

UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--BIOSYNTHESIS OF PROTEINS WITH DIFFERENT LEVELS OF MANGANESE CONTENT
AUTHOR-(02)-VLASYUK, P.A., ZORYA, V.T.

COUNTRY OF INFO--USSR

SOURCE--FIZIOL. BIOKHIM. KUL'T. RAST. 1970, 2(2), 142-7

DATE PUBLISHED----70

SUBJECT AREAS-BIOLOGICAL AND MEDICAL SCIENCES, AGRICULTURE

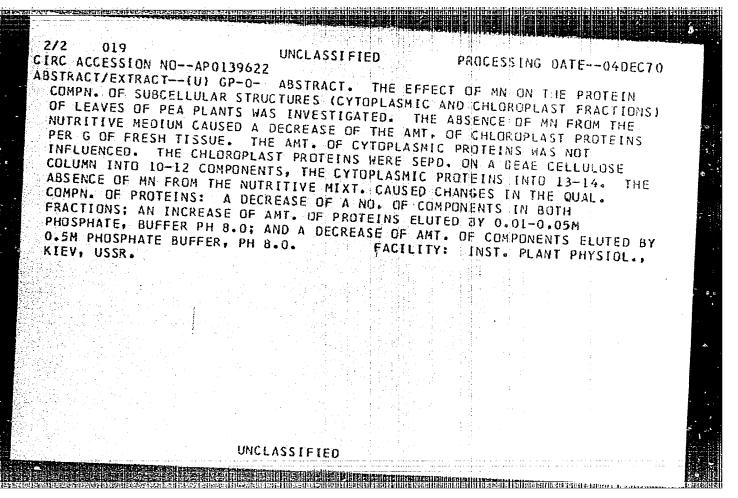
TOPIC TAGS-BIOSYNTHESIS, PROTEIN, MANGANESE, PLANT PHYSIOLOGY, CYTOPLASH, CHLOROPLAST

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY FICHE NO---FD70/605004/C08 STEP NO--UR/0654/70/002/002/0142/0147

CIRC ACCESSION NO--APO139622

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UDC 614.7:615.28:547.1'118

SPYNU, YE, I., Doctor of Medical Sciences, VROCHINSKIY K. K., ZOR'YEVA, T. D., and MAN'KO, N. N., All Union Scientific Research Institute of Rygiene and Toxicology of Insecticides, Polymers, and Plastics, Kiev

"Comprehensive Approach to the Setting of Standards for New Organophosphorus Pesticides in Environmental Objects"

Moscow, Gigiyena i Sanitariya, No 11, 1972, pp 96-99

Abstract: Such organophosphorus compounds as thiophos, methylmercaptophos, carbophos, etc. may enter the human body with food, water, and air. Hence a comprehensive approach to the setting of standards for the pesticides is recommended. It involves establishing the maximum permissible dose for man

and the relative share of each medium in the dose, i.e., $\mathbf{D}_{\!M}=$

where D_M is the safe permissible dose for man; D₁ is the amount of pesticide in food; D₂ is the amount of pesticide in water; D₃ is the amount of pesticide in inhaled air; i is the amount in the ith medium. The following steps are taken to set the standard for a given pesticide: (1) toxicological studies and generalization of the results to determine D_M for animals; (ii) determination 1/2

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of D_{μ} for ran based on the comparative sensitivity of man and animals to the comparad; (iii) determination of the actual content of the pesticide in various media $(K_1, K_2...K_1)$ and relative share of each medium in D_{μ} for man, calculation of the standard in a medium based on D_{μ} for man and on K_1 : (iv) comparison of D_{μ} for man with the total amount of the pesticide that may penetrate the human body after coming into contact with various media. Earlier studies showed that man and enimals are equally sensitive to most organophosphorus pesticides after a single exposure. However, man is considerably more sensitive after chronic or prolonged exposure.

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UNCLASSIFIED PROCESSING DATE--020CT70

TITLE--DIFUNCTIONAL DEFIVATIVE OF DIBENZOPYRENEQUINGNE -U-

AUTHOR-1021-STEPANOV, F.V., ZUSIM, L.A.

COUNTRY OF INFO--USSR

1/2 026

SCURCE--ZH. ORG. KHIM. 1970, 6(3), 592-4

DATE PUBLISHED----70

SUBJECT AREAS-CHEMISTRY

TOPIC TAGS -- BENZENE DERIVATIVE, QUINONE, PHENANTHRENE, ARUMATIC POLYGYCLIC HYDECEARBON, NITRATION, CHEMICAL REDUCTION, POLYMER, DYE

CONTROL MARKING-NO RESTRICTIONS

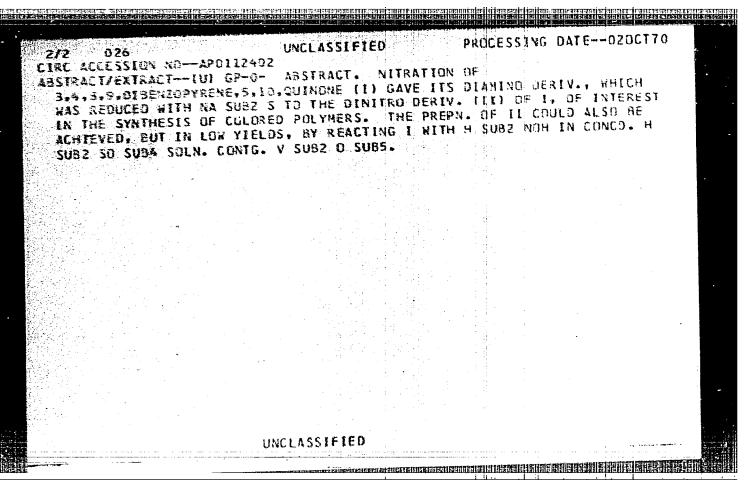
DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1992/1408

STEP NO--UR/0366/70/000/003/0592/0594

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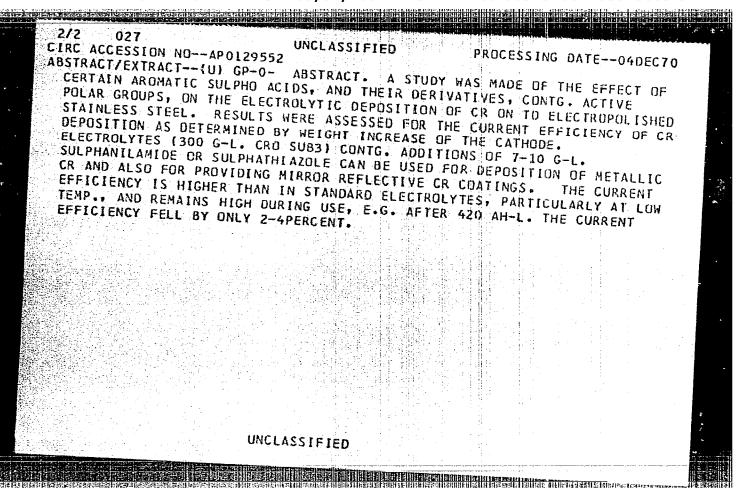
UNCLASSIFIED PROCESSING DATE--185EP70 TITLE--COATING SUSPENSIONS FOR CORROSION INHIBITING PAPER -U-AUTHOR-(03)-RYABOV, A.K., SHIKUN, T.YA., ZOSIN, Z.L. COUNTRY OF INFO--USSR SOURCE-BUH. PROM. 1970, (1), 18 DATE PUBLISHED-----70 SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR TOPIC TAGS-CORROSION INHIBITOR, PAPER CONTROL MARKING--NO RESTRICTIONS DECUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1984/1250 8100\8100\100\000\000\001\0018\0018 CIRC ACCESSION NO--190055921 ------- UNCLASSIFIED-----

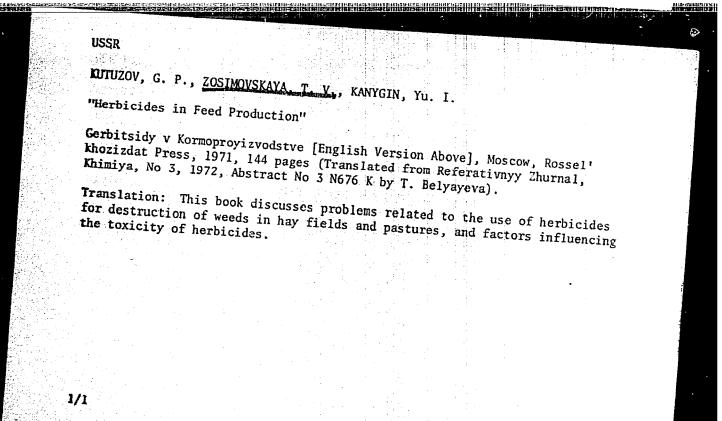
016 UNCLASSIFIED CIRC ACCESSION NO-APO055921 PROCESSING DATE--18SEP70 ABSTRACT/EXTRACT--(U) GP-0-ABSTRACT. A STUDY OF SUSPENSION STABILITY WAS CARRIED OUT ON SUSPENSIONS CONTG. SLIGHTLY SOL. CORROSION INHIBITORS. DICYCLOHEXYLANMONIUM NITRATE AND CYCLOHEXYLAMMONIUM CHROMATE, AND CONTG, SYNTHETIC LATEXES AS BINDERS AND EITHER NH SUB4 CASEINATE OR SOL. ME CELLULOSE (II AS THE PROTECTIVE COLLDID. STUDY OF THE SUSPENSIONS CONFIRMED THE HIGHER EFFECTIVENESS OF I AS THE PROTECTIVE COLLDID. AT SIMILAR TO 40DEGREES, I. E. THE TEMP. OF PAPER COATING UNDER INDUSTRIAL CONDITIONS, THE VISCOSITY OF SUSPENSIONS CONTG. I WAS ABOUT THICE THE VISCOSITY OF THOSE CONTG. THE CASEINATE. STRENGTH OF STRUCTURES FORMED AT 40 DEGREES WAS LOWER THAN THAT OF THOSE FORMED AT 25DEGREES, INDICATING GOOD PROCESSABILITY OF SUSPENSIONS CONTG. L. CURVES OF INHIBITOR PARTICLE SEDIMENTATION RATE AS A FUNCTION OF THEIR SIZE, WITHIN THE 2-100 MU RANGE, FOR SUSPENSIONS HAVING VISCOSITIES RANGING FROM 17.4 TO 107 CP. SHOWED A SIGNIFICANT SEDIMENTATION RATE FOR PARTICLES THE DIAM. OF WHICH EXCEEDED 10 MU. CONSEQUENTLY, IF THE PARTICLE SIZE OF THE INHIBITORS SUPPLIED TO PAPER MILLS EXCEEDS 10 MU, SUCH INHIBITORS SHOULD BE SUBJECTED TO ADDNL. MILLING BEFORE BEING USED IN THE PREPN. OF SUSPENSIONS. WHEN SUSPENSIONS PREPD. FROM CORROSION INHIBITORS WITH THE PROPER PARTICLE SIZE CONTAIN 10-14PERCENT I, THEY REMAIN STABLE FOR 2 HR. AT SPERCENT T. THEY ARE STABLE FOR AT LEAST 1 HR. UNCLASSIFIED

1/2 027 TITLE--THE ELECTRODEPOSITION OF CHRONIUM FROM CHRONIC ACID SOLUTIONS PROCESSING DATE--04DECTO AUTHOR-102)-STEPANOVA, 1.A., ZOSIMOVICH, D.P. COUNTRY OF INFO-USSR SOURCE-ZASHCHITA METALLOV, JAN.-FEB. 1970, 6, (1), 61-62 DATE PUBLISHED ----- 70 SUBJECT AREAS -- MATERIALS, CHEMISTRY TOPIC TAGS--ELECTRODEPOSITION, CHRONIUM PLATING, STAINLESS STEEL, CHROMIC CONTROL MARKING-NO RESTRICTIONS DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--3003/0320 STEP NO--UR/0365/70/006/001/0061/0062 CIRC ACCESSION NO-APO129552

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203820009-5"

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Gyroscopic

USSR

UDC: 62-56

SLIV, E. I., BORISOV, Yu. A., ZOST, Z. G., IL'ICHEVA, A. D., Leningrad Insti-

"Errors of the Extremum Method of Finding the Meridian in Initial Orientation of Inertial Systems"

Leningrad, Izvestiya VUZov: Priborostroyeniye, Vol 16, No 8, 1973, pp 68-71

Abstract: The authors examine the errors involved in determining the position of a gyroplatform in the azimuth from the extremum of the azimuthal characteristic. It is shown that the expected accuracy of determining the gyroplatform position in the first approximation is higher than with gyrocompass determination since the procedural errors of the method are low and in principle can be reduced, accuracy is independent of the drift of the leveling gyros, and at the same time the constructional errors are the same

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USSR

UDC: 629.78.017.2

ZOTEYEV, A.I. and ZABIROV, M.G.

