^5$ to $N = 5 \cdot 10^6$ cycles. Orig. art. has: 2 formulas, 5 tables, 11 figures.

SUB CODE: 11, 13/ SUBM DATE: none/ ORIG REF: 000/ OTH REF: 000

Card 5/5

APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2"

"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

STEPNOV, M.N.

Durability distribution in fatigue testing of light structural alloys. Zav.lab. 31 no.3:349-354 '65. (MIRA 18:12)

1. Moskovskiy aviatsionno-tekhnologicheskiy institut.

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"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

DARCHENKO, V.Ye., inzhener; STEPNOV, T.V., inzhener.

Earth-fault protection in compensated networks. Elektrichestvo no.2:66-70 F '56. (MLRA 9:5)

1. Odessaenergo.

(Short circuits)

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"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

SOV/105-58-8-14/21

AUTHOR: Stepnov, T. V.

TITLE: Directional Earth Faults Protection (Napravlennaya zashchita ot zamykaniy na zemlyu)

PERIODICAL: Elektrichestvo, 1958, Nr 8, pp. 75 - 79 (USSR)

ABSTRACT: The author gives data of operational investigations as well as the analysis of the paper of an earlier described (Ref 1) directional protection. The possibility of increasing the sensitivity of protection is limited by the presence of eigen currents in the transient process in all undamaged lines. The maximum eigen current in the transition process is formed in the undamaged lines in the case of earth faults of bus bars or near the station bus bars. A coarser construction of the protection for the reason of increasing its selectivity brings about a tripping in the case of remote damages of the line to be protected. The analysis of the typical as well as of all other oscillogram curves for cable networks of 6 kV with capacitative currents of from 60-120 A shows the following: 1) In the case of an earth fault at bus bars rails or near the stations bus bars the current

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frequency of the transient process at the point of earth fault is determined by the frequency of the longest lines. 2) The generator-voltage network (in the case of fault conditions according to 1)) with completely reactivated lines, the current frequency of the transient process is located at the point of earth fault, and in long lines is within narrow limits of from 400-600 cycles. 3) In networks (in the case of fault conditions according to 1)) fed by transformer substations without arc suppression coils the current frequency of transient processes is higher, namely within the limits of from 1000-1800 cycles. 4) In the case of faults at a remote point of the cable network the oscillation frequency decreases in all cases to from 200-250 cycles and the current becomes aperiodic as a rule. 5) It is shown that the transient processes in long lines practically coincide with that at the point of earth fault. At the secondary terminals of the voltage transformer with an earthing connection a voltage is produced which agrees with the transient process at the point of earth fault, and which agrees to an extent sufficient for practical work with the transient process in a "long undamaged line" (lines with

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a stabilized capacitative current of 10 % and more of the total capacitative current of the whole network, and with a distance of from 7 - 12 km from the remotest points). The agreement of these processes made it possible to use the grounded voltage for the retardation of the relay (type EF-521) in the case of earth faults outside the protected lines. - It is shown that the relay can be used without any special alterations of the parameters for the long lines of various networks. For the compensation of a certain disagreement of the currents in the retardation and working winding, the relay must have an initial adjustment. The diagram of relay circuit is given. Its parameters were mainly selected by experimental tests. At present four such directed relays are installed in the network. Only 2 cases happened where the relays operated incorrectly, and 12 cases where their function was correct. There are 6 figures, 1 table, and 2 references, all of which are Soviet.

SUBMITTED: July 5, 1957

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"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

Directional Earth Faults Protection SOV/105-58-8-14/21

1. Electrical networks--Protective devices 2. Electrical networks--Analysis
3. Electric currents--Properties

Card 4/4

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"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

STEPNOVA, G. M.

STEPNOVA, G. M. "The Synthesis and Investigation of Acyl Derivatives of Amionoantipyrine." Min Higher Education USSR. Tomsk Order of Labor Red Banner Polytechnic Inst imeni S. M. Kirov. Tomsk, 1955. (DISSERTATION FOR THE DEGREE OF CANDIDATE IN CHEMICAL SCIENCE).

SO.: Knizhnaya letopis'
No. 27, July 2, 1955.

APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2"

"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

KULEV, L.P.; STEPNOVA, G.M.

