

USSR

GALANENKO, V. B., et al., Tezisy dokl. 3-y Vses. shkoly--seminara po stat. gidroakustike, 1971 (from RZh--Fizika, No 4, 1973, Abstract No 4Zh591

averaging must be done over space coordinates rather than time. Estimates based on averaging over space can compete successfully with estimates based on averaging over time if the ratio of the dimension of the quasi-uniformity zone to the space correlation interval exceeds the ratio of the quasi-stationary interval to the time correlation interval. It is noted, however, that in general the best results for the estimation can be obtained by averaging over both space and time. It is shown that such an estimate is practically unbiased, in the choice of a number of conditions; the dispersion of this estimate is determined; the competence of such an estimate under the condition of adherence to the ergodicity of the random field is investigated. As examples, errors of the estimates for the following cases are investigated: measurements of the correlation functions of a random sonic field; measurements of the spectral density of random sound field dispersion; and measurements of the probability density of the random sound field. V. K.

2/2

- 16 -

USSR

UDC: 534.87

BESKOROVAYNYY, B. M., GALANENKO, V. B., KARNOVSKIY, M. I., Kiev Polytechnical Institute

"Space-Time Correlation and Directivity of Ocean Reverberation in the Case of Spaced Emitter and Receiver"

Moscow, Akusticheskiy Zhurnal, Vol 18, No 2, Apr-Jun 72, pp 192-196

Abstract: The directional and correlation properties of volumetric reverberation are investigated for the case of spatially separated emitter and receiver. Expressions are derived for the space-time correlation function of the reverberation field in a region of space located at an arbitrary distance from the emitter. It is shown that the directivity of the field and its spatial correlation function vary with time.

1/1

- 114 -

USSR

UDC: 534.4

GALANENKO, V. B., KARNOVSKIY, M. I., KRASNYY, L. G., Kiev Polytechnical
Institute

"Measurement of Correlation Functions of Nonstationary Acoustic Fields"

Moscow, Akusticheskiy Zhurnal, Vol 18, No 2, Apr-Jun 72, pp 206-211

Abstract: A method is considered for measuring the correlation functions $K(t, x; \tau, \rho)$ of nonstationary acoustic fields which appreciably reduces the measurement error by averaging the field $\phi(t, x)$ with respect to spatial coordinates. A sufficient condition is derived for the ergodicity of the field $\phi(t, x)$ in accordance with the spatial coordinates with respect to the correlation function. Expressions are found for the statistical error of measurement of $K(t, x; \tau, \rho)$, and the results of computations are given on variance of the estimate of the correlation function for different models of random fields.

1/1

- 115 -

USSR

UDC: 621.391.883.2

GATKIN, N. G., GERANIN, V. A., KARNOVSKIY, M. I., KRASHNYI, L. G.

"Resistance to Interference of a Typical Signal Detection Channel"

Pomekhoustoychivost' tipovogo trakta obnaruzheniya signalov (cf. English above), Kiev, "Tekhnika", 1971, 203 pp, ill. 73 k. (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6A37)

Translation: The book is made up of three chapters: the first deals with the basic elements of a typical detection channel (detectors and filters), the second is devoted to the detection of signals against a background of stationary interference, and the third takes up detection of signals against a background of nonstationary interference. The book was compiled from materials of original investigations by the authors. N. S.

1/1

- 31 -

K

USSR

UDC 621.317.757

AGRANOVICH, S. D., GATKIN, N. G., KARNOVSKIY, M. I., KRYZHANOVSKIY, I. A.,
SLUTSKIY, A. M.

"Device for Time Compression of Signals for Spectral Analyzers"

Vestn. Kiyevsk. politekhn. in-ta Ser. radiotekhn. i elektroakust (Kiev Poly-
technical Institute Vestnik. Radiotechnical and Electroacoustics Series), 1969,
No 6, pp 128-132 (from RZh-Radiotekhnika, No 8, Aug 70, Abstract No 8A431)

Translation: In the majority of analyzers used to analyze comparatively long
processes (10-20 seconds) there are compression devices executed on the basis
of equipment for contact magnetic recording. These devices can be subdivided
into two groups: 1) devices with rotating reproduction heads, 2) devices with
stationary reproduction heads. The advantages of the devices of the second
group are indicated, and a description is presented with the technical speci-
fications of one of them.

1/1

KARNOZHITSKIY, V.P.

2200 / R-160 / 5 28 1972
Karnozhitskiy

Karnozhitskiy, V. P., Experimental investigation of the stability of compressed heated three-layer plates beyond the proportionality limit. IVUZ Avia., no. 1, 1972, 128-131.

An experimental investigation was conducted to determine the applicability to the calculation of real plates of a previously proposed empirical formula for determining the critical stresses of asymmetrical plates, nonuniformly heated with respect to thickness beyond the proportionality limit. The formula is analogous to one extensively used in determining the critical stresses of single-layer plates at normal temperatures.

The top and bottom edges of the plate were simply supported. One load-bearing layer was electrically heated to 150-200°C; the other was cooled by carbon dioxide. The experimental rectangular panels consisted of load-bearing layers of equal thickness, made of the same material, glued to a honeycomb filler of Al/Mg material 0.05 mm thick, made of hexagonal cells, with 4.18 mm sides. Three aluminum alloys, a titanium alloy, and steel were used as materials for the load-bearing layers. The panel length (measured along the compressing force) of the 31 panels tested varied from 290 to 300 mm, and the width from 216 to 300 mm. The mean temperature of the heated load-bearing layer in various panels was alternated from 293 to 455° K, that of the cooled side from 273 to 363° K.

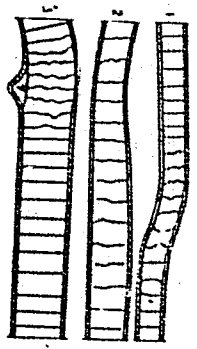


Figure 1.

USSR

UDC: 539.3:626.7

Karnozhitskiy, V. P.

"Experimental Study of Stability of Compressed, Heated, Three-layer Plates Beyond the Proportionality Limit"

Kazan', Izvestiya Vysshikh Uchebykh Zavedeniy, Aviatsionnaya Tekhnika, No 1, 1972, pp 128-131.

Abstract: An experimental check is performed of a formula suggested by the author for determination of critical stresses of three-layer plates with honeycomb filler, unevenly heated in thickness. The experimental installation allows free support of the edges of the plates, one of the load-bearing layers of which was heated, while the other was cooled. The experiments showed that the influence of initial bending of load-bearing layers on stability of three-layer structures with honeycomb filler increases with increasing bending and rigidity of the load-bearing layers. With slight bending and low rigidity of load-bearing layers, the formula suggested produces acceptable agreement with experimental data. The results produced are explained, and practical recommendations are presented for the planning of three-layer structures.

1/1

- 97 -

USSR

UDC 612.821:612.819:612.825+612.822.3

IGNAT'YEV, D. A., KARNUP, S. B., MURADOVA, I. O. and ZHADIN, M. N.,
Institute of Biological Physics, USSR Academy of Sciences, Pushchino-na-Oke

"On the Interaction of Cortical Induced Potentials on the Elaboration of a
Conditioned Reflex"

Moscow, Doklady Akademii Nauk SSSR, Vol 213, No 2, 1973, pp 490-491

Abstract: An attempt was made to develop concrete characteristics stipulating similarity between induced potentials in the cerebral visual and motor cores of rabbits registered during the early stages of defensive conditioned reflex elaboration. The coefficient of cross-correlation, presentation of potentials as a superposition of transient oscillations and factor analysis were used. It was found that the coefficient of cross-correlation increased, reached a maximum and then fell with a concomitant decrease in motor reactions. This is shown to be due to the convergence of frequency and phase of responses in the theta region. These results are said to show that Livanov's concepts on the special role of theta-rhythm synchronization in stimulation transmission may be extended to cortical induced potentials.