"Synthesis of Nonlinear Control Systems with Incomplete Information on Prescribed Distribution of the Roots of Characteristic Equation for a Closed System"

Tr. Kazan. aviats. in-ta (Transactions of Kazan Aviation Institute) 1971, vyp 138, pp 82-88 (from Referativnyy Zhurnal-Raketostroyeniye, No 7, 1972, Abstract No 7.41.163)

Translation: The problem is considered of the synthesis of linear regulator parameters with incomplete information on the control object, the disturbed motion of which is represented by the following system of differential equations with constant coefficients: $X = A \times + b \cdot U$, where X - h is the unit vector; U is the scalar control function $U = b \cdot X$. It is shown that if the control object can be fully controlled and the number of dimensional coordinates k < n, then there is a vector $b = b \cdot V$, having (M - k) null elements corresponding to $k = k \cdot V$ random roots of the 1/2

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ZOTEYEV, A. I. and ZABIROV, M. G., Tr. Kazan. aviats. in-ta, 1971, vyp 138, pp 82-88

characteristic equation of the closed system; these k random roots not coinciding with k zeros of one of the functions $H_s(\lambda)(s=v_1,k)$ resulting from replacing the S column by P column in the matrix $H_s(\lambda)=/A-\lambda E/A$. Particular cases are given of the distribution of roots of characteristic equation of a closed system, where one or several components of vector become zero. The appendix gives the synthesis of the automatic control system with incomplete information on the control object, the disturbed motion of which is represented by a system of differential equations X = AX + PU, where the matrix A has a quasitriangular form (9 references, resume).

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- 26 -

USSR

BOL'SHAKOV, V. I., PIMAKHOV, D. P., ORLOV, L. C., TYLKIN, M. A., ZOTEYEV,

"The Effect of Thermomechanical Treatment on the Impact Ductility, Crack

Propagation, and Disintegration Viscosity"

Dnepropetrovsk, Metallurgicheskaya i Cornorwanaya Promyshlennost', No 4(82),

Abstract, Dec.

Abstract: Results are presented of an investigation of the mechanical properties of 14kh2GMR steel after the usual heat treated and after highelongation, relative contraction, fatigue limit, and impact ductility at various temperatures. HTMT was found to somewhat increase the strength characteristics of the steel. HTMT does not lower the plasticity, it substantially increases the impact strength at the expense of the increasing of 14kh2GMR steel by HTMT lasts up to a 6500 C temper temperature. The creation of a stable substructure by hardening increases the resistance of the steel to brittle failure and decreases its susceptibility to stress

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UDC 621.178.372:669.14.018.8

ZOTEYEV, V. S., USTIMENKO, M. YU., GUDKOV, A. A., and BALASHOV, L. V., Central Scientific Research Institute of Ferrous Metallurgy

"Static and Fatigue Strength of Alloy KhN40MDTYu (EP543) After Different Strengthening Modes"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 8, Aug 73,

Abstract: The effect of plastic deformation and subsequent aging on the static and fatigue strength of alloy EP543 (author's certificate No 172869) 0.04 c (max), 0.8 Si (max), 0.8 km (max), 0.02 S (max), 0.035 P (max), 14-17 Cr. 39-42 Ni, 4.5-6.0 Mo, 2.5-3.2 Ti, 0.7-1.2 Al, and 2.7-3.3 Cu (per ChMTU-1-988-70). After standard heattreatment and aging (quench from than or equal to 110 kgf/mm², and yield strength was greater than or equal to 110 kgf/mm², and yield strength was greater than or equal to 110 kgf/mm², and yield strength was greater than or equal kgf/mm². Plastic deformation was done by two methods: rolling with completion at 900-925 C, ensuring absence of recrystallization (mode I) and static 1/2

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ZOTEYEV, V. S., et al., Metallovedeniye i Termicheskaya Ohrabotka Metallov, No 8, Aug73, pp 68-70

of alloy EP543 can be substantially increased by high-temperature deformation with completion at those temperatures when the recrystallization process does not occur and aging (mode I), or by plastic deformation at room temperature (10-20%) (mode II). The most effective treatment was mode I, where fatigue strength is increased by approximately 100% in comparison with the initial alloy state. Three figures, two bibliographic references.

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203820009-5"

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621.874:624.023.9337:620.178.3.-974 UDC

KOBRIN, M. M., Candidate of Technical Sciences, FEDOROV, YU, K., Engineer, ZINGERMAN, B. Z., Engineer, ZOTEYEV. V. S., Candidate of Technical Sciences, and

"Fatigue Strength of the Welded Beam Support Subassembly of Overhead Travelling

Moscow, Vestnik Mashinostroyeniya, No 4, Apr 73, pp 16-19

Abstract: The authors determine the effect of low temperatures on the fatigue strength of the support subassemblies of welded metal structures with sharply varying cross sections. The jib of a 20-ton series produced travelling crane is studied. The beam is made from St3 grade steel and welded with the F42A electrodes. The bent sheet of the bottom band is welded to the vertical wall by a bilateral angular seam (10 mm fillet). Tests were conducted at +20 and -40°C on a hydraulicpulsed testing machine including refrigeration equipment. The fatigue limits for the full scale beams of a travelling crane are determined by the interpolation method and are o=13.4 kg/mm² for +20°C and o=11.3 kg/mm² for -40°C.

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203820009-5"

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UDC:669.18:621.746

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LYUDKOVSKIY, V. M., VOINOV, S. G., KOSOY, L. F., ZOTEYEV, V. S., and POTAPOVA, V. P.

"Quality of High-Strength Structural Steel Refined in the Ladle With Liquid Synthetic Slag"

Proizvodstvo Chernykh Metallov [Production of Ferrous Metals--Collection of Works], No 75, Metallurgiya Press, 1970, pp 234-239

Translation: Melting of high-strength steel with treatment by synthetic slag allowed the content of sulfur in the metal to be decreased by almost 2 times: from 0.0057 to 0.0034%.

The contamination of the metal by nonmetallic inclusions was decreased, both when estimated by the method of electrolytic separation (from 0.0079 to 0.0062%) and by the method of counting contaminated fields of vision (from 6.8 to 4.2%). The decrease in contamination of the metal with inclusions evaluated as line oxides and brittle silicates, was particularly noticeable.

The results of tensile testing of smooth specimens and specimens with sharp notches indicated that the steel refined with synthetic slag has greater ductility and structural strength. 1 figure; 4 tables; 4 biblio. refs.

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203820009-5"

USSR

UDC 517.51

ZOTIKOV, S. V.

"On the Convergence Almost Everywhere of Fourier Series in Terms of Haar-Type Systems"

Moscow, Sibirskiy Matematicheskiy Zhurnal, Vol 14, No 4, Jul-Aug 73, pp 760-765

Abstract: The article considers questions of the convergence almost everywhere on $\angle 0,\underline{1}$ of Fourier series in terms of orthonormal systems of the class X, first introduced by N. YA. VILENKIN. Each system X $\{p_n\}$ of this class is defined by the sequence $\{p_n\}_{n=0}^{co}$ of natural numbers $p_n \geqslant 2$, $(n \geqslant 0)$. The class X includes the classical system of Haar functions, which represents the system X $\{p_n\}$: where $p_n=2$, $n=0,1,\ldots$. The article considers the question of the existence of sequences of partial sums of the Fourier series for a function in the function.

The author thanks Professor N. YA. VILENKIN for formulating the problem and for his interest in the work.

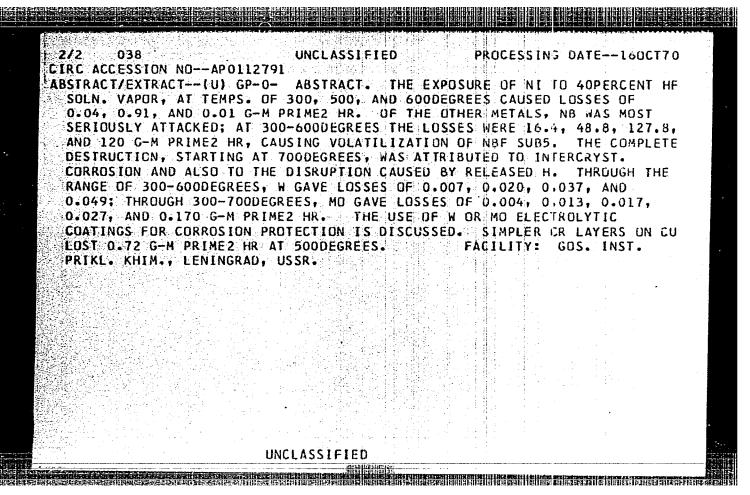
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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203820009-5"

UNCLASSIFIED PROCESSING DATE--160CT70 TITLE--HIGH TEMPERATURE CORROSION OF TUNGSTEN, MOLYBOENUM, AND NIOBIUM IN HYDROGEN FLUORIDE -U-AUTHOR-(02)-ZOTIKOV, V.S., SEMENYUK, E.YA. COUNTRY OF INFO--USSR SOURCE-ZASHCH, METAL. 1970, 6(2), 218-20 DATE PUBLISHED ----- 70 SUBJECT AREAS-MATERIALS TOPIC TAGS--HIGH TEMPERATURE EFFECT, CORROSION RATE, TUNGSTEN, MOLYBDENUM, NIDBIUM, HYDROGEN FLUORIDE, NICKEL, PROTECTIVE COATING, COPPER CONTROL MARKING-NO RESTRICTIONS DOCUMENT CLASS--UNCLASSIFIED STEP NO--UR/0365/70/006/002/0218/0220

CIRC ACCESSION NO--APO112791 UNCLASSIFIED

PROXY REEL/FRAME--1992/1805



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UDC 620.193.5

ZOTIKOV, V. S., and SEMENYUK, E. YA., State Institute of Applied Chemistry

"High-Temperature Corrosion of Tungsten, Molybdenum, and Niobium in Hydrogen Fluoride"

Moscow, Zashchita Metallov, Vol 6, No 2, Mar-Apr 70, pp 218-220

Abstract: In the process of producing and processing fluoride compounds, equipment is frequently exposed to hydrogen fluoride at high temperatures. The maximum temperature limit of nickel applicability in HF is 600-650°C. There is a lack of information on the corrosion resistance (under these conditions) for high-melting metals: tungsten, molybdenum, and niobium, except for data on their stability in liquid hydrogen fluoride. This study concerns the corrosion rate of these metals as a function of temperature. Data on the corrosion of niobium, tungsten, molybdenum, and nickel are given in a table in the original article. In gaseous HF at 300-600°C niobium is chemically unstable. It becomes brittle and readily fails even under a slight effort. This is attributed to intergranular corrosion as well as to hydrogen formation. Unlike niobium, tungsten and molybdenum begin to react with HF at an appreciable rate only above 600°C. The metals form a protective film consisting of nonvolatile fluorides of lower valence. Within 300-600°C, molybdenum and tungsten are somewhat 1/2

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ZOTIKOV, V. S. and SEMENYUK, E. YA., Zashchita Metallov, Vol 6, No 2, Mar-Apr 70, pp 218-220

superior to nickel. Tests on copper chromium specimens with molyodenum and tungsten electrolytic coatings (25--30 microns) have shown that they corrode in HF at about the same rate as compact molybdenum and tungsten specimens. At 600 and 700°C the coatings crack and sometimes peel off. The positive results of the corrosion resistance of these coatings at 500°C indicate their potential application for protecting equipment designed for use in a hydrogen fluoride medium.