Synthesis and analysis of acyl derivatives of the pyrazolone series. Izv.Sib.otd.AN SSSR no.5:73-76 '60. (MIRA 13:7)

1. Tomskiy politekhnicheskiy institut.
(Pyrazolinone)

APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2"

"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

KULEV, [illegible]; [illegible], [illegible]

Derivatives of diphenic acid. Part 1. Substituted amides of [illegible]-di-
enic acid. Izv.TPI 111:1[illegible]-19 '61. ([illegible] 16:9)
(Diphenamide)

APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2"

"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

KUZEV, A.P.; [illegible]

Derivatives of diphenic acid. Part 2. Esters of substituted monoamides of 2,2'-diphenic acid. Izv.TPI 111:20-22 '61.
(MIRA 16:9)

(Diphenamide)

APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2"

"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

KULEV, L.P. [deceased]; GIREVA, R.N.; STEPNOVA, G.M.

Derivatives of 2,2'-diphenic acid. Part 1: Esters, amides, and ester-amides of diphenic acid as possible insecticides and herbicides. Zhur.ob.khim. 32 no.9:2812-2816 S '62. (MIRA 15:9)
(Diphenic acid) (Insecticides) (Herbicides)

APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2"

"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

KULEV, L.P. [deceased]; STEPNOVA G.M.; KOVALENOK, A.V.; TABINSKAYA, P.F.

Insecticidal activity of substituted amides of 9-fluorenone-4-carboxylic acid and its derivatives. Izv. Sib. otd. AN SSSR no.12:137-140 '62. (MIRA 17:8)

1. Tomskiy politekhnicheskiy institut.

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"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

KULEV, L.P. [deceased]; GIREVA, R.N.; STEPNOVA, G.M.

Derivatives of 2,2'-diphenic acid. Part 2: Substituted monoamides and monoaryl esters of 2,2'-diphenic acid, and their insecticide and herbicide activity. Zhur.ob.khim. 33 no.2:411-412 F '63. (MIRA 16:2)

(Diphenic acid)

APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2"

"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

SHABROVA, L.A.; STEPNOVA, G.M.

Acyl derivatives of 4-methylaminoantipyrine as possible antiphlogistics. Zhur. VKHO 9 no. 2:240 '64. (MIRA 17:9)

1. Tomskiy politekhnicheskiy institut imeni Kirova.

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"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

KULEV, L.P.; SMIRNOVA, G.M.; TARINSKAYA, E.F.

Substituted amides of 4-nitro-2,2'-diphenic acid. Izv. TPI 126:51-52 '64. (MIRA 18:7)

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"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

STEPNOVA, G.M.; TABINSKAYA, P.F.; KOVALENOK, A.V.

Acyl derivatives of 9-aminofluorene-4-carboxylic acid. Zhur. org. khim. 1 no.6:1087-1089 Je '65. (MIRA 18:7)

1. Tomskiy politekhnicheskiy institut imeni Kirova.

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"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

[illegible] NOVA, G.N., [illegible], Ye.P.

[illegible] 4-aminoantipyrine derivatives as potential anti-[illegible] agents. Izv. vys. ucheb. zav.; khim. i khim. tekh. 8 no.3:520-521 '65. (MIRA 18:10)

1. Tomskiy politekhnicheskiy institut imeni Kirova, kafedra tekhnologii organicheskogo sintaza i organicheskoy khimii.

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"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

LIMAR', T.F.; UVAROVA, K.A.; BULACHEVA, A.[illegible]; [illegible], A.[illegible]; BEDNOVA, I.N.; MAKOVSKAYA, E.B.; SOLOMEINA, G.I.; DOLMATOV, Yu.D.; BOBYRENKO, Yu. Ye.; KOGAN, E.I.; KOVALENKO, P.N.; IVANOVA, Z.I.; FOKIN, A.V.; KOMAROV, V.A.; SOROCHKIN, I.N.; DAVYDOVA, S.M.; RAVDEL', A.A.; GORELIK, G.N.; DAUKSHAS, V.K. [Dauksas, V.]; PIKUNAYTE, L.A. [Pikunaite, L.]; SHAFIROV, A.Kh.; SHABALIN, I.I.; STEPNOVA, G.M.; SHMIDT, Ye.V.; [illegible], S.S.; STRUKOV, O.G.