1/1

- 70 -

USSR

UDC 533.032.5,621.039.665

DOLGOV-SAVEL'YEV, G. G., KARNYUSHIN, V. N., Novosibirsk

"Determination of the Temperature of a Laser Plasma on the Basis of Study of Radiation in the X-Ray and Physical Areas of the Spectrum."

Zhurnal Prikladnoy Mekhaniki i Tekhnicheskoy Fiziki, No 1, 1972, pp 114-117.

Abstract: Measurements in the soft x-ray radiation range by the foil method were used to determine the temperature of a laser plasma as about 20 eV. Measurements of radiation intensity in the continuous spectrum in the visible area indicate that use of temperature of about 15 eV for the sectors of the plasma not transparent in the visible area of the spectrum. The experimental apparatus and method are described. The set of experimental data produced indicate plasma temperatures at the moment of the maximum of the laser pulse of 15 ± 2 eV. The drop in temperature with time following the end of the laser pulse, based on the spectral intensity of the integral radiation of the plasma is significantly slower than that indicated by the t^{-2} rule, which should obtain with adiabatic expansion of the gas mass with adiabatic index $\gamma = 5/3$ with radial distribution of velocities $v = \dot{R}r/R$, where \dot{R} and r are the asymptotic velocity and radius of the boundary of the area of gas covered by self-similar motion. This effect may be partially related with intensive processes of three-particle recombination in the dense plasma.

1/1

- 57 -

Acc. Nr:

AP0043679

KARNYUSHIN

V.N.

Ref. Code: UR 0056

PRIMARY SOURCE: Zhurnal Eksperimental'noy i Teoreticheskoy
Fiziki, 1970, Vol 58, Nr 2, pp 535-540

INVESTIGATION OF A LASER MICROPLASMA IN THE FOCUS
OF TWO LASER BEAMS

Dolgov-Savel'yev, G. G.; Karnyushin, V. N.; Sekerin, V. I.

Results are presented of an experimental investigation of the properties of a plasma produced by focussing two opposite laser beams onto small crystalline lithium hydride targets. It is found that development of plasma formation proceeds in a more symmetric manner than in the case of a single laser beam. The velocity of separation of the external plasma layer is measured ($v \approx 4 \cdot 10^7$ cm/sec) as well as the velocity of the glowing boundary of the central zone ($v' \approx 2 \cdot 10^8$ cm/sec).

//

REEL / FRAME
19770083

PI

1/2 033 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--QUANTITATIVE CHARACTERISTICS OF THE RADIOPROTECTIVE EFFECT OF
MEXAMINE -U-
AUTHOR--(05)-YARMONENKO, S.P., SUVDOROV, N.N., KAROCHKIN, B.B., AIRAPETYAN,
G.M., DVAKIMOV, V.G.
COUNTRY OF INFO--USSR
SOURCE--RADIOBIOLOGIYA 1970, 10(2), 78-82
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--ANTIRADIATION DRUG, AMINE DERIVATIVE, X RAY IRRADIATION, GAMMA
RADIATION, CESIUM ISOTOPE, RADIATION DOSAGE, BONE MARROW
CONTROL MARKING--NO RESTRICTIONS.
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1998/0460 STEP NO--UR/0205/70/010/001/0078/0082
CIRC ACCESSION NO--AP0121134
UNCLASSIFIED

2/2 033

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0121134

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RADIOPROTECTIVE EFFECT OF
MEXAMINE (I) WAS EVALUATED QUANT. ON THE BASIS OF NOS. OF SURVIVING MICE
AND RATS. THE ANIMALS WERE IRRADIATED WITH 700, 800, 900, OR 1000 R 180
KEV X RAYS, AND 950 R OF 190 KEV R RAYS, OR 1100 R PRIME137 CS GAMMA
RAYS. I WAS APPLIED IN DOSES OF 1, 2.5, 5, 7.5, 15, 30 OR 75 MG-KG BODY
WT. AND 2.5, 5, 10, 20, OR 40 MIN PRIOR TO THE IRRADN. IN BOTH MICE AND
RATS, A SLIGHT PROTECTIVE EFFECT OF I WAS OBSERVED AT ALL DOSES
FOLLOWING I.P. APPLICATION. INCREASING DOSES OF I RESULT IN INCREASES
IN THE MAGNITUDE AND DURATION OF THE PROTECTIVE EFFECT. THE PROTECTIVE
ACTION APPLIES NOT ONLY TO THE BONE MARROW, BUT ALSO TO THE GASTRO
INTESTINAL SYNDROME. HOWEVER, THE DURATION OF THE PROTECTIVE ACTION IS
SHORT. WITH DIFFERENT I DOSES THE PERCENTAGE OF SURVIVING MICE
INCREASED FROM 0 TO 12-85PERCENT. FACILITY: INST. GIG. TRUDA
PROFAZABOL., MOSCOW, USSR.

UNCLASSIFIED

USSR

KAROBILIS, A.

"Asymptotic Expansions with Uneven Estimate of the Residual Term"

Lit. Mat. Sb. [Lithuanian Mathematics Collection], Vol 12, No 4, pp 69-75
(Translated from Referativnyy Zhurnal Kibernetika, No 4, 1973, Abstract No
4V47, by the author).

Translation: Necessary and sufficient conditions are produced for an uneven
estimate in an asymptotic expansion when the random quantities are identically
distributed.

1/1

- 11 -

USSR

KAROBLIS, A.

"Asymptotic Expansions in Local Theorems"

Lit. Mat. Sb. [Lithuanian Mathematics Collection], 1972, Vol 12, No 4,
pp 53-68 (Translated from Referativnyy Zhurnal Kibernetika, No 4, 1973,
Abstract No 4V46, by the author).

Translation: It is proven that the conditions of Ibpárimov are necessary and
sufficient to estimate the residual term in limit theorems for asymptotic
expansions.

1/1

1/2 011 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--UTILIZATION OF RADIOACTIVE TRACERS IN THE STUDY OF GLOBAL
ATMOSPHERIC PROCESSES -U-
AUTHOR--KAROL, I.L., KRASNOPEVTSEV, YU.V., MALAKHOV, S.G., PETROSYANTS,
M.A.
COUNTRY OF INFO--USSR
SOURCE--METEOROLOGIYA I GIDROLOGIYA, 1970, NR 4, PP 92-101
DATE PUBLISHED-----70
SUBJECT AREAS--ATMOSPHERIC SCIENCES
TOPIC TAGS--RADIOACTIVITY, RADIOACTIVE TRACER, AIR, ATMOSPHERIC
PRECIPITATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1987/1042 STEP NO--UR/0050/70/000/004/0092/0101
CIRC ACCESSION NO--AP0104440
UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0104440

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PROGRAMME OF UTILIZING THE OBSERVATIONS OF AIR RADIOACTIVITY AND RADIOACTIVE PRECIPITATION FOR THE STUDY OF GENERAL ATMOSPHERE CIRCULATION DURING THE PERIOD OF GARP IMPLEMENTATION IS STATED.

UNCLASSIFIED

1/2 030

UNCLASSIFIED

PROCESSING DATE--13NOV70

TITLE--STUDIES OF SOVIET SCIENTISTS IN THE FIELD OF NUCLEAR METEOROLOGY,
REVIEW OF WORK OF SOVIET SCIENTISTS ON NUCLEAR METEOROLOGY -U-

AUTHOR-(03)-KAROL, I.L., MALAKOV, S.G., MAKHONKO, K.P.