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USSR

UDC 669.295.046.43

REYFMAN, E. D., IL'ICHEV, V. A., ZOTIKOVA, A. N., L'VIN, I. B.

"Mathematical Model of the Process of Chlorination of Titanium-Containing Materials in a Fluidized Bed"

Tr. Vses. N-i. i Proyektn. In-ta. Alyumin., Magn. i Elektrodn. From-sti [Works of All-Union Scientific Research and Planning Institute of the Aluminum, Magnesium and Electrode Industry], 1970, No. 72, pp. 196-200. (Translated from Referativnyy Zhurnal Metallurgiya, No. 5, 1971, Abstract No. 5 G212 by the authors).

Translation: Problems of mathematical modeling of processes of chlorination in a fluidized bed are presented. A mathematical model of the process is suggested occurring in actual apparatus in the mode of complete assimilation of Cl is ed for the process of chlorination of materials control systems to be developed 2 figs.

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USSR

UDC 669.295.046.43

IL'ICHEV, V. A., ZOTIKOVA, A. N., DROZHZHEV, V. I.

"Specifics of Behavior of Petroleum Coke in Chlorination of Titanium-Containing
Material in a Fluidized Bed"

Tr. Vses. N-i. i Proyektn. In-ta. Alyumin., Magn. i Elektrodn. From-sti [Works of All-Union Scientific Research and Planning Institute of the Aluminum, Magnesium and Electrode Industry], 1970, No. 72, pp 190-195. (Translated from Referativnyy Zhurnal Metallurgiya, No. 5, 1971, Abstract No. 5 G211 by the authors).

Translation: In order to determine the influence of the reducer grain size on the technological indicators of the process of chlorination in a fluidized bed, laboratory and pilot plant tests were performed with various grain sizes. The tests were performed for two Ti-containing materials: Ti slag and TiO2-SiO2 concentrate. The studies made it possible to determine the grain size of petroleum coke necessary to provide a high degree of extraction of Ti from the Ti-containing material with slight coke loss. I fig: 4 tables.

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Gerontology

USSR

UDC 577.0,577.3,577.7

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ZOTIN, A. I., Doctor of Biological Sciences, Biophysics Laboratory, Institute of Developmental Biology, Academy of Sciences USSR

"Aging and Rejuvenation from the Standpoint of the Thermodynamics of Irreversible Processes"

Moscow, Priroda, No 9, 1970, pp 49-55

Abstract: According to the thermodynamic theory of Prigogine-Wiame, development and growth of and subsequent changes in an organism are accompanied by a continuous process of aging of the system. This process is manifested by a decrease in entropy and according to the author, also by a continuous decrease in the rate of heat production. The organism exhibits two types of approaches to a steady state: (i) constitutive movement of the system to the final steady state and (ii) inducible return of the system to the current steady state after deviating under the influence of internal or external factors. Cogenesis represents a constitutive deviation from the steady state; entropy reaches a level sufficient for the start of development and passage of the living system into the state of constitutive approach to the final steady state. From the standpoint of the thermodynamic theory of development, organesis reflects the process of regeneration of the system. In all other stages of life there is only the aging process accompanied by a decrease in entropy.

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203820009-5"

USSR

UDC 669.295.046.43

IL ICHEV, V. A., ZOTIKOVA, A. N., KLYUCHNIKOVA, Ye. F.

"Chlorination of Flotation and Autoclave Titanium Concentrates in a Fluidized Bed"

Tr. Vses. N-i. i Proyektn. In-ta. Alyumin., Magn. i Elektrodn. Prom-sti [Works of All-Union Scientific Research and Planning Institute of the Aluminum, Magnesium and Electrode Industry], 1970, No. 72, pp. 186-189. (Translated from Referativnyy Zhurnal Metallurgiya, No. 5, 1971, Abstract No. 5 G210 by the authors).

Translation: A laboratory study was performed on the chlorination of flotation. and autoclave concentrates and they were comparatively analyzed. The dependence of the rate of chlorination of three fractions of flotation and autoclave concentrates with up to 20% TiO2 content on this content is linear. With identical content of TiO2 at 800°, the rate of chlorination of flotation concentrate is 1.5 times higher than that of the autoclave concentrate. One reason for the increased chlorination ability of the flotation concentrate is the significant difference in grain size of rutile in the concentrates. 2 figs.

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203820009-5"

USSR

UDC 616.832-002-022.7 (B. pertussis)-

KANCHURIN, A. Kh., and ZOTINA, M. M., Allergy Laboratory, Institute of Vaccines and Sera imeni I. I. Mechnikov, Moscow

"The Role of Serum Antibodies in the Pathogenesis of Experimental Pertussis Encephalomyelitis"

Moscow, Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya, Vol 14, No 4, Jul/Aug 70, pp 12-16

Abstract: Experimental allergic encephalomyelitis, a good model for demyelinizing diseases of the human nervous system (including postvaccinal encephalomyelitis), was induced in guinea pigs by injecting them with homologous nerve tissue containing whooping cough bacteria. Two types of antibodies were found in the sera of sensitized animals: cytotoxic and complement-fixing. The dynamics of the two differed during the development of the disease. Cytotoxic, complement-dependent antibodies appeared with clinical symptoms of the disease and disappeared when the animals recovered. Complement-fixing antibodies were found when the clinical symptoms were pronounced, but did not disappear when the animals recovered. A cytotoxic factor detected in animal sera during the incubation period disappeared with the appearance of clinical symptoms. It is

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KANCHURIN, Ek speri men	A. Kh. and ZOT tal'naya Terapi;	INA, M. M., I ya, Vol 14, I	atologich ko 4, Jul/	eskaya Flz Aug 70, pp	iologiye i 12-16		
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Photographic

USSR

ZOTKIN, I. T., YAKOVLEV, N. I.

UDC: 771.314

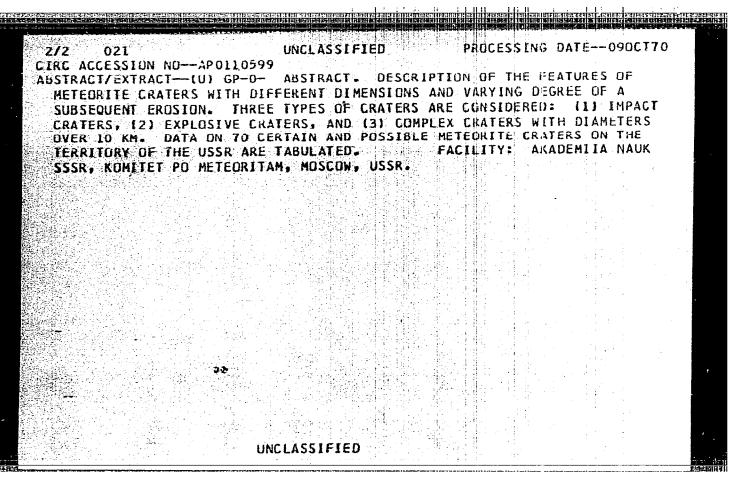
"A Camera for Nighttime Photography of Meteor Type Objects"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 23, Aug 72, Author's Certificate No 346701, Division G, filed 26 Nov 70,

Translation: This Author's Certificate introduces: 1. A camera for nighttime photography of meteor type objects. The camera contains an objective lens with shutter, a modulator with drive, a magazine with light-sensitized material, a rotating drive, and a timer. As a distinguishing feature of the patent, in order to automate the process of photography while simultaneously simplifying design, the camera is fitted with optical elements fastened on the modulator which periodically deflect the light beam, a device for relative rotation of the magazine and modulator, and a reference light which is synchronized with the timer and modulator. 2. A modification of this camera distinguished by the fact that the modulator is made in the form of a rotating disc with sector shaped optical wedges on the edge, and the magazine is placed in a ro-

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1/2 021 TITLE-SEARCH FOR METEORITE CRATERS ON EARTH -U-PROCESSING DATE--090CT70 AUTHOR-(02)-ZOTKIN, I.T., TSVETKOV, V.I. COUNTRY OF INFO-USSR SOURCE-ASTRONOMICHESKII VESTNIK, VOL. 4. JAN.-MAR. 1970, P. 55-65 DATE PUBLISHED-70 SUBJECT AREAS—ASTRONOMY, ASTROPHYSICS, EARTH SCIENCES AND OCEANOGRAPHY TOPIC TAGS-METEORITE, EARTH PLANET, CRATERING CONTROL MARKING-NO RESTRICTIONS DUCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1991/0878 STEP NO--UR/0454/70/004/000/0055/0065 CIRC ACCESSION NU-APO110599 UNCLASSIFIED -



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UNCLASSIFIED

PROCESSING DATE-- 090CT70

TITLE-SEARCH FOR METEORITE CRATERS ON EARTH -U-

AUTHOR-(02)-ZOTKIN, I.T., TSVETKOV, V.I.

COUNTRY OF INFO--USSR

SOURCE-ASTRONOMICHESKII VESTNIK, VOL. 4, JAN.-MAR. 1970, P. 55-65

DATE PUBLISHED----70

SUBJECT AREAS—ASTRONOMY, ASTROPHYSICS, EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS-METEORITE, EARTH PLANET, CRATERING

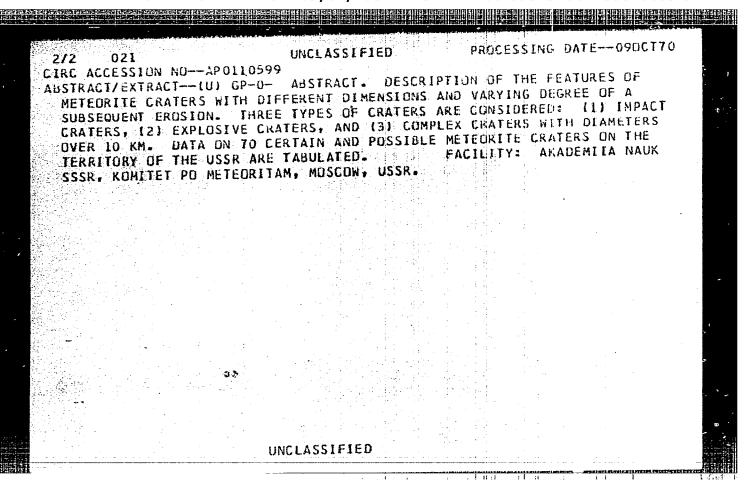
CONTROL MARKING-NO RESTRICTIONS

DUCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1991/0878

STEP NO--UR/0454/70/004/000/0055/0065

CIRC ACCESSION NO-APO110599

UNCLASSIFIED



TITLE—ANOMALDUS TWILIGHTS RELATED TO THE TUNGUSKA METEORITE —U—

AUTHOR—ZOTKIN, I.T.