Scientific research papers of the members of the All-Union Mendeleev Chemical Society (brief information). Zhur. VHKO 10 no.3:350-360 '65. (MIRA 18:8)

1. Donetskiy filial Vsesoyuznogo nauchno-issledovatel'skogo instituta khimicheskikh reaktivov i osobo chistykh khimicheskikh veshchestv (for Limar', Uvarova, Bulacheva). 2. Ural'skiy nauchno-issledovatel'skiy khimicheskiy institut (for Shubin, Bednova, Makovskaya, Solomeina). 3. Chelyabinskiy filial Gosudarstvennogo nauchno-issledovatel'skogo i proyektnogo instituta mineral'nykh pigmentov (Dolmatov, Bobyrenko). 4. Rostovskiy-na-Donu universitet (for Kogan, Kovalenko, Ivanova). 5. Leningradskiy tekhnologicheskiy institut imeni Lensoveta i Institut mineral'nykh pigmentov (for Ravdel', Gorelik). 6. Vil'nyusskiy gosudarstvennyy universitet imeni Kpsukasa (for Daukshas, Pikunayte). Nauchno-issledovatel'skiy institut neftekhimicheskikh proizvodstv (for Sharipov, Shabalin). 8. Tomskiy politekhnicheskiy institut imeni Kirova (for Stepnova, Shmidt).

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STEPNOVA, M.Ye. (Leningrad)

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Politekh. obuch. no.7:30-32 Jl '59. (MIRA 12:9)
(Pushkin--Boarding schools)
(Manual training)

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LYUDVINSKAYA, P.F.; STEPNOVA, Ye.M.

State of the physiological lability of the neuromuscular apparatus in patients with infectious nonspecific arthritis and its change under the influence of some physical and balneological factors. Vop. kur., fizioter. i lech. fiz. kul't. 28 no.5:422-428 S-O '63. (MIRA 17:9)

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STEPNOWSKI, Czeslaw

Role and tasks of engineering geology in the preliminary studies for the development of the Vistula River Valley. Przegl geol 11 no.3: 144-145 Mr '63.

1. Hydroprojekt, Warszawa.

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Flood protection of the valley of the middle Vistula River.
Gosp wodna 23 no.11:424-426 N'63.

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STEPNOY, A.V.

New calibration of blooming rolls used in rolling mill No.360.
Biul. TSNIICHM no.2:42-44 '58. (MIRA 11:5)

1. Yenakiyevskiy metallurgicheskiyy zavod.
(Rolling mills)

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DEMIDOVICH, Ye.A., inzh., AYZENSHTEYN, M.D., inzh.; STEPNOY, A.V., inzh.

Wear-resistant hard facing of rolling mill rolls under a ceramic flux. Svar.proizv. no.12:21-23 D '64. (MIRA 18:1)

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USSR/Electronics - Wired Radio Centers Dec 52

STEPNYAK, V.

"A Filament Rheostat for the KRU-2 Kolkhoz Wired Radio Center," V. Stepnyak, Director, Wired Radio Center of the "Kholodnyy Klyuch" Kolkhoz, Bashkir ASSR

"Radio", No 12, p 21

Two BNS-MVD 500 batteries in parallel are used to supply filaments of KRU-2. This provides about 700-800 hrs operation of the KRU-2, which uses only about half the capacity of the battery (560 amp-hr). In addition, new batteries must be partially discharged before installation; otherwise, tubes burn out after 150-200 hrs. Demands that plant producing KRU-2 install a filament rheostat in future sets; editors are in agreement.

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STEROCHKIN, B. F., Cand of Tech Sci -- (diss) "Generalization of Laws Governing the Hydraulics of Granular Layers," Kazan, 1959, 16 pp (Kazan' Chemical Engineering Institute im S. M. Kirov) (KL, 5-60, 127)

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"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220019-2

A Generalization on the Rules Governing the Flow of Fluids Through Granular Layers

SOV/1 6-1-1-34/54

of particle shape and particle orientation, of the roughness of their surfaces and of the difference between their true (dynamic) and theoretical porosities. Due to the existence of dead zones, fluid stagnation zones, the true porosity is always lower than the theoretical one. A coefficient of this kind was proposed by Akopyan (Ref 3) and Strel'tsov (Ref 16) and termed layer coefficient. The paper under consideration attempts the introduction of such a coefficient on the basis of Lindquist's equation. The result established is

$\Omega = \varphi (A_o Re + B_o \cdot Re^2)$ (φ = layer coefficient, A_o, B_o = constants). The equation $\Omega = 2.6Re + 0.13\ Re^2$ yields a curve (Diagram) that tallies well with the experimental data and proves that filtration, both through solid and through suspended layers, obeys the same hydraulic laws. For free sedimentation, a second curve of the dependence on Reynold's number of the Archimedean criterion is represented. There are 2 figures and 20 references, 14 of which are Soviet.

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