COUNTRY OF INFO--USSR

K

SOURCE--INSTITUTE OF EXPERIMENTAL METEOROLOGY; MOSCOW, IZVESTIYA AKADEMII
NAUK SSSR, FIZIKA ATMOSFERY I OKEANA, VOL VI, NO 4, 1970, PP 352-365

DATE PUBLISHED-----70

SUBJECT AREAS--ATMOSPHERIC SCIENCES, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--ATMOSPHERIC RADIOACTIVITY, RADIOACTIVE AEROSOL, RADIOACTIVE
TRACER, RADIOACTIVE FALLOUT, CLOUD PHYSICS, ATMOSPHERIC PHYSICS,
RADIOACTIVE CONTAMINATION, ISOTOPE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1994/0358

STEP NO--UR/0362/70/006/004/0352/0365

CIRC ACCESSION NO--AP0114654

UNCLASSIFIED

2/2 030

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0114654

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIS PAPER IS A CONCISE REVIEW OF THE MOST IMPORTANT RESULTS OBTAINED IN THE USSR DURING THE PAST DECADE IN THE STUDY OF NATURAL ATMOSPHERIC RADIOACTIVITY, IN THE INVESTIGATION OF THE SIZE AND COMPOSITION OF RADIOACTIVE AEROSOL PARTICLES AND THE REGULARITIES IN THEIR ATMOSPHERIC PROPAGATION, PROCESSES OF SELF PURIFICATION OF THE ATMOSPHERE FROM RADIOACTIVE CONTAMINATIONS AND THE USE OF RADIOACTIVE ISOTOPES AS ATMOSPHERIC TRACERS. EIGHTY RUSSIAN SOURCES ARE CITED AND THE REVIEW BRIEFLY DISCUSSES THE PROGRESS IN THE ABOVE FIELDS REPORTED IN EACH OF THESE CONTRIBUTIONS. THE REVIEW SHOWS THAT NUCLEAR METEOROLOGY HAS ALREADY BECOME A BRANCH OF ATMOSPHERIC PHYSICS WITH ITS OWN TASKS AND RESEARCH METHODS. AT PRESENT ISOTOPES ARE BECOMING INCREASINGLY IMPORTANT AS TRACERS FOR THE STUDY OF ATMOSPHERIC MOVEMENTS AT DIFFERENT SCALES, IN THE PHYSICS OF CLOUDS AND PRECIPITATION AND IN THE STUDY OF THE ATMOSPHERIC AEROSOL COMPONENT AND MOISTURE CYCLE; NATURAL ISOTOPES ARE BEING USED WITH INCREASING FREQUENCY. DATA FROM THE STUDY OF THE GLOBAL PROPAGATION AND FALLOUT OF PRODUCTS FROM NUCLEAR BURSTS MUST BE USED FOR DETERMINING AND REFINING THE GENERAL PATTERNS OF THESE PROCESSES FOR THEIR RELIABLE PREDICTION. MORE AND MORE PRACTICAL USE IS BEING MADE OF THE RESULTS FROM STUDY OF THE MIGRATION OF RADIOACTIVE CONTAMINANTS IN THE ATMOSPHERE AND BIOSPHERE IN GENERAL FOR MAKING QUALITATIVE AND QUANTITATIVE ESTIMATES OF THE PROPAGATION OF CHEMICAL, PRIMARILY INDUSTRIAL CONTAMINANTS.

UNCLASSIFIED

USSR

UDC 621.511.21:621.221.4.001.1

KAROL', L. A., KLIMOV, V. Ye.

"Determination of the Types of Power Plants Producing Power to Charge a Pumped-storage Power Plant"

Tr. Mosk. Energ. In-ta [Works of Moscow Institute of Power Engineering], 1972, No 109, ;; 78-82 (Translated from Referativnyy Zhurnal Elektrotekhnik i Energetika, No 9, 1972, Abstract No 9Ye107, by V. S. Emma)

Translation: The influence of the selection of the type of power plant used to charge a pumped-storage power plant on its fuel effect is studied. In summer, no mode difficulties appear at night and the additional output of the condensation power plant is used for charging. Unloading of a heat and electric power plant with duplication of heat supply is economically more favorable than unloading of nuclear power plants, i.e., the PSPP is charged by further loading of the power units at the heat and power plant and by firing up units and boilers shut down for the night. It is difficult to take changes in the composition of equipment in service into consideration during planning. It is recommended that the summary characteristic of relative increments from the heat and electric power plants in the power system be used to determine the fuel consumption required to charge the PSPP. Three biblio. refs.

1/1

USSR

UDC 624.07:534.1

GORIN, Yu. N., KARO-MADE, V. A.

"Unitary Similarity Transformation in Problems on the Natural Oscillations of Cyclically Symmetrical Systems"

Izv. Leningr. elektrotekhn. in-ta (News of Leningrad Electrotechnical Institute), 1972, No. 109, pp 39-42 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3V259)

Translation: Three oscillations of a linearly deformable system having a cyclically symmetric physico-geometrical structure and permitting point isolation of masses are studied. The transformation mentioned in the title and described earlier (Gorin, Yu. N., Izv. vyssh. uchebn. zavedeniy. str-vo i arkhitekt., 1969, No. 6, pp 38-42 -- RZhMekh, 1969, Abstract No 11V573) is applied here to reduce the matrices of the secular equation to a quasi-diagonal form, thus optimizing the algorithm for determining the natural frequencies and the shapes and the limiting number of degrees of freedom of the system for a given class of computers is thus increased. Ya. B. L'vin.

1/1

1/2 028 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--THEORY OF FINE SURFACE STATES IN SILICON AND GERMANIUM -U-
AUTHOR--PREPELITSA, B.V., CHEBAN, A.G., KARP, I.A., SKUTELNICHUK, I.M.
COUNTRY OF INFO--USSR
SOURCE--ZH. PRIKL. SPEKTROSK. 1970, 12(3), 528-32
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, PHYSICS
TOPIC TAGS--SEMICONDUCTOR MATERIAL, SILICON, GERMANIUM, ELECTRON
STRUCTURE, SURFACE PROPERTY, CRYSTAL IMPURITY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1989/0642 STEP NO--UR/0368/70/012/003/0528/0532
CIRC ACCESSION NO--AP0107239
UNCLASSIFIED

M2 028

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0107239

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN APPROXN. METHOD FOR EFFECTIVE MASS VARIATION IN SEMICONDUCTORS WAS STUDIED BY USING ENERGY CALCNS. OF THE 1ST 3 ELECTRON STATES FOR FINE DONOR IMPURITY CENTERS LOCALIZED CLOSE TO THE SEMICONDUCTOR SURFACE. BY USING DERIVED FORMULAS, THE ENERGY, E, AND VARIATION PARAMETERS A AND B WERE CALCD. FOR GE AND SI. BECAUSE OF THE APPROXNS. MADE, THE RESULTS APPLY NOT TO REAL CRYSTALS OF SI AND GE, BUT TO IDEALIZED SEMICONDUCTORS WITH AN ANISOTROPIC TENSOR EFFECTIVE MASS OF THE SI AND GE TYPE. SINCE THE PRECISE CALCN. OF THE REAL SURFACE STATE PRESENTS CONSIDERABLE DIFFICULTIES, IT IS CONCLUDED THAT THE APPROACH USED REPRESENTS A REASONABLE APPROXN.

UNCLASSIFIED

Acc. Nr: AP0036976

Ref. Code: UR 0016 |

PRIMARY SOURCE: Zhurnal Mikrobiologii, Epidemiologii, i
Immunobiologii, 1970, Nr 1, pp 98-102

LABORATORY STUDIES OF STRESSOR AND SENSITIZING
ACTION OF HUMAN GAMMA-GLOBULIN

Leytes, F. L.; Spõtarenko, S. S.; Avaliani, Z. S.;
Semashko, M. I.; Karon, B. I.

The authors applied determination of biochemical urinary excretion of 17-ketosteroids to the study of stressor effect of homologous gamma-globulin in man. The possible sensitizing action of this preparation was investigated by testing degranulation of mast cells of mouse subcutaneous connective tissue in their contact with the serum mixture of immunized children and gamma-globulin. It was found that gamma-globulin (10%) possessed a weak stressor effect, not manifested clinically. Gamma-globulin produced a desensitizing effect, which was evidently associated with the competition of gamma-globulin with allergic antibodies at the territory of connective tissue cells.