SGUNTRY OF INFO—USSR

SDURCE—METEORITIKA, NO. 29, P 170—176

DATE PUBLISHED———70

SUBJECT AREAS—ASTRONOMY, ASTROPHYSICS

TOPIC TAGS—METEORITE, TWILIGHT, LUMINESCENCE, PHOTOGRAPH

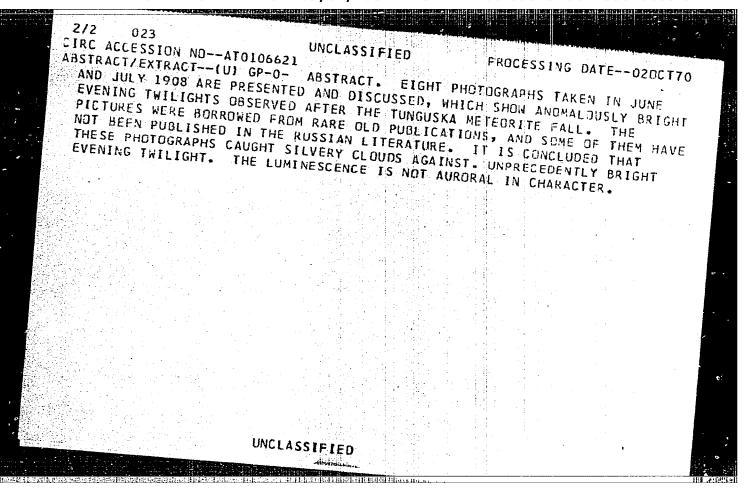
CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS-UNCLASSIFIED PROXY REEL/FRAME-1988/1963

STEP NO--UR/2534/69/000/029/0170/0176

CIRC ACCESSION NO--ATO106621

UNCLASSIFIED



USSR

GUDIMA, N. V., et al., Tsvetnyye Metally, No 3, Mar 70, pp 29-33

Within the period of analysis, the production volume at this specific shop was affected by the number of electrolyzers, current density, cathode surface, current yield, and extensive utilization of electrolyzers. Formulas are cited for determining shop expenditures as a function of current density. Calculation shows that an increase in current density from 241.3 amp/m² to 388.9 amp/m² and the resultant higher production volume made it possible to reduce the shop costs of 1 ton of cathodic nickel by 45.4%.

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USSR

UDC 632.954:633.2.032.3

ZOTOV, A. A., All Union Scientific Research Institute of Feed

"The Use of Herbicides for Improvement of Mountain Meadows"

Moscow, Khimiya v Sel'skom Khozyaystve, Vol 10, No 3, 1972, pp 48-52

Abstract: Attempts to improve mountain meadows with mixed grasses located in subalpine zone of the northern Caucasus showed that the most effective was the treatment of the sod with paraquat (2 kg/hectare) or with colapon (20 kg/hectare) in combination with 2,4-D (2 kg/hectare) plus nitrogen and phosphorus fertilizers corresponding to the formula Ng_0P_{60} . There was no noticeable advantage when the grass was treated twice with paraquat, or with paraquat followed by 2,4-D over their concurrent application. In case of rainy weather, grasses may be seeded immediately after the application of paraquat; in case of dolapon a rest period of 3 weeks is required.

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Acc. NAA0034551 Abstracting Service: Ref. Code CHEMICAL ABST. 4-70 0000 70060e Rapid-drying foundry-core binders from organic by-products. Borskaya, E. A.; Kobzeva, Z. A.; Zotov, A. Berskaya, E. A.; Kobzeva, Z. A.; Zotov, A. Berskaya, E. A.; Kobzeva, Z. A.; Zotov, A. Berskaya, C. V.; Makarova, T. F.; Kiseleva, M. S.; Kirillov, M. I.; Andrienko, K. A.; Tsyganov, V. I. (Scientific-Research Institute of the Technology of the Automotive Inclustry) Brit. 1,177,888 (Cl. B 22c), 14 Jan 1970, Appl. 13 Sep 1968; 2 pp. Binders having several years shelf life, for sand cores hardening in 15 min in core boxes heated to 240-60? are obtained ening in <1.5 min in core boxes heated to 240-60%, are obtained by mixing 60-70 parts sulfite liquor by wt. with 15-30 parts polyat. alc. mother soln. from pentaerythritol production, and adding to the mixt. 8-15 parts of an exidu. catalyst slowly during adding to the mixt. 8-15 parts of an exidu. catalyst slowly during 30-60 min with stirring of other means to suppress foam and prevent temps. >60-70°. Suitable sulfite liquor or lye has 1.27 sp. gr. Hydrolysates of corn cobs or sawdust can be substituted for it. Suitable mother soln. contains saccharides 11-13, pentaerythritol 8-12, resins 4-10, acids 2-5, and H₂O 60-75%, and has at least 1.16 sp. gr. The oxidu catalyst can be H₁PO₄, a persulfate, or H₂O₂, and if the latter, not over 3% of a 30% aq. soln. should be used, with a H₂O-cooling jacket for cooling below 25°. The mixed binder should have 1.25-1.3 sp. gr. and 4-4.8 25°. The mixed binder should have 1.25-1.3 sp. gr. and 4-4.8 pH. Cores thus bonded retain useful properties 3-4 days. When they also contain up to 3% clay, hardening is faster than 1.5 min and the core strength is increased 25% or more. The collapsibility of the cores after castings are cooled is not impaired by these binders. George F. Comstock REEL/FRAME 19711247

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203820009-5 eredes de la lactura de la companya La companya de la comp

UNCLASSIFIED PROCESSING DATE--27NOV70 TITLE--RECRYSTALLIZATION OF THE CALCIUM SULFATE HEMINYDRATE TO THE

DIHYDRATE -U-

AUTHOR-104)-ZOTOV, B.G., VOSKRESENSKIY, S.K., ZOTOVA, F.N., GORYUNOV, N.A.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 263,577

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970, 47(8) DATE PUBLISHED--10FE870

SUBJECT AREAS -- CHEMISTRY

TOPIC TAGS--CHEMICAL PATENT, CRYSTALLIZATION, AQUEOUS SOLUTION, CALCIUM SULFATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--3004/1837

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0132102

2/2 010 CIRC ACCESSION NO. AAOL22102	UNCLASSIFIED	PROCESSING DATE27NOV70	
CIRC ACCESSION NOAA0132102 ABSTRACT/EXTRACT(U) GP-0-			
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USSR

UDC: 621.396.6.72:621.791

ZOTOV, B. M., KONYUSHKOV, G. V., KAZAKOV, N. F.

"Diffusion Welding of Metal-Ceramic Joints"

Elektron. tekhnika. Nauchno-tekhn. sb. Tekhnol. i organiz. proiz-va (Electronic Technology. Scientific and Technical Collection. Technology and Organization of Production), 1970, vyp. 5 (37), pp 9-14 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1V257)

<u>Translation</u>: The authors investigate the effect which parameters of the diffusion welding process, phase composition and pretreatment of polished high-clay M-7 ceramic have on the quality of welded joints with copper. It is found that preliminary annealing of the ground ceramic improves the quality of the welded joints. The optimum parameters of the diffusion welding process are determined. Resume.

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1/2 019 UNCLASSIFIED TITLE-BRIDGE AND METALLURGICAL CRANES -U-

PROCESSING DATE-13NOV70

AUTHOR-(03)-BOGINDKIY, K.S., ZOTOV, F.S., NIKOLAYEVSKIY, G.M.

COUNTRY OF INFO-USSR

SOURCE MOSCOW, MASHINDSTROYENIYE, 1970, 299 PP

DATE PUBLISHED ----- 70

SUBJECT AREAS -- MECH., IND., CIVIL AND MARINE ENGR, MATERIALS

TOPIC TAGS--CRANE, CALCULATION, METAL STRESS, BRIDGE, METALLURGICAL MACHINERY, STRUCTURAL STEEL, MONOGRAPH, BIBLIOGRAPHY

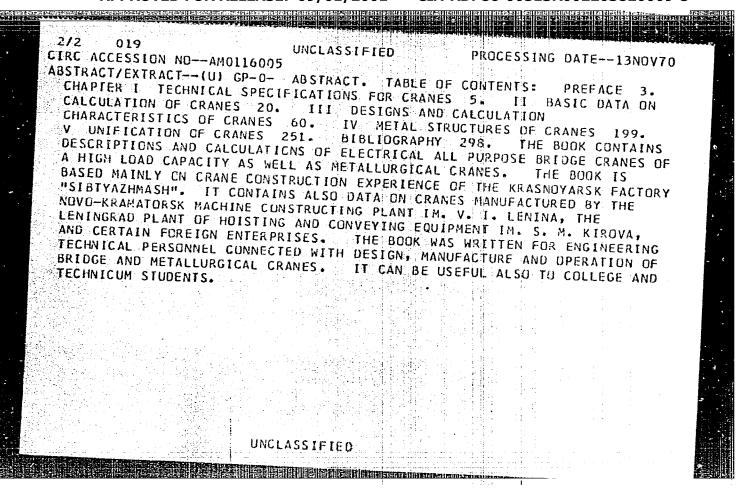
CONTROL MARKING-NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1995/0314

STEP NO--UR/0000/70/000/000/0001/0299

CIRC ACCESSION NO--AMOLIGOOS

UNCLASSIFIED



USSR

SOLODOVNIKOV, V. V., ZOTOV, M. G. and BIRYKOV, V. F.

"Estimation of the Parameters of Spectral Density of an Unstable Random Process on the Basis of Its Realizations"

Izv. Vyssh. Ucheb. Zavedeniy. Priborostroyeniye [News of Higher Educational Institutions. Instrument Building], 1973, Vol 16, No 5, pp 9-13 (Translated from Referativnyy Zhurnal Kibernetika, No 10, 1973, Abstract No 10V191)

Translation: A class of unstable random processes is studied, produced by transmission of stable white noise through an unstable forming device. It is assumed that the structure of the spectral density is fixed, and that only certain parameters must be estimated. A system of equations is produced determining the values of the desired parameters of spectral density. It is shown that the spectral density parameters are defined with probability 1 by a single realization of the random process studied. The system of equations produced unambiguously defines the values of the desired parameters.

Author's view

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UDC: 62-501.4

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PUPKOV, K. A., LOMAKIN, I. V., ZOTOV, M. G., Moscow Higher Technical School Imeni N. E. Bauman

"Synthesis of Nonlinear Systems Under Random Affects Based on an Equivalent Transfer Function"

Leningrad, Priborostroyeniye, Vol 13, No 6, 1970, pp 27-33

Abstract: The method of equivalent transfer functions is a development of the statistical linearization technique, permitting the output spectrum of the equivalent linear model to be the same as that of the nonlinearity it replaces without placing limitations on the transmission band width of the linear system portion. The equivalent transfer function derived by Pupkov (1965) from the relationships of output and input spectra of the nonlinear element is a steady state linear model of the nonlinear element, capable in principle of yielding an exact solution to the problem of analyzing and synthesizing steady state nonlinear systems within the framework of correlation theory.

Starting from a generalized expression for the equivalent transfer function, the basic problem in synthesizing nonlinear systems consists of finding the optimum parameters for given equivalent circuits in terms of a given criterion 1/3

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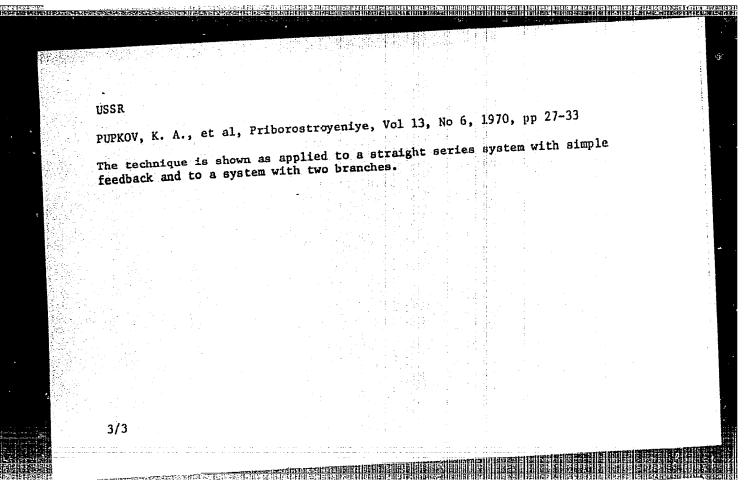
PUPKOV, K. A., et al, Priborostroyeniye, Vol 13, No 6, 1970, pp 27-33

of optimality. The optimum correcting unit will be uniquely determined by the chosen equivalent circuit structure and its parameters and by the ordinary relationships between statistical system input and the properties of the system section under consideration. In a real problem there are two stages, development of the ideal equivalent function structure and determination of its parameters. It is claimed that the optimization of parameters for the equivalent transform is sufficient, since the parameters of any nonlinear function can be shown to be analytic functions of the parameters of the equivalent transform. Optimization of the parameters proceeds first by partial differential methods, then by the formation of a Lyapunov V function from the sums of the squares of the errors, and a further search in the form of solutions to a system of nonlinear differential equations. Use of a digital computer on these equations has obvious advantages over a direct attack on a nonlinear algebraic system.

Making some reasonable assumptions, one can apply essentially the same mathematics to a situation in which the signal is subject to statistical noise. 2/3

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CIA-RDP86-00513R002203820009-5" **APPROVED FOR RELEASE: 09/01/2001**



Acoustics

USSR

ALEKSANDROV, L. N.: ZOTOV, H. I.: EDEL MAN, F. L., Institute of Semiconductor Physics, Siberian Department, Academy of Sciences, USSR, Novosibirsk

"Some Mechanisms of Sound Wave Attenuation in Plastically Deformed Silicon"

Leningrad, Fizika Tverdogo Tela, Vol 12, No 6, June 1970, pp 1859-

Abstract: In an earlier study the authors had investigated the effect of heat treatment and alloying with copper upon the internal friction in silicon containing a relatively small amount of dislocations. In the present work a study is made of the internal friction in plastically deformed silicon, the effect of alloying with copper upon the internal friction in the silicon, and the dependence of attenuation on amplitude. It is found that the experimental data

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ALEKSANDROV, L. N., et al, Fizika Tverdogo Tela, Vol 12, No 6, June 1970, pp 1859-1860

concerning the relationship of the attenuation of sound waves in plastically deformed silicon are in qualitative agreement with the Keller-Granato-Lücke theory in the area of the dependence of the decrement on amplitude.

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203820009-5"

USSR

JDC: 621.391.19

KATYS, G. P., ZOTOV, V. D., POLIKARPOV, S. P., VINOGRADOVA, Ye. P., "Creer of Lenin" Institute of Control Problems (Automation and Remote Control), Academy of Sciences of the USSR

"An Image Converter"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 36, Dec 71, Author's Certificate No 322781, Division G, filed 19 May 31, published 30 Nov 71, p 163

Translation: This Author's Certificate introduces an image converter made in the form of a semiconductor plate to which metal ring electrodes and a central point electrode are applied for a radial field. As a distinguishing feature of the patent, conversion errors which result from rotation and change of image scale are eliminated by using a sawtooth voltage source and by placing an additional electrode on the semiconductor plate inside the ring electrode. This auxiliary electrode is made from a material with conductivity opposite to that of the semiconductor plate and takes the form of one turn of an Archimedes spiral with one end connected to the ring electrode and the other end connected through a load to the source of sawtooth scanning voltage.

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USSR

UDC: 621,383.8

VINOGRADOVA, Ye. P., ZOTOV V. Moscow

"Investigation of a One-Dimensional Solid-State Image Converter"

Moscow, Avtomatika i Telemekhanika, No 1, Jan 72, pp 189-191

The article is a description of a solid-state one-dimensional image converter which utilizes the inverse Hall effect (the Suhl effect). The main scanning element is a rectangular semiconductor plate with one light-sensitive face and a point contact or PN-junction for signal takeoff on the opposite face. An attracting electric field is applied lengthwise of the scanning element. The plate is placed in a magnetic field whose strength is a linear function of time. When an image is projected on the light-sensitive surface, nonequilibrium carriers are generated in accordance with the intensity of the emission on the surface. These carriers are subjected to Lorentz force, Hall force, and the force of the

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USSR

VINOGRADOVA, Ye. P., ZOTOV, V. D., Avtomatika i Telemekhanika, No 1, Jan 72, pp 189-191

electric field. This results in redistribution of the carriers in the bulk of the semiconductor. Current takeoff affects the minority carriers corresponding to sequential sections of the surface as the magnetic field strength increases. If the laws of redistribution of the minority carriers are known, this process can be controlled and optimum parameters of the device can be selected depending on the job to be done. Preliminary calculations show that a resolution of the order of 30 lines/mm and a line conversion time of the order of a few microseconds can be achieved with a main scanning element about 30 microns in width with a light sensing surface approximately 10 mm long when the long dimension of the current takeoff is about 5 microns, and the illumination is approximately 100 lx. Two figures, bibliography of three titles.

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USSR

ZOTOV, V. D., POLIKARPOV, S. P., Moscow

"Semiconductor Converters Which Analyze Optical Images"

Moscow, Avtomatika i Telemekhanika, No 9, Sep 71, pp 165-169

Abstract: The authors describe a device with a metal-oxide-semiconductor photoconversion matrix which can be used to distinguish zones with a given illumination on an image. A description is also given of a semiconductor photoconversion unit which reacts only to a given level of light intensity. These devices are theoretically analyzed. Formulas are derived which can be used to select the semiconductor materials and the proper geometric dimensions of sensing surfaces in the devices when the requirements for operation are known. Four figures, bibliography of four titles.

1/1

Forming

USSR

UDC: 621.771.0

POLUKHIN, P.I., VORONTSOV, V.K., CHICHENEV, N.A., and ZCTOV V.F. Moscow Institute of Steel and Alloys

"Study of Plastic Flow by the Moire Method"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy, Cherneya Metallurgiya, No 5, 1970, pp 73-76

Abstract: In a study of plastic flow by the Moire method, the scratches left on the metal after its machining with a planer were used as the initial grid. The selection of the direction and spacing of the initial grid depends on the purpose of the investigation. A lead specimen made of two halves on whose inner purpose of the investigation. A lead specimen made of two halves on whose inner purpose of the investigation. A lead specimen made of two halves on whose inner purpose of the investigation and deformations in the central zone of the obtained on metal displacements and deformations in the central zone of the specimen and in the region in front of the geometric area of deformation. In the presence of any two Moire patterns, displacements at any point of the factual area of deformation can be determined from a geometric interpretation of the Moire streaks. Equations for the calculation of horizontal and vertical displacements are presented.

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203820009-5"

USSR

UDC 628.313

ZOTOV V. M., Engineer

"Rapid Determination of Bactericidal Effect of Industrial Waste Water and Its Constituents"

Moscow, Vodosnabzheniye i Sanitarnaya Tekhnika, No 3, 1972, p 16

Abstract: This method is based on the determination of the fermentation activity of dehydrogenase as related to the potency of the microorganism. The compound 2,4,5-triphenyltetrazolium chloride is used to analyze for the dehydrogenase. This method is simpler and faster than previous methods.

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64 -

USSR

UDC 539.219.3

ANAN'IN, V. M., GLADKOV, V. P., ZOTOV, V. S., and SKOROV, D. M.

"Diffusion of Nickel in Beryllium"

Moscow, Atomnaya Energiya, Vol 29, No 3, Sep 70, pp 220-221

Abstract: The authors studied the diffusion of nickel in beryllium and two Be-Ni alloys containing 10 and 36 wt. percent nickel. The study material was distilled beryllium remelted in an arc furnace on a water-cooled copper hearth. The specimens first underwent nigh-temperature homogenizing annealing, then diffusion annealing following the application of an Ni-63 isotope to one of their surfaces. Radiometric and autoradiographic analyses indicate that the mobility of nickel along the grain boundaries of beryllium is very low and cannot be detected against a background of volume diffusion.

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203820009-5"

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USSR

UDC 621.396.677:523.164

ZAYTSEV, A. P., ZOTOV, V. V., and SEVRYUKOV, B. N.

"One Extremal Problem of Radiotelescope Control"

Tr. Mosk. energ. in-ta (Works of the Moscow Power Engineering Institute), 1972, vyp.116, pp 148-154 (from RZh-Radiotekhnika, No 11, Nov 72, Abstract No 11 B21)

franslation: The authors study the particularities of systems for the control of radio telescopes. Problems are also studied which are related to the development of radio telescopes in conjunction with large antennas with a single, fixed emitter where the antennas form a single-beam radiation pattern. An algorithm is set up for optimizing the system of control. Original article: three illustrations and seven bibliographic emtries. N.S.

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USSR

UDC: 621.317.761

ZCTCV, Y. V. BCGDANCV, G. B.

"Frequency Reter With Ferrite Resonator"

Avt. sv. SSSR (Author's Certificate USSR) Class 21a⁴, 71, (Gol r 23/10), No. 270841, Application 8.12.68, Publication 20.08.70 (from RZn-Radiotechnika, No. 3, March 71, Abstract No. 3x375F)

Translation: Existing frequency maters containing a ferrite resonator, a sawtooth current generator, and a converter of the measured frequency into a pulse voltage, have low frequency readout accuracy on the oscillograph screen. To improve the measurement accuracy, the output of the DHY detector in the converter is connected to the pulse generator through an amplifier, a differentiating circuit, and a null circuit. E. L.

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USSR

UDC[537.226+537.311.33]:[537+535]

ZOTOV, V. V., and SERDYUK, V. V.

"Effects Caused by Appearance of Contact Barrier at Cadmium Sulfide-Indium Electrode Interface"

Elektron. tekhnika. Nauch.-tekhn. sb. Upr. kachestvom i standartiz. (Electronic Engineering. Collection of Scientific and Technical Works on Quality Control and Standardization), 1971, vyp. 4(10), pp 31-36 (from RZh-Fizika, No 1, Jan 72, Abstract No 1YE1364 by authors)

Translation: Usually an In electrode makes it possible to obtain obtain contact with CdS. However, with prolonged propagation of large fluxes such a contact takes on barrier properties. This results in electric polarization of the crystal and the appearance of current instability when voltage is on. The phenomenon can be used to determine the parameters of free current carrier trapping in the volume of a semiconductor.