REEL/FRAME
19721904

2

Acc. Nr. ~~0036977~~

K

Ref. Code: UR 0016

PRIMARY SOURCE: Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, 1970, Nr 1, pp 103-106

CONCERNING THE REACTOGENICITY OF PLACENTAL γ -GLOBULIN

S. S. Spófarengo, B. I. Karon

Checking of the reatogenicity of placental γ -globulin (10 and 1% solutions) under conditions of a controlled trial on 384 preschool children confirmed its areatogenicity. In the authors' opinion discrepancy between the data obtained by different investigators in studying the reatogenic properties of biopreparations was conditioned either by their nonstandardability or by methodical errors during the experiment (the absence of a control group or inequality of experimental and control groups).

D. N. 1

, 2

V,

REEL/FAME
19721905

L/2 022 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--PREPARATION OF RANEY SILVER FROM A SILVER CALCIUM ALLOY -U-
AUTHOR--(04)--LEBEDEVA, YE.N., KARONIK, V.V., CHERKASHINA, N.V., KAGAN, N.M.
COUNTRY OF INFO--USSR
SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(4), 763-7
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--METAL CATALYST, SILVER, ETHYLENE, OXIDATION, ETHYLENE OXIDE,
SILVER ALLOY, CALCIUM ALLOY, PHASE ANALYSIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/0968 STEP NO--UR/0080/70/043/004/0763/0767
CIRC ACCESSION NO--AP0131553
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--04DEC70

2/2 022

CIRC ACCESSION NO--AP0131553
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. A AG-CA (RANEY AG) ALLOY, USED AS A CATALYST IN OXIDN.-REDN. REACTIONS SUCH AS THE CONVERSION OF ETHYLENE TO ETHYLENE OXIDE, WAS PREPD. BY ALLOYING THE COMPONENTS IN AN OPEN CRUCIBLE IN AN AR ATM. THE ALLOY CONTAINED 40 AT. PERCENT CA IN THE CHARGE, AND SOMEWHAT LESS IN THE PRODUCT. PHASE ANAL. OF THE ALLOY SHOWED THE PRESENCE OF THE PHASES AGCA, AG, CA, AG, AND CAD. DIFFRACTION DATA ARE GIVEN FOR ALLOY OXIDN. IN AIR AT 100-600DEGREES, AND IN WATER VAPOR AT 200-500DEGREES.

UNCLASSIFIED

USSR

KAROSAS, I. B. and ZHUKAUSKAS, K. P.

"Asymptotic Distribution of Lifetime of a System"

Ob Asimptoticheskom Raspredelenii Vremeni Zhizni Sistemy [English version above], Institute of Physics and Mathematics, Acad. Sci. LitSSR, Vil'nyus, 1973, 15 pp (Translated from Referativnyy Zhurnal Kibernetika, No 9, 1973, Abstract No 9V208Dep)

Translation: This work is dedicated to further development of the method of determination of asymptotic expressions for the characteristics of reliability of complex systems, based on the use of the limiting distribution of lifetime of the system as the number of elements $N \rightarrow \infty$, belonging to the class of limiting distributions of extreme values. In this work, an asymptotic expansion is produced for the distribution functions of lifetime of the system with an estimation of the residual term in the case when the elements have nonidentical distribution of lifetime, as well as the asymptotic distribution and limiting expression of the reliability function of the system. As an example of the use of the results produced, a study is made of the estimation of the mean time between failures of an arbitrary system. Author's view

1/1

- 22 -

USSR

UDC 62-507

KAROSAS, I. B.

"On Synthesis of Reliable Automata on the Basis of Three-Input Majority Elements"

Vil'nyus, Nauchnyye trudy vysshikh uchebnykh zavedeniy Lit. SSR. Avtomatika i vychislitel'naya tekhnika (Scientific Works of Institutions of Higher Education of the Lithuanian SSR. Automation and Computer Technology), No 2, 1970, "Mintis", pp 95-98

Abstract: It is shown in this article that the reliability of a combination automaton circuit can be altered by selection of the method of redundancy, and that the reliability of the memory of an automaton can be improved by improving the reliability of its individual elements which are based on majority elements. Bibliography of six titles.

1/1

UDC 539.182/.184

USSR

GLEMBOTSKIY, I. I., KAROSENE, A. V., KISELEV, A. A., SAVUKINAS, A. Yu.,
SHCHADZHYUVENE, S. D., YUTSIS, A. P.

"Theoretical Study of the Absorption of Soft X-Rays by Metal Films of
Lanthanum and Cerium"

Lit. fiz. sb. (Lithuanian Physics Collection), 1972, Vol. 12, No. 2,
pp 235-244 (from RZh-Fizika, No 10, Oct 72, Abstract No 10D30)

Translation: The problem of the interpretation of an experimentally estab-
lished structure of the absorption spectra of rare earth metals La and Ce
on both sides of the absorption boundaries $N_{IV,V}$ was studied theoretically.

The given structure is explained by the transitions $4d^{10}4f^{2n} \rightarrow 4d^9 4f^{2n+1}$ in
triply charged ions of these elements. Interpretation of maxima of the
absorption curves by discrete transitions is verified by computation of the
strengths of the lines. The calculations were conducted with the aid of
numerical solutions of ordinary Hartree-Fock equations. The results show
that experimental maxima are well identified by the atomic transitions

$4d^{10}4f^{2n} \rightarrow 4d^9 4f^{2n+1}$ both as to the position of the maxima and as to their
relative strengths of the lines. Authors abstract.

1/1

- 61 -

USSR

KAROV, D. D., KOYKOV, S. N., Leningrad Polytechnical Institute imeni M. I. Kalinin

"Fundamentals of Theoretical Analysis of Polarization and Nonlinear Optical Properties of Single Crystals"

Leningrad, Fizika Tverdogo Tela, Vol 14, No 12, Dec 72, pp 3659-3664

Abstract: General principles are formulated and equations are derived for theoretical analysis of polarization and the nonlinear optical properties of single crystals based on the usually accepted models of the crystal lattice. It is shown that nonlinear effects in single crystals can be attributed to three causes: 1) multipole components in the expansion of the potential induced by a polarized dielectric; 2) multipole corrections to the effective electric field; 3) anharmonic corrections to the elastic force of interaction between particles. A general expression for nonlinear susceptibility characterizing the generation of optical harmonics for the range of frequencies far from the dispersion region is derived on the basis of the Dicke-Overhauser model.

1/1

- 54 -

USSR

UDC: 621.396.6:621.315.61(088.8)

PROKOPOVA, T. V., ZOLOTAREV, L. L., ZAVARZINA, Z. Ya., GLOBA, G. G., PEY-
KAROVA, A. A., SUND'YA, G. A.

"A Photosensitive Electrical Insulating Lacquer"

USSR Author's Certificate No 270940, filed 15 Dec 67, published 18 Aug 70
(from RZh-Radiotekhnika, No 2, Feb 71, Abstract No 2V506)

Translation: This Author's Certificate introduces an electrical insulating photosensitive lacquer based on epoxidized rubber stock with the addition of thermo- and photopolymerization initiators, a plasticizer and a modifier.

1/1

USSR

UDC: 621.372.852.3

LOBANOV, N. P., ~~KAROZIN, A. P.~~

"A Waveguide Attenuator"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obratzysy, Tovarnyye Znaki, No 4, 1970, p 193, patent No 249433, filed 15 Apr 68

Abstract: This Author's Certificate introduces a waveguide attenuator which contains a waveguide section partly filled by a dielectric vessel with running water. As a distinguishing feature of the patent, matching is improved and the limits of attenuation control are extended by making the dielectric vessel in the form of a spindle-shaped flask. This flask is stretched out along the horizontally mounted waveguide section and is connected through two apertures in the middle of the lower broad wall of the waveguide to pipes for water inlet and outlet. The flask is connected by an aperture in the middle of the upper broad wall of the waveguide to a dielectric water outlet pipe. Attenuation is regulated by immersing the water outlet pipe in the flask.