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1/2 030 UNCLASSIFIED PROCESSING DATE--160CT70

AUTHOR-(05)-GUDNOV, V.M., ZOTOV, V.V., NAGORNYKH, L.M., SORUCHENKO, R.L.,
SHTEYNSHLEYGER, V.B.
COUNTRY OF INFO--USSR

SOURCE--HOSCOW, RADIOTEKHNIKA I ELEKTRONIKA, NO 3, MAR 70, PP 632-633

DATE PUBLISHED ---- 70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--MASER, TRAVELING WAVE, ELECTROMAGNETIC NOISE, NOISE ANALYZER, SPECTRUM ANALYZER, RADIOMETER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1987/1459

STEP NO--UR/0109/70/000/003/0632/0633

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CIRC ACCESSION NO--APO104756

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2/2 030 UNCLASSIFIED PROCESSING DATE--160CT70 CIRC ACCESSION NO--APO104756 ABSTRACT/EXTRACT--(U) GP-O-ABSTRACT. THE RESULTS ARE PRESENTED UP AN EXPERIMENTAL INVESTIGATION OF THE NOISE SPECTRA OF RECEIVING DEVICES #ITH_A/TRAVELING_WAVE_MASER:\ATH_THE\INPUT\/\/\\\\THE\INVESTIGATION WAS CONDUTED WITH THE AID OF A SPECTRUM ANALYZER WITH A 0.25 HZ BAND AND AN ACCURACY OF THE EQUIPMENT FREQUENCY OF 0.1. HZ IN THE 3 TO 995 HZ RANGE. THE ANALYZER WAS CONNECTED TO THE LOAD DE THE SQUARE LAW DETECTOR OF THE RECEIVING DEVICE INVESTIGATED. THE NOISE OF THE MATCHED LOAD WITH T SUBNOISE EQUALS 290DEGREESK SERVED AS THE INPUT SIGNAL. TO ELEMINATE THE NECESSITY FOR ADJUSTING THE FREQUENCY CHARACTERISTICS OF THE RECEIVING DEVICE WITH THE MASERGAND WITHOUT IIT, THE SPECTRAL DENSITY OF THE NOTSE WAS NORMALIZED TO UNITY AT THE HORIZONTAL PART OF THE SPECTRUM. AND TRREGRULARITY OF THE SPECTRUM WAS MEASURED IN RELATIVE WNITS. MEASUREMENTS OF THE SPECTRUM WERE CONDUCTED AT THE OUTPUT OF A 5 CM BAND RADIOMETER WITH A TRAVELING WAVE MASER AT THE INPUT. MEASURING PROCESS. THE MASER OPERATED IN A SATURATION REGIME OF THE ILLUMINATION POWER. THE DEPENDENCE OF THE SPECTRAL DENSITY OF THE NOISE ON THE FREQUENCY IS SHOWN. IT IS CONCLUDED THAT BOILING HELIUM IN THE RETARDING SYSTEM OF THE TRAVELING WAVE MASER PRODUCES AN ANDMALOUS LOW FREQUENCY NOISE, THE SPECTRAL DENSITY DECHHICH INCREASES WITH A DECREASE OF THE FREQUENCY, BEGINNING WITH A FREQUENCY ON THE ORDER OF 100 HZ. ORDER TO REALIZE SENSITIVITY IN RADIOMETERS WITH A TRAVELING WAVE MASER WHICH HAVE ANOMOLOUS LOW FREQUENCY NOISE IT IS NECESSARY TO SELECT A MODULATION FREQUENCY ABOVE 100 HZ. ANOMOLOUS NOISE IS ABSENT IN TRAVELING WAVE MASERS WITH A RETARDING SYSTEM NOT FILLED WITH LIQUID HEL IUM .

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SOURCE-ZH. FIZ. KHIM. 1970, 44(4), 1118-20	
DATE PUBLISHED70	
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CENTROL MARKING-NO RESTRICTIONS	
DECUMENT CLASS—UNCLASSIFIED PROXY REEL/FRAME3005/0008 STEP NO-UR/00	57/70/044/004/1113/1120
CIRC ACCESSION NOAPO132308 UNCLASSIFIED	

CARRIERS AT A IN PRIME A CONTACT BETWEEN ION EXCH OF THE MINORITY CARRIERS	UNCLASSIFIED PROCESSING DATE—20N0V70 308 G— ABSTRACT. RECOMBINATION PROCESSES OF CHARGE POSITIVE) MINUS (OH) PRIME NEGATIVE RECTIFYING HANGE MEMBRANES ARE INVESTIGATED. THE LIFE TIME S IR PI EQUALS 1.6 TIMES LO PRIMEB NEGATIVE SEC. FUSION LENGTH OF THE CHARGE CARRIERS IS L EQUALS ATIVE CM. FACILITY: MOSK. INST. TONKOI
2.4 TIMES TO PRIMES NEG HIM. TEKHNOL. IM. LOMON	OSOVA MOSCOW USSR.
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	UNCLASSIFIED

USSR

UDC: 519.2

GALUSHKIN, A. I., ZOTOY, Yu. Ya., and SHIKUNOV, Yu. A.

"On-Line Processing of Experimental Data"

Moscow, "Energiya," 1972, 360 pp, illustrated (from RZh--Matematika, No 6, 1972, Abstract No 6V190K)

Translation: The book considers problems in the on-line processing of experimental data. The coding of samples of stationary and nonstationary random processes is investigated, and methods are given for constructing rapidly coding devices. An examination is made of problems and methods of operative statistical processing of unidimensional and multidimensional samples of random processes on a digital computer and with the use of special apparatus. A detailed investigation is made of methods of accelerating correlational analysis of random processes. Problems of the recognition of forms, based on statistical algorithms, are examined.

The book is designed for specialists in automation, cybernetics, communications, and electronics.

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1/2 010 UNCLASSIFIED PROCESSING DATE--27MOV70
TITLE--RECRYSTALLIZATION OF THE CALCIUM SULFATE HEMIHYDRATE TO THE
DIHYDRATE -U-

AUTHOR-1041-ZOTOV, B.G., VOSKRESENSKIY, S.K., ZOTOVA, F.N., GORYUNOV, N.A.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 263,577
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970, 47(8)
DATE PUBLISHED--10FE870

SUBJECT AREAS-CHEMISTRY

TOPIC TAGS--CHEMICAL PATENT, CRYSTALLIZATION, AQUEOUS SOLUTION, CALCIUM SULFATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--3004/1837

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0132102

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180	CLASSIFIED		

AUTHOR-103)-ZOTOVA. K.V., SHAMROVA, N.V., TRAPEZNIKOV, A.A.

CEUNTRY OF INFO-USSR

SOURCE-KOLLOIDNYY ZHURNAL, 1970, VOL 32, NR 3, PP 369-372

DATE PUBLISHED 70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS-GLUCOSIDE, TOLUENE, FLUID VISCOSITY, ADSURPTION

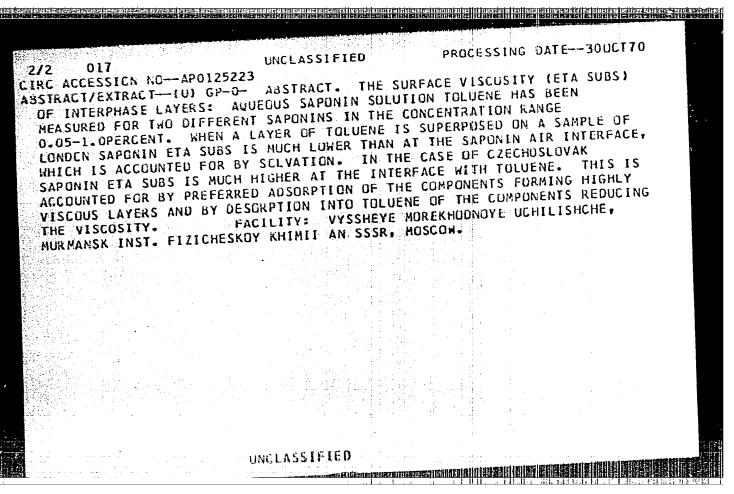
CENTROL MARKING-NO RESTRICTIONS

DOCUMENT CLASS-UNCLASSIFIED PROXY REEL/FRAME--2000/1601

STEP NO-UR/0069/70/032/003/0369/0372

CIRC ACCESSION NO--APO125223

UNCLASSIFIED



UNCLASSIFIED PROCESSING DATE-300CT70

SAPONIN SOLUTIONS -UAUTHOR-(03)-TRADETIES OF SURFACE LAYERS AND THE SURFACE TENSION OF

AUTHOR-(03)-TRAPEZNIKOV, A.A., ZOTOVA, K.V., SHAMROVA, N.V.

COUNTRY OF INFO-USSR, CZECHOSLOVAKIA, UNITED KINGDOM

SOURCE-KCLLOIDNYY ZHURNAL, 1970, VOL 32, NR 3, PP 437-443

DATE PUBLISHED ----- 70

SUBJECT AREAS-CHEMISTRY

TOPIC TAGS—SURFACE TENSION, CHEMICAL REACTION KINETICS, MECHANICAL PROPERTY, SHEAR STRENGTH, SURFACE ACTIVE AGENT

CENTROL BARKING-NO RESTRICTIONS

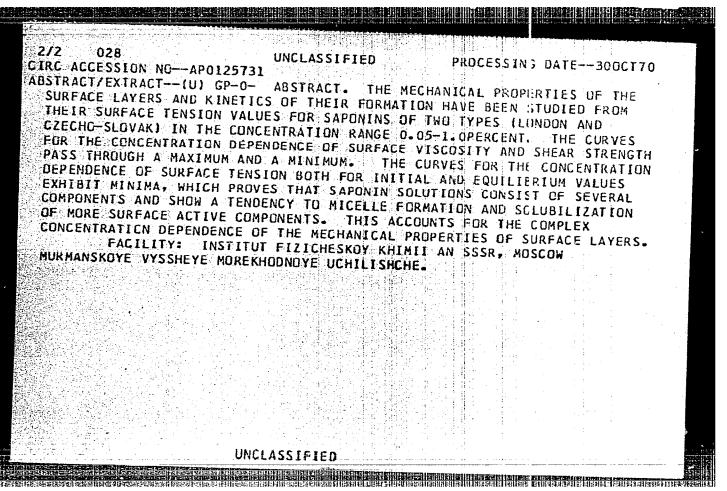
PROXY REEL/FRAME—2000/2148

STEP NO--UR/0069/70/032/003/0437/0443

CIRC ACCESSION NO--APO125731

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203820009-5"



USSR

UDO 621.315.592:546.289

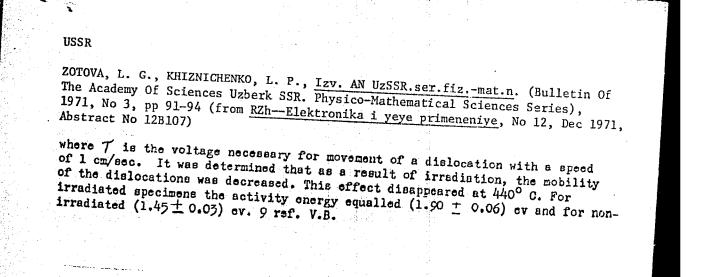
ZOTOVA, L.G., KHIZNICHENKO, L.P.

Effect Of Reactor Irradiation On Mobility Of Dislocations In Germanium"

Izv. AN UzSSR.ser.fiz.-mat.n. (Bulletin Of The Academy Of Sciences Uzberk SSR. Physico-Mathematical Sciences Series), 1971, No 3, pp 91-94 (from RZh-Elektronika 1 yeye primeneniye, No 12, Dec 1971, Abstract No 128107)

Translation: The speed of motion was investigated of individual dislocations in monocrystelline Ge up to and after irradiation by neutrons. The measurements were made by the standard method of a four-point curve in conjunction with the technique of double selective etching. Specimens in the form of 1 x 3 x 30 mm² plates were cut out of ingots of n-type single crystals with a resistivity of 1 ohm.cm and an initial density of dislocations of 102 cm-2. The speed of the dislocation half-loops [polupetel'] was measured in the temperature range of 350-500° and the range of stresses of 0.5-5 kg/mm². The specimens were irradiated at 40 and 300° 0. The power flux smounted to 1.38. 10¹³ neutron/cm² sec. The dependence of the speed of motion of the screw dislocations for various temperatures, on the applied voltage is described by the equation $V = V_0 (T/T_0)^m$

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94 -

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UDC 620,1941196

ZOTOVA, L. M., BLASHCHUK, V. YE., MAKSIMOV, YU. A., and VAVILOVA, V. V., Institute of Metallurgy imeni A. A. Baykov, Academy of Sciences USSR

"Stress Corrosion of Titanium Alloy AK-1 and AK-2 Weld Joints"

Moscow, Zashchita Metallov, Vol 9, No 6, 1973, pp 707-709

Abstract: The tendency of titanium alloys AK-1 and AK-2 to suffer stress corrosion cracking was investigated along with the same study into the stress corrosion cracking of weld joints made from these alloys. Alloys AK-1 and AK-2 and their weld joints possess good stability in chloride salts. No cracks or surface cracking were observed in visual inspection. Metallographic studies revealed no cracks in the samples for saturated GaCl₂ and MgCl₂, but in saturated NH₂Cl the samples suffered corrosion failures in the heat-affected zone of the welded alloys. Thus, the investigated alloys and weld joints do not undergo surface cracking in 10% HCl, but alloy AK-2 and its weld joints do suffer stress corrosion after 600 hours in the gaseous phase of 99% HNO₃. Consequently, alloying titanium with vanadium significantly inproves its resistance to corrosion cracking. 2 tables, 3 bibliographic references.

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USSR

UDC 621.791.011:546.821:546.833

BLASHCHUK, V. YE., GUREVICH, S.M., ZOTOVA, L.M., LANGER, N.A., GRINEVICH, V.V., and STENDER, N. V., Kiev

"Weldability and Corrosion Resistance of an Alloy of Titanium With 5% Ta"

Kiev, Avtomaticheskaya Svarka, No 6, Jun 71, pp 16-18

Abstract: Development of new chemical products, particularly those in which the basic component of the medium is hydrochloric acid, and introduction of rational technological processes requires the use of new corrosion-resistant structural materials. One of these is titanium and its alloys. An alloy of the system titanium - 5% tantalum with a stable alpha-solid solution has been designated for use in hydrochloric acid in the presence of exidizers at an elevated temperature. Production of this alloy has been mastered and designated alloy grade 4204. The corrosion resistance of alloys 4204, VTl, and OT4 and their weld joints was studied in 18% HCl at 90°C and with a continuous flow of chlorine gas at the rate of 70 ml/min. It was found that alloy 4204 possesses higher corrosion stability than alloys OT4 and VTl. 4 figures, 1 table, 7 bibliographical references.

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UDC 621.791.856.3:621.9-419:620.193

ZOTOVA, L. M., RYABOV, V. R., and LANGER, N. A., Institute of Electric Welding

"Contact Corrosion of Aluminum-Steel Welded Joints"

Kiev, Avtomaticheskaya Svarka, No 9, Sep 70, pp 19-23

Abstract: A review is made of available data from experimental and industrial investigations on the corrosion resistance of aluminum-steel welded joints. Various methods and procedures for the protection of such joints against destruction by corrosion under service conditions are described. Data are given on aluminum-steel pair characteristics in sea and fresh water, polarization of various bimetallic joints, and potential distribution in welded joints of aluminum with steel.

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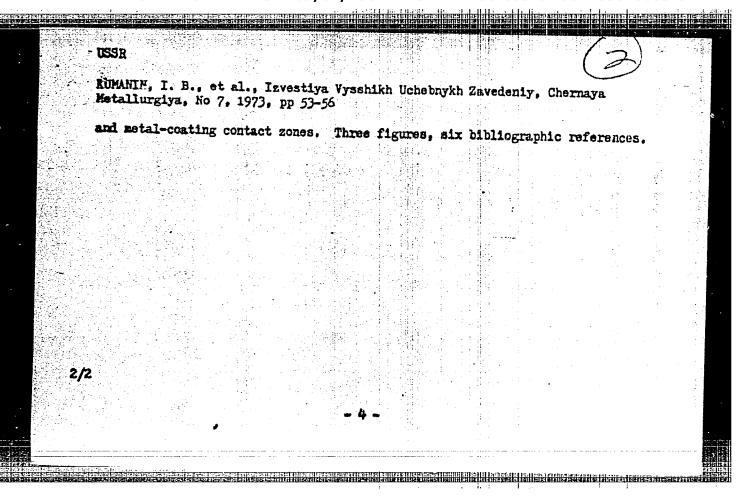
UDC 621.74.015.621.744.37

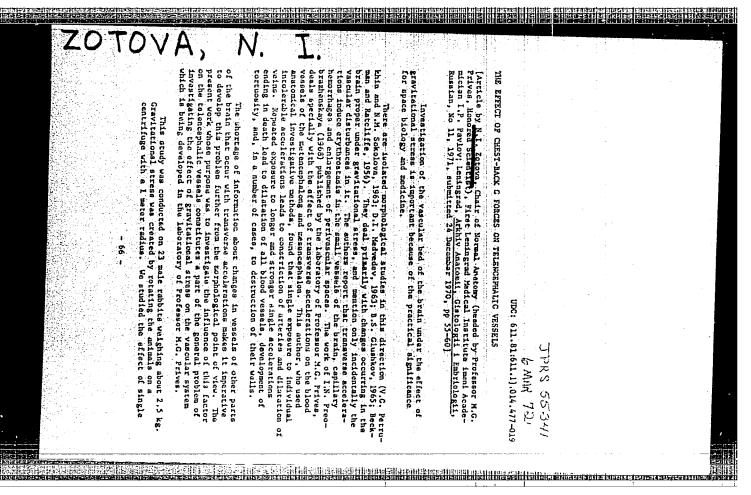
KUMAININ, I. B., BAUMAN, B. V., OREKHOV, A. I., ISAYEVA, T. A., SMOL'KIN, A. A., and ZOTOVA, N. G., Moscow Institute of Steel and Alloys"

Ceramic Antiscorching Coatings for Steel Castings"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy, Chernaya Metallurgiya, No 7, 1973, pp 53-56

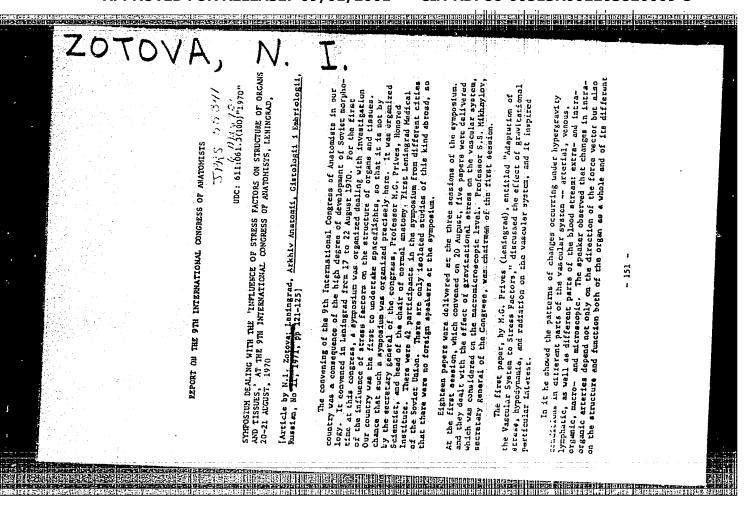
Abstract: Antiscorching coatings with ceranic type bonding agents were developed on the base of metallophosphates. Starting materials for the production were orthophosphoric acid H₃PO₄, aluminum hydroxide Al(OH), and chromium acid Cr₂O₃. The coatings possess high refractoriness and resistance, high thermal stability, and chemical inertia in the working temperature interval. They also have high technological qualities, as good covering power, and high sedimentation stability. The coatings do not contain scarce materials and are not expensive. Results of industrial tests are presented of antiscorching coatings on carbon steel and alloy steels. Comparative results of petrographic analyses of antiscorching coatings are discussed by reference to microsections of the mold and of metal-mold





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CIA-RDP86-00513R002203820009-5



Physiology

USSR

UDC 611.133.39+611.145.11].053:613.73

ZOTOVA H I Chair of Normal Anatomy, First Loningrad Addical Institute imeni

"Adaptation of Erd-Brain Vessels to Gravitational Loads in the Head-Pelvis Direction"

Leningrad, Arkhiv Anatomii Gistologii i Embriologii, Vol 59, No 7, Jul 70, pp 59-68

Abstract: A training schedule was developed for rabbits which was designed to prevent the occurrence of changes in the cerebral vessels caused by intolerable gravitational loads. Byes were injected into the vascular system and studied in brain preparations. The results were compared with those of pravious studies involving untrained animals. Training was based on repotition and gradually increased loading. After a given training period, the animals rested for a period varying from 7 days to one year, and various tests were then conducted. It was found that adaptation in the end-brain vessels can be achieved by proper training and that the severe lesions of the cerebrovascular system which occur when untrained animals are subjected to intolerable leading can be avoided. The length of the rest period and the duration of the leads during training are important factors in the effectiveness of the training.

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PROCESSING DATE--13NOV70 UNCLASSIFIED 1/2 TITLE--ETHYL OR ISOPROPYLBENZOIC ACID -U-AUTHOR-(02)-KUZMENKOV, A.A., ZOTOVA, N.L. COUNTRY OF INFO--USSR SOURCE--U.S.S.R. 263,587 REFERENCE--OTKRYTIYA, IZUBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970, DATE PUBLISHED--10FEB 70 SUBJECT AREAS--CHEMISTRY TOPIC TAGS-BENZOIC ACID, CHEMICAL PATENT, ISOPROPYL BENZENE, OXIDATION, CHEMICAL SYNTHESIS CONTROL MARKING-NO RESTRICTIONS DOCUMENT CLASS--UNCLASSIFIED STEP NU--UR/0482/70/000/000/0000/0000 PROXY REEL/FRAME--3005/0859

UNCLASSIFIED

CIRC ACCESSION NO--AA0132949

2/2 012 CIRC ACCESSION NOAA013294	UNCLASSIFIED	PROCESSING	DATE13NOV70
ABSTRACT/EXTRACT(U) GP-0- OXIDIZING METHYLETHYL OR PYRIDINE AT SMALLER THAN	ABSTRACT. THE TITLE METHYLISOPROPYLBENZENE	WITH KMNO	PREPO. BY SUB4 IN AQ.
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1/2 014 UNCLASSIFIED PROCESSING DATE--230CT70
TITLE--MECHANISM OF THE EFFECT OF HEAVY WATER ON THE VISCOSITY OF STARCH

AUTHOR-(03)-KRETOVICH, V.L., ZOTOVA, N.N., BUSAREVA, N.N.

COUNTRY OF INFO--USSR

SOURCE-DOKL. AKAD. NAUK SSSR 1970, 190(6), 1480-2

DATE PUBLISHED----70

SUBJECT AREAS -- CHEMISTRY

TOPIC TAGS--HEAVY WATER, STARCH, FLUID VISCOSITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1997/1100

STEP NO--UR/0020/70/190/006/1480/1482

CIRC ACCESSION NO--ATOL19959

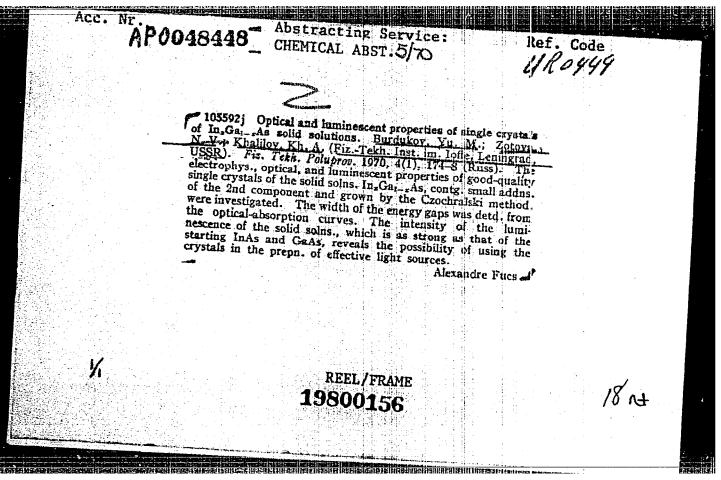
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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203820009-5"

UNCLASSIFIED PROCESSING DATE--230CT70 GIRC ACCESSION NO--ATO119959 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. VISCOSITY DATA ARE REPORTED FOR SOLNS. OF STARCH THAT HAD BEEN FORMED INTO PASTE WITH H SUBZ O AND D SUB2 O WITH AND WITHOUT ADDED UREA AT 100DEGREES. THE FORMATION OF PASTE WITH D SUB2 D TENDS TO DENSIFY THE MICELLES AND LOWERS THE VISCOSITY OF THE PASTE. THE RELATIVE VISCOSITY OF PLATE FROM CORNSTARCH INCREASED GREATLY IN CONTACT WITH UREA IN BOTH H SUB2 0 AND D SUB2 0. UREA HAD LITTLE EFFECT IN THIS RESPECT ON POTATO STARCH PREPD. IN PASTE FORM IN H SUB2 D, BUT IN D SUB2 O A LARGE INCREASE IN VICTORITY AFTER CONTACT WITH UREA WAS AGAIN NOTED. HYDRODYNAMIC VOLS. OF MICELLES OF THESE STARCHES WERE DETD. AND TABULATED UNDER THE ABOVE CONDITIONS. WAS SHOWN THAT D SUB2 D LOWERS THE SPECIFIC HYDRODYNAMIC VOL. OF THE STARCH MICELLES. THIS IS CAUSED BY GREATED STABILITY OF BONDS FORMED BY D. GREATER COMPACTNESS OF THE MICELLES, AND GREATER DIFFICULTY OF PENETRATION OF H SUB2 O INTO SUCH MICELLES. THE MICELLES OF PASTE FROM CORNSTARCH ARE THUS MUCH MORE DENSE THAN THOSE FROM POTATO STARCH. LATTER STARCH, HOWEVER, HAS MUCH WEAKER H BONDS AND A LESS TIGHTLY BONDED MICELLE FORM. FACILITY: MOSK. TEKHNOL. INST. PISHCH. PROM., MOSCOW, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203820009-5"



USSR

911.3.616-021.614.777

ZOTOVA, R. S.