1/1

Steels

UDC 669.15-194.001.6

USSR

BABCHENKO, S. L., KARP, S. F., APTEKAR', N. M., YASHNAYA, G. V., and D'YACHENKO, A. Z.

"Effect of Nickel on the Impact Toughness of G13L Steel During Explosion Hardening"

Dnepropetrovsk, Metallurgicheskaya i Gornorudnaya Promyshlennost', No 4, Jul-Aug 70, pp 40-41

Abstract: A study was made of the effect of nickel additions on the impact toughness of G13L steel in the temperature range from +20 to -40°C after explosion hardening. The impact toughness of the standard metal before explosion hardening was 21.8 kg/cm²; the nickel-alloyed metal had an impact toughness of 22.7 kg/cm². Explosion hardening produced work hardening through the entire thickness of the metal. The hardness reached 33-35 RC, the reduction in thickness was up to 1 mm (initial thickness 11 mm). Impact toughness was significantly decreased, although G13L steel alloyed with nickel retains plasticity to a greater extent than steel of the standard composition. At -40°C, the impact toughness of the standard steel is sharply reduced after explosion hardening, whereas the nickel-

1/2

USSR

BABCHENKO, S. L., et al, Metallurgicheskaya i Gornorudnaya Promyshlennost',
No 4, Jul-Aug 70, pp 40-41

alloyed steel shows only a slight decrease in impact toughness at this
temperature.

2/2

= 45 =

1/2 016 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--POLARIZATION FOR CARBON DIOXIDE REDUCTION ON A PLATINUM ELECTRODE
IN A SOLID ELECTROLYTE --U-
AUTHOR--(03)-KARPACHEV, S.V., ZUPNIK, A.YE., PERFILYEV, M.V.
COUNTRY OF INFO--USSR
SOURCE--ELEKTROKHIMIYA 1970, 6(4), 577-80
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--PLATINUM ELECTRODE, CHEMICAL REDUCTION, ELECTROLYTE, CARBON
DIOXIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1998/1124 STEP NO--UR/0364/70/006/004/0577/0580
CIRC ACCESSION NO--AP0121633
UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--30UCT70

CIRC ACCESSION NO--AP0121683

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CATHODIC POLARIZATION (η) DURING CO SUB2 REDN. ON Pt WAS STUDIED AT 900 PLUS OR MINUS 1DEGREE BY USING THE SOLID ELECTROLYTE 0.905 ZRO SUB2 PLUS 0.095 Y SUB2 O SUB3 AND CO PLUS CO SUB2 GAS MIXTS. CHLOROPLATINIC ACID WAS THERMALLY DECOMPD. ON EACH FACE OF THE CERAMIC TABLET AT 600-700DEGREES TO YIELD THE 3 PT ELECTRODES. THE VALUE OF η DEPENDED ON THE GAS COMPN. FOR ALL C.DS. UP TO 64 MA-CM PRIME2, η WAS A MIN. AT GAS COMPNS. OF 50-70PERCENT CO; THE LOWER C.D. VALUES GAVE A BROADER MIN. THE REASON FOR THE MIN. WAS NOT CLEAR. FURTHER DILN. OF THE CO SUB2 CONC. CAUSED AN INCREASE IN η OWING TO CONC. EFFECTS. THE POTENTIAL VARIATION WITH TIME FOR DIFFERENT CONCNS. OF CO SUB2 WERE CAUSED BY A STRONG DEPLETION OF THE CO SUB2 REACTION ZONE. FACILITY: INST. ELEKTROKHM., SVERDLOVSK, USSR.

UNCLASSIFIED

AA0046428

Karpachev, V.V.

UR 0482

Soviet Inventions Illustrated, Section III Mechanical and General,
Derwent, 1-70

243429 TOWING HOOK with remote-control release,
comprising turning head and catch, differing
in having a flat base with pin as described below,
so as to reduce turning moment of the head on
release, and improve reliability. The head 1 turns
on base 2, the upper part of which is flat. To it
is attached assembly plate 3 with inclined pin 4
and catch body 5. In the head is shock-absorber 6.
The free end of the head is made with an inclined
lug, which in the working position is placed on
pin 4. The towing cable is held in the jaw of the
hook formed by the recess in base 2 and the lower
part of the head. The line of intersection of the
points of application of stress of the cable with
the axis of the head is at an angle of 5-20 deg.
to the base of the hook (angle "a"). The catch
consists of pin 7 and spring 8. The pin is
connected via lever 9 to flexible tie 10. When a
ship is taken on tow, the loop of the towing
cable is put in the jaw of the hook, the head is
placed on pin 4 and held by spring pin 7.

1/2

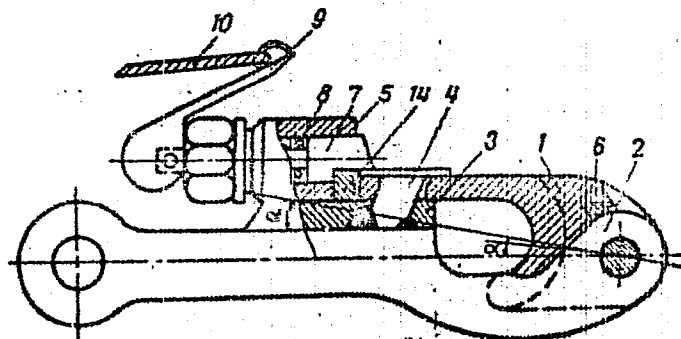
18

19781641

AA0046428

Release

is by remote control connected to the pin of the catch via lever 9 and flexible tie 10. Pulling out pin 7, the turning head is released. It turns till the shock-absorber comes up against the lower part of base 2 of the hook.



28.6.65 as 1016239/27-11. KARPACHEV V.V. (15.9.69)
Bul 16/5.5.69. Class 65f. Int. Cl. B 63b.

2/2

19781642

710

1/2 022 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--FORMATION OF A POLYCONJUGATED POLYMER DURING THE THERMAL
DECOMPOSITION OF POLYACENAPHTHYLENE -U-
AUTHOR--(05)--MARKEVICH, I.N., BEYLIN, S.I., TETERINA, M.P., KARPACHEVA,
G.P., POLGOPLOSK, B.A.
COUNTRY OF INFO--USSR
SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(2), 362-5
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--CONJUGATED POLYMER, THERMAL DECOMPOSITION, NAPHTHALENE,
NAPHTHENE, POLYMER STRUCTURE, CHEMICAL KINETICS, PYROLYSIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/1092 STEP NO--UR/0020/70/191/002/0362/0365
CIRC ACCESSION NO--AT0124749
UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSIGN NO--AT0124749

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE THERMAL DECOMP. OF
POLYACENAPHTHYLENE (I) IN PHCL AND IN BULK STARTS AT 180DEGREES AND
335-45DEGREES, RESP. THE PRODUCTS CONTAIN ACENAPHTHENE, ACENAPHTYLENE
(II) A CONJUGATED POLYMER, BUT NO H. ON THE BASIS OF IR AND EPR
SPECTROSCOPY THE POLYMER WAS ASSIGNED STRUCTURE III (N EQUALS 5-7). THE
FORMATION OF III INVOLVES THE SPLITTING OFF OF II FROM I AND THE REDN.
OF II WITH I. THE KINETICS OF I MOL. WT. DECREASE DURING THE PYROLYSIS
IS DISCUSSED. FACILITY: INST. NEFTEKHIM. SIN. IM. TOPCHIEVA,
MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 622.5:531.717.082.32-501.22

KARPAK, B. V., and KARPAK, Zh. V.

"Some Problems of Dynamics of Wide-Range Pneumatic Tracking Gear Transmitters"

Avtomatiz. Proizv. Protsessov v Mashinostr. i Priborostr. Resp. Mezhved. Nauchno-Tekhn. Sb. [Automation of Production Processes in Mechanical Engineering and Instrument Making. Republic Interdepartmental Thematic Scientific-Technical Collection], 1971, No 11, pp 92-97 (English resume). (From Referativnyy Zhurnal, No 10, Oct 72, 32. Metrologiya i Izmeritel'naya Tekhnika. Single Issue. Abstract No 10.32.281)

Translation: The principal scheme of a piston wide-range pneumatic tracking gear transmitter is described and a detailed derivation of the system of differential equations characterizing dynamics of its working is presented. A method for investigating the derived equations on analog computers is suggested. The effect of individual similarity parameters of the pneumatic transmitter on its amplitude- and phase-frequency characteristics was investigated on the IMJ-1 machine. At relatively small values of the volumes of pneumatic chambers ($N \geq 1000$ l/c) for a wide changing range of the factor of merit of the vibratory system, the amplitude error does not exceed 10% at frequencies 16-20 Hz order of the disturbing signal. For greater chamber volumes ($N \leq 100$ l/c), the limit

1/2

USSR

KARPAK, B. V. and KARPAK, Zh. V., Avtomatiz. Proizv. Protsessov v Mashinostr. i Priborostr. Resp. Mezhd. Nauchno-Tekhn. Sb., 1971, No 11, pp 92-97

frequency is restricted to a 2-3 Hz value at similar other conditions. The phase error for different parameters is from 0.25-1. The time constants of large-range pneumatic transmitters at great chamber volumes are determined by the magnitudes of chambers and do not depend on the factors of merit. Two illustr., seven biblio. refs.

2/2

- 104 -

USSR

UDC 622.5:531.717.082.32-501.22

KARPAK, B. V., and KARPAK, Zh. V.

"Some Problems of Dynamics of Wide-Range Pneumatic Tracking Gear Transmitters"

Avtomatiz. Proizv. Protsessov v Mashinostr. i Priborostr. Resp. Mezhved. Nauchno-Tekhn. Sb. [Automation of Production Processes in Mechanical Engineering and Instrument Making. Republic Interdepartmental Thematic Scientific-Technical Collection], 1971, No 11, pp 92-97 (English resume). (From Referativnyy Zhurnal, No 10, Oct 72, 32. Metrologiya i Izmeritel'naya Tekhnika. Single Issue. Abstract No 10.32.281)

Translation: The principal scheme of a piston wide-range pneumatic tracking gear transmitter is described and a detailed derivation of the system of differential equations characterizing dynamics of its working is presented. A method for investigating the derived equations on analog computers is suggested. The effect of individual similarity parameters of the pneumatic transmitter on its amplitude- and phase-frequency characteristics was investigated on the IMJ-1 machine. At relatively small values of the volumes of pneumatic chambers ($N \geq 1000$ l/c) for a wide changing range of the factor of merit of the vibratory system, the amplitude error does not exceed 10% at frequencies 16-20 Hz order of the disturbing signal. For greater chamber volumes ($N \leq 100$ l/c), the limit

1/2

USSR

KARPAK, B. V. and KARPAK, Zh. V., Avtomatiz. Proizv. Protseessov v Mashinostr. i Priborostr. Resp. Mezhved. Nauchno-Tekhn. Sb., 1971, No 11, pp 92-97

frequency is restricted to a 2-3 Hz value at similar other conditions. The phase error for different parameters is from 0.25-1. The time constants of large-range pneumatic transmitters at great chamber volumes are determined by the magnitudes of chambers and do not depend on the factors of merit. Two illustr., seven biblio. refs.

2/2

- 184 -

1/2 018 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--STUDY OF THE SIZE AND MORPHOLOGICAL PECULIARITIES OF LACTOBACTERIUM
CASEI -U-
AUTHOR-(03)-CHOMAKOV, KH., KARPAROV, A., KARBASHEVA, V. *K*
COUNTRY OF INFO--USSR
SOURCE--IZVESTIYA AKADEMII NAUK SSSR, SERIYA BIOLOGICHESKAYA, 1970, NR 3,
PP 455-459
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--PROCESSED ANIMAL PRODUCT, FERMENTATION, BACTERIA, CONTINUOUS
CULTURE, MORPHOLOGY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3001/0424 STEP NO--UR/0216/70/000/003/0455/0459
CIRC ACCESSION NO--AP0126177

UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0126177

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS ESTABLISHED THE SIZE AND MORPHOLOGICAL PECULIARTIES OF LACTOBACTERIUM CASEI IN 13 STRAINS ISOLATED FROM MONGOLIAN KUMISS. WHEN CULTIVATED IN BROTH AND EXAMINED WITH THE AID OF A LIGHT MICROSCOPE THE BACTERIAL CELLS LOOKED LIKE SQUARE ENDED RODS OCCURRING MOSTLY SINGLY, TWO BY TWO AND IN CHAINS OF VARYING LENGTH OF BACTERIAL CELLS 1.0-4.0 MU LONG. WHEN CULTIVATED ON AGAR MEDIUM AND EXAMINED BY MEANS OF AN ELECTRON MICROSCOPE THE BACTERIAL CELLS REPRESENTED SHORT ROUNDED RODS 0.5-8.0 MU LONG. THE THICKNESS OF THE BACTERIA CULTIVATED BOTH IN BROTH AND ON AGAR AMOUNTED TO 0.5-0.8 MU. SOME BACTERIA CULTIVATED ON AGAR APPEARED TO BE SURROUNDED BY CARSOLE.

UNCLASSIFIED

I/2 025 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--PROBLEMS OF CONTROLLED BODY MECHANICS WITHIN THE FRAMEOWRK OF SPACE
VEHICLE ORIENTATION -U-
AUTHOR--KARPATCHEV, Y.A. K
COUNTRY OF INFO--USSR
SOURCE--3RD IRAC SYMPOSIUM ON SPACE CONTROL, TOULOUSE, FRANCE, MARCH 1970.
(SL:2561)
DATE PUBLISHED-----70

SUBJECT AREAS--SPACE TECHNOLOGY, NAVIGATION
TOPIC TAGS--ALGORITHM, SATELLITE ORIENTATION, SPACECRAFT MOTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3008/1922

STEP NO--FR/0000/70/000/000/0000/0000

CIRC ACCESSION NO--AT0138738

UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--27NOV70

EIRC ACCESSION NO--AT0138788

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A METHOD IS DESCRIBED OF EVOLVING CONTROL ALGORITHM AND SUBSTANTIATING GENERAL REQUIREMENTS TO PRIOR AND MEASURED INFORMATION TO OBTAIN NECESSARY ORIENTATION OF A SPACE VEHICLE.

THE ESSENCE OF THE METHOD LIES IN ULTIMATE IDEALIZATION OF THE CONTROL SYSTEM BY MEANS OF PLATTED KINEMATIC MODELS OF CONTROLLED MOTION. STUDIED ARE CONDITIONS OF SYNCHRONOUS ROTATION OF TWO TRIHEDRONS, WITH THE SCALAR METHOD OF MEASURING THE INFORMATION ABOUT THE LEADING AND LED TRIHEDRONS. DETERMINED ARE GENERAL RELATIONS FOR ERRORS IN SPACE VEHICLE ORIENTATION. OPTIMAL TASK OF RAPID ACCOMPLISHMENT OF SYNCHRONOUS ROTATION CONDITIONS IS BEING SOLVED. PRINCIPAL ORIENTATION MODES ARE GENERALIZED WITHIN THE FRAMEWORK OF DIFFERENTIAL AND HOLONOMIC FOLLOWING.

UNCLASSIFIED

USSR

UDC 542.91:547.586.2:547.466:547.1'118

KARPAVICHYUS, K. I., POSHKENE, R. A., PUZERAUSKAS, A. P., KIL'SIHEVA, O. V.,
KNUNYANTS, I. L., Institute of Biochemistry of the Lithuanian SSR Academy
of Sciences and the Institute of Hetero-Organic Compounds of the USSR
Academy of Sciences

"p- and m-aminophenylalkene Acids and Their Derivatives Containing diethylene-
diimidophosphoryl and diethylenediimidothiophosphoryl Groups"

Moscow, Izvestiya Akademii Nauk SSR - Seriya Khimicheskaya, No 11, 1972,
pp 2549-2554

Abstract: The methyl esters of p- and m-aminophenylalkane acids and the
methyl esters of N-(p- and m-aminophenacyl)-DL-valine (R. Poshkene, et al.,
Tr. AN Lit-SSR, Series B, 1971) were phosphorylated by phosphorus oxychloride
or phosphorus thiooxychloride in inert solvents in the presence of bases.
Without separating the dichlorophosphoryl derivatives into individual forms
they were condensed with ethylenimine by the method of N. Bestian (Liebings
Ann. Chem. , No 566, 210, 1950). The HCl separating out was found by triethyl-
amine or an excess of ethylenimine. Thus, the methyl esters and sodium salts
of para and meta-aminophenylalkanes acids containing diethylenediimidophosphoryl
and diethylenediimidothiophosphoryl groups were synthesized, and the methyl
1/2

- 52 -

USSR

KARFAVICHYUS, K. I., et al., Izvestiya Akademii Nauk SSR -- Seriya Khimicheskaya, No 11, 1972, pp 2549-2554

esters and sodium salts of DL-valine, acylated by the para and meta-amino-phenylalkanes acids containing diethylenediimidophosphoryl groups were obtained. The experimental procedures and results are described, and the physical and chemical properties of the compounds are tabulated.

2/2

1/2 008 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--PEPTIDES OF SARCOLYSINE WITH GAMMA AMINOBUYRIC ACID -U-

AUTHOR--(04)--NAULIUKONIS, A., ~~KARPAVICHYUS, K.~~, KILDISHEVA, D.V.,
KNUNYANTS, I.L.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (1), 161-2

DATE PUBLISHED--70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PEPTIDE, ANTINEOPLASTIC DRUG

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1986/1921

STEP NO--UR/0062/70/000/001/0161/0162

CIRC ACCESSION NO--AP0103648

UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0103648

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ADDN. OF 85 ML AC SUB2 O AT 50-5DEGREES TO 10.3 G H SUB2 N (CH SUB2) SUB3 CO SUB2 H IN 98PERCENT HCO SUB2 H GAVE AFTER 2 HR AT ROOM TEMP 47PERCENT HCONH (CH SUB2) SUB3 CO SUB2 H (II), M. 105-6DEGREES. TO 3.33 G N,FORMYLSARCOLYSINE AND 1.6 G 8, HYDROXYQUINOLINE IN TETRAHYDROFURAN (THF) WAS ADDED 2.1 G DICYCLOHEXYLCARBODIIMIDE AND AFTER 6 HR A LITTLE ACID WAS ADDED AND THE UREA PPT. REMOVED TO GIVE 65PERCENT N,FORMYLSARCOLYSINE 8, HYDROQUINOLYL ESTER (III), M. 132-4DEGREES. SIMILARLY, I AND P, NITROPHENOL GAVE 74PERCENT OF THE CORRESPONDING I P, NITROPHENYL ESTER (III), M. 59-60 DEGREES. KEEPING 4.6 G II WITH 2 G H SUB2 N (CH SUB2) SUB3 CO SUB2 CH SUB2 PH IN THF 1 DAY GAVE 58PERCENT BENZYL N,FORMYLSARCOLYSYL, GAMMA, AMINO BUTYRATE (IV), M. 113-14DEGREES. SIMILARLY, THE BENZYL ESTER OF SARCOLYSINE AND III GAVE 85PERCENT BENZYL ESTER OF N,FORMYL, GAMMA, AMINO BUTYRYSARCOLYSINE (V), M. 99-100DEGREES. V HYDROGENATED OVER PD BLACK IN MEOH TO N,FORMYLSARCOLYSYL, GAMMA, AMINO BUTYRIC ACID, M 131-2 DEGREES. SIMILARLY, THE BENZYL ESTER YIELDED THE FREE N,FORMYL, GAMMA, AMINO BUTYRYSARCOLYSINE, M. 134-5DEGREES. KEEPING IV IN PH CH SUB2 OH WITH ACCL 1 DAY AT ROOM TEMP. GAVE AFTER ISOLATION OF THE HCL SALT OF BENZYL SARCOLYSYL, GAMMA, AMINO BUTYRATE AND TREATING IT WITH ET SUB3 N, FOLLOWED BY HYDROGENOLYSIS OF THE CRUDE PRODUCT, 91PERCENT SARCOLYSYL, GAMMA, AMINO BUTYRIC ACID, M. 123-4DEGREES. SIMILARLY WAS PREPD. THE BENZYL ESTER OF GAMMA, AMINO BUTYRYSARCOLYSINE, M. 98-9DEGREES, AND GAMMA, AMINO BUTYRYSARCOLYSINE M. 129-31DEGREES.

UNCLASSIFIED

KARPECHENKO, V.G.

50: JFAS 57279
14 June 75

PROBLEM OF OBTAINING MONOCRYSTALLINE LAYERS OF SILICON BY THE RHEOAXIAL METHOD

Article by Ye. S. Labitov, I. V. Filistova, A. A. Yilov, V. G. Karpechenko, Novosibirsk Technical Board of Sciences Monocrystalline Silicon, Zhurnal Prikladnoy Fiziki, Moscow, Part 2, 1969, pp 160-161.

The development of the technological process for manufacturing integrated circuits in semiconducting monocrystalline layers deposited on an insulating substrate has great significance for the creation of joint integrated circuits.

For the first time, the so-called rheoaxial method of obtaining monocrystalline silicon layers was proposed by Kamant's [1, 2]. Its physical essence consists in the deposition of monocrystalline films on a polycrystalline substrate using an intermediate liquid layer.

We have performed studies of the possibility of obtaining monocrystalline layers of silicon by the reduction of silicon tetrachloride by hydrogen on polycrystalline insulating substrates coated with films of complex composition. In order to discover the effect of the material and the substrate structure on the rheoaxial process, we used monocrystalline silicon as the substrate and also monocrystalline silicon coated with a layer of SiO₂ 0.8-0.9 microns thick.

When selecting the polycrystalline insulating substrate with a view to the requirements of the rheoaxial method, we discussed ceramox of the porous and polyurethane type.

The selection of the glass for an intermediate liquid level is one of the main problems of the rheoaxial method of growing monocrystalline silicon films. The following requirements are, in our opinion, imposed on the glass.

1. The glass must not contain impurities of III and V group elements of the periodic table.

2. The coefficient of thermal expansion of the glass must correspond to the coefficient of thermal expansion of silicon (-40-44.10⁻⁷ deg⁻¹).

3. At a temperature below 1,020° C the glass must be in the liquid state.

USSR

UDC 620.197.6:621.791.763-1

PORTNOY, N. D., and GEYNRIKHSORF, N. G., Candidates of Technical Sciences, GAFAROV, N. T., NOVIKOVA, Ye. Z. (Ural Railroad Car Plant), TARASOVA, A. A., and KARPECHENKOVA, G. M. (Ural Scientific Research Institute of Ferrous Metallurgy), Engineers

"Characteristics of Certain Protective Coatings Used in Point Resistance Welding"

Moscow, Svarochnoye Proizvodstvo, No 10, Oct 70, pp 43-45

Abstract: A study was made of the effect of impact strength, film elasticity, covering power, and electrical conductivity of corrosion-resistant coatings based on various lacquers on joint quality during welding of type-09G2 steel. Fifteen percent aluminum powder was added to two of the lacquers in order to increase electrical conductivity. With coatings based on lacquers 170 and LSP-1 welding can be done for six days after application. The quality of welded joints covered with composition 119 is decreased if welding is performed more than two days after application of the coating. Oil-base paints are compatible with coatings based on composition 119 and 170 lacquer, but do not dry in the established time when painted over LSP-1 lacquer. Coatings based on 170 lacquer have the
1/2

USSR

PORTNOY, N. D., et al, Svarochnoye Proizvodstvo, No 10, Oct 70, pp 43-45

greatest impact strength. The impact strength of coatings based on LSP-1 lacquer decreases as the temperature increases to 70°C. Such properties of coatings as elasticity, covering power, hardness, heat resistance, and drying time fall within the established norms set by the standards. When parts are painted with LSP-1 varnish and composition 119, the content of xylene in the working area somewhat exceeds the safety norm. When 170 varnish is used, the content of harmful substances falls within the safety norms. The best technological and mechanical properties are provided by corrosion-resistant, low-toxicity coatings based on 170 varnish.

2/2

- 70 -

AA0040756

K

Karpeka, V. A.
UR 0482

3/70

Soviet Inventions Illustrated, Section I Chemical, Derwent,

234624 MOULD LUBRICATOR FOR CONTINUOUS CASTING

PLANTS uses feed channels which issue above the collector so as to ensure even distribution of lubricant round the mould perimeter, Lubricant is pumped etc. from tank 1 to the frame 2 on the mould 3 and via a feedline 4 with choke 5. It thus reaches the collector 7 and as this fills so the lubricant fills all the channels 8. When there is excess lubricant pressure in the collector, the lubricant is fed in identical portions into all these channels and thus flows out at the mould perimeter in identical portions. 7.10.65. as 1031428/22-2. EVTEEV D.P. et al. Metallurgical Plant Design Inst. (26.6.69.) Bul.4/10.1.69. Class 31c. Int.Cl. B22d.

1/3

18

19750439

AA0040756

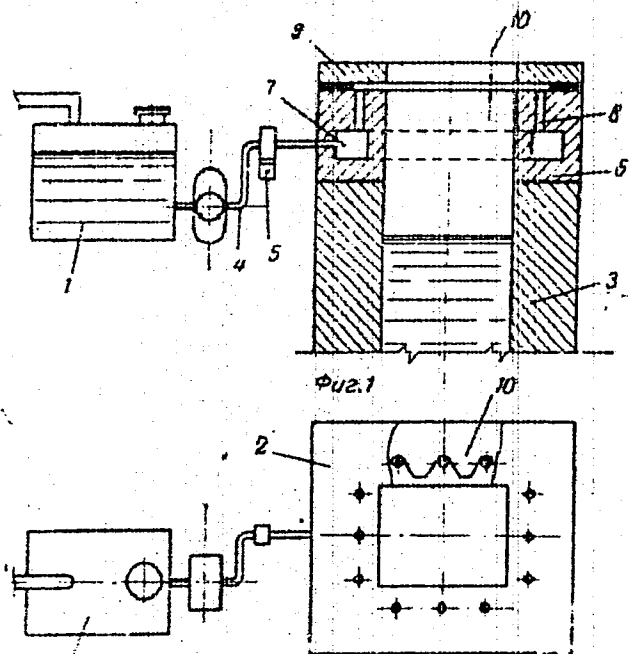


Fig. 2

19750440

2/3

40

AA0040756

AUTHORS: Yevteyev, D. P.; Zhidovinova, M. M.; Karpeka, V. A.;
Kaushanskiy, A. S.; Krulevetskiy, S. A.; Pravdin, V. S.;
Satanovskiy, Ya. Ye.; Ful'makht, V. V.; Shabanov, A. N.

Gosudarstvennyy Soyuznyy Institut po Proyektirovaniyu
Metallurgicheskikh Zavodov

19750441

2/3

USSR

GRAYFER. R. S., KARPEL', I. N.

"The Distribution of Operator Errors"

Sb. tr. Tsentr. n.-i. i proyekt.-tekhnol. in-t organiz. i tekhn. upr.
[Collected Works of Central Scientific Research and Planning-Technological
Institute for Organization and Technology of Control], 1972, No 9, pp
170-177 (Translated from Referativnyy Zhurnal - Kibernetika, No 8, 1973,
Abstract No 8 V250 by the authors)

Translation: Results are presented from statistical tests of the work
of operators of keyboard devices, and used as a basis for construction
of a histogram for the statistical distribution of operator errors, and
the smoothing parameter of a Poisson distribution is determined. The
degree of divergence between the statistical histogram and the theoretical
distribution of Poisson is estimated using the χ^2 criterion.

Based on the statistical data, an analytic expression is produced for the
distribution density of the intervals between errors, not contradicting
the Poisson rule of distribution of operator errors.

1/1

- 33 -

1/2 040 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--USE OF ARC DISCHARGE IN AN INERT GAS ATMOSPHERE -U-
AUTHOR--(02)-KARPEL, N.G., FEDORCHUK, O.K.
COUNTRY OF INFO--USSR
SOURCE--ZH. ANAL. KHIM. 1970, 25(3), 418-22
DATE PUBLISHED--70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--ARC DISCHARGE, INERT GAS, GALLIUM ARSENIDE, SILICON CARBIDE,
VAPOR PRESSURE, IMPURITY LEVEL, EMISSION SPECTRUM, LINE INTENSITY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAHE--2000/1194 STEP NO--UR/0075/70/025/003/0418/0422
CIRC ACCESSION NO--AP0124848
UNCLASSIFIED

UNCLASSIFIED

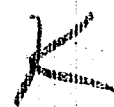
PROCESSING DATE--30OCT70

2/2 040

CIRC ACCESSION NO--AP0124848

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE USE OF AN ARC DISCHARGE IN AN INERT GAS ATM. WAS EXAMD. TO DET. ADMIXTS. IN PURE MATERIALS. AFTER STUDYING GAAS AND SIC, A QUANT. RELATION WAS ESTABLISHED BETWEEN CHANGES OF THE LINE INTENSITY FOR A NO. OF ELEMENT ADMIXTS. AND THE VAPOR PRESSURE AND IONIZATION DEGREE OF THESE ELEMENTS ON THE REPLACEMENT OF THE AIR ATM. BY A HE ATM. THE USE OF AN INERT ATM. CAN INCREASE THE SENSITIVITY 2-3 FOLD, ONLY WHEN THE INTENSIVE BACKGROUND INTERFERES WITH THE DETN. OF ADMIXTS. IN THE AIR ATM.

1/2 027 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--STANDARDS FOR THE SPECTROGRAPHIC ANALYSIS OF PURE MATERIALS -U-
AUTHOR--(02)-KARPEL, N.G., RUBINSHTEYN, R.N. 
COUNTRY OF INFO--USSR
SOURCE--ZAVOD. LAB. 1970, 36(2), 172-5
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, MATERIALS
TOPIC TAGS--SPECTROGRAPHIC ANALYSIS, GRAPHITE, METAL OXIDE, CHEMICAL
PURITY, HIGH PURITY METAL

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/1842 STEP NO--UR/0032/70/036/002/0172/0175
CIRC ACCESSION NO--AP0118806
UNCLASSIFIED

2/2 027

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0118806

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A POWD. MIXT. OF THE TEST METAL, GRAPHITE, AND THE REF. METAL AS ITS OXIDE IS USED AS A SPECTROGRAPHIC STD. HOWEVER, THESE STDS. CAN BE USED ONLY WHEN THE REDN. OF THE OXIDE IS COMPLETE BEFORE THE END OF THE EXPOSURE TIME. THE RADIUS OF THE OXIDE PARTICLES