"A Description of Vibrios Isolated From Water Supply"

V sb. Materialy XV Vses. s'ezda epidemiologov, mikrobiologov i infektsionistov, Tezisy dokl. Ch. I (Proceedings of the 15th All Union Conference of Epidemiologists, Microbiologists, and Specialists in Infectious Diseases, Moscow, 1970, pp 194-195 (from RZh-36. Meditsinskaya geografiya, No 1, Jan 71, Abstract No

Translation: Taking into account the water factor in transmission of cholera infection, and the danger in this kind of transmission, bacteriological studies were made of the waters of rivers arising in Iran and Afghanistan. During the years 1965-1968, 126 strains of vibrios agglutinated by cholera O-serum were isolated from various bodies of water. 101 vibrio strains isolated from rivers were studied. These vibrios appear to be closer to the non-pathogenic Zam-zam typs. This is borne out by the fact that none of the people living near these bodies of water basins have contracted cholera, and that research on large population masses reveals no cases of vibrion transmission.

USSR

UDC 615.281.8:547,728.2

GRINEV, A. N., ZOTOVA, S. A., BOGDANOVA, N. S., NIKOLAYEVA, I. S. and PERSHIN, G. N., All-Union Scientific Research Chemical-Pharmaceutical Insti-

"The Synthesis and Investigation of the Antiviral Properties of Dibenzofuran Derivatives"

Moscow, Khimiko-Farmatsevticheskiy Zhurnal, Vol 7, No 12, Dec 73, pp 19-21

Abstract: Seventeen dibenzofuran derivatives were synthesized from 2-oxy-6,7,8,9-tetrahydrodibenzofuran or 2-oxy-dibenzofuran, by bromination, substitution of nitro groups for bromine, aminomethylation and formation of alkylamine ester hydrochlorides. Five of the hydrochlorides were found to have virocidal activity, with one ten times more effective than the others. No therapeutic effect was established.

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USSR

UDC 669.018.8

GUREVICH, S. M., KORNILOV, I. I., VAVILOVA, V. V., ZOTOVA, YE. M., BLASHCHUK, V. YE., and MAKSIMOV, A. M., Academy of Sciences USSR, Institute of Metallurgy imeni A. A. Baykov

"Study of Corrosion Resistance of Titanium Alloys in the Titanium-Vanadium-Oxygen and Titanium-Aluminum-Oxygen Systems"

Moscow, Zashchita Metallov, Vol 7, No 2, Mar-Apr 71, pp 159-160

Abstract: The authors studied the resistance of alloys in the systems mentioned in the title with oxygen contents from 0.1 to 0.5 wt %, vanadium and aluminum contents constant at 2.5 and 3 wt. % respectively, and of their welded joints, to corrosion cracking under stress in fused MgCl₂. No intercrystalline cracks were observed visually or with a microscope. Photographs of the microscope structure of welded joints of the metal are presented.

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UDC: 621.791.856.3:546.821

ZOTOVA. Ye. M., LANGER, N. A., PRILUTSKIY, V. P., and ZAMKOV, V. N.: Institute of Electric Welding imeni Ye. O. Paton, Academy of Sciences Ukrainian SSR

"Corrosion Resistance of Titanium Joints Made by Argon Arc Welding Using AN-TI7A Flux"

Kiev, Avtomaticheskaya Svarka, No 11, Nov 70, pp 54-56

made of the corrosion resistance of titanium joints produced by argon are welding using flux. Various methods of removing the slag film were also assessed. Involved were two experimental alloys, one of which was TS5 of the titanium-aluminumzirconium-tin-vanadium system and the other was OT4. The specimens were welded using AN-T17A flux and titanium powder metal wire. Hydrochloric, sulfuric, and nitric acids served as the corrosive media. Mechanical removal of the slag film was found to insure a corrosion resistance of the joints equal to two-sided plan. Regardless of the method of slag film removal, welds made with the use of AN-TITA flux appear to have a higher corrosion resistance than those made by conventional argon-arc welding.

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203820009-5"

1/2 016 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--THE GROWTH OF MICROORGANISMS IN THIN CAPILLARIES AND FILMS -U-

AUTHOR-ZOYAGINTSEV, D.G.

CCUNTRY OF INFO--USSR

SOURCE-MIKROBIOLOGIYA, 1970, VOL 39, NR 1, PP161-165

DATE PUBLISHED----70

SUBJECT AREAS-BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--YEAST, AEROBIC BACTERIA, FERMENTATION, BACTERIA GROWTH

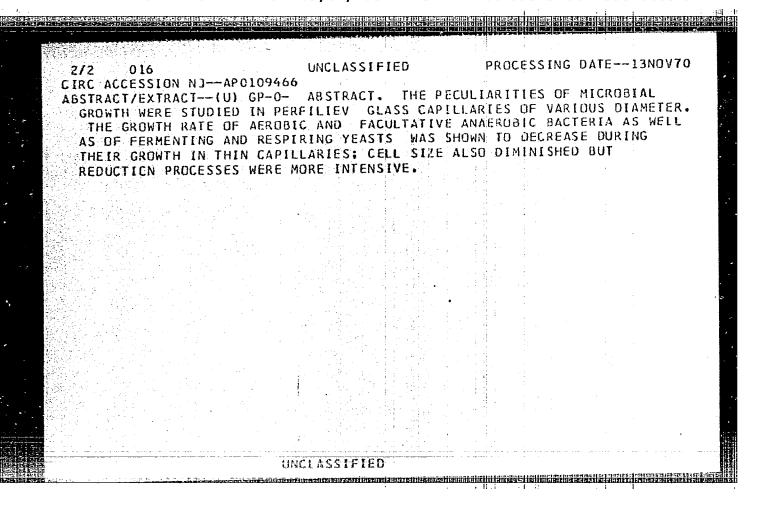
CONTROL MARKING--NO RESTRICTIONS

PROXY REEL/FRAME--1990/1404

STEP NO---UR/0220/70/039/001/0161/0165

CIRC ACCESSION NO--APOLO9466

HMCLASSIFIED.



USSR

UDC 613.165:612.843.36

ZOZ. N. I., and TAUBKINA, A. A., Institute of Labor Hygiene and Occupational Diseases, Academy of Sciences USSR, Moscow

"Effect of a Decrease in Brightness on the Functional State of the Visual Analysor"

Moscow, Gigiyena Truda i Professional nyye Zabolevaniya, No 9, Sep 70, pp 19-23

Abstract: On-the-job studies of subway motormen, together with laboratory experiments, showed distinct decreases in visibility, duration of dark adaptation, level of color discrimination, and rate of differentiation, with uneven distribution of brightness in the visual field, at the end of a work shift, even when the motormen were not actually at the controls. Their work involves frequent 20 to 30 sec stops in stations (brightness, 20 to 130 nit) and 2 to 3 min rides in tunnels (brightness, 0.05 to 0.1 nit), with as many as 250 to 300 abrupt changes in brightness during a 6-hour work shift. The rate of discrimination decreased in proportion to the magnitude of the decrease in brightness for objects of all sizes. Discrimination time increased very sharply in response to a 1,000-fold decrease in brightness. Since all of the changes in visual function became more pronounced with time, owing to the development of fatigue, the duration of a shift must be carefully regulated. Levels of brightness should not differ by more than a factor of 500, under which conditions discrimination time does not increase significantly during a shift. 1/1

CIA-RDP86-00513R002203820009-5"

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APPROVED FOR RELEASE: 09/01/2001

Genetics

USSR

UDC 575.23.633.11:547

ZOZ. N. N., SEREBRYANNYY, A. M., and ABRAMOV, V. I., Institute of Chemical Physics, Academy of Sciences USSR, Moscow

"Dominant Mutations in Chemical Mutagenesis"

Kiev, Tsitologiya i Genetika, Vol 5, No 6, Nov/Dec 71, pp 497-499

Abstract: The effects of the mutagens N-nitrosoethylurea, N-nitroso-N-ethylurethan, N-nitroso-N-methyl-N'-nitroguanidine, ethyl methanesulfonate, and N-nitrosopiperazine on seeds of the soft winter wheat variety Belot-serkovskaya-198 were studied. N-nitropiperazine was investigated for the first time. All the mutagens studied had approximately the same effect as far as the frequency of recessive mutations induced by them was concerned (50-60 percent mutant families in M2), but their capacity to induce dominant mutations differed widely. The most active substance in inducing dominant mutations was N-nitrosoethylurea, which in its optimum concentration (0.05 percent) produced a ratio of the frequency of dominant to recessive mutations of 1:2.5. N-nitrosopiperazine, while inducing a high frequency of recessive mutations manifested in M2, did not induce any discernible mutations in M1. The other mutants tested occupied intermediate positions with respect to the ratio of dominant to recessive mutations. The high activity of 1/2

USSR

ZOZ, N. N., et al., Tsitologiya i Genetika, Vol 5, No 6, Nov/Dec 71, pp 497-499

N-nitrosoethylurea in inducing dominant mutations may be related to the fact that nitrosoalkylureas, as has been shown in in vitro experiments, introduce a carbamoyl group into DNA besides acting as alkylating agents.

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USSR

ZOZ, N. N., and RAPOPORT, I. A. (Editors)

Teoriya Khimicheskogo mutageneza (Theory of Chemical Mutagenesis), Moscow, "Nauka," 1971

Translation: Preface: Interest in the theoretical problems of chemical mutagenesis has increased significantly in recent years in connection with the intensive use of this method in selection and with the discovery of a number of interesting and new phenomena in experimental mutagenesis.

The collection reflects the present status of the basic problems of chemical mutagenesis: the mechanism of action of mutagens, specificity of mutagenesis, the role of the genotype in experimental mutagenesis, etc.

Among the most effective known mutagens in frequency of hereditary changes and spectrum, the most important is to N-nitroscalkylurea. For this reason a great number of studies are devoted to investigation of the characteristics of this group of mutagens.

In recent years geneticists and selection specialists have been interested in minor mutations of a quantitative character, chlorophyll, physiological, 1/8

CIA-RDP86-00513R002203820009-5" **APPROVED FOR RELEASE: 09/01/2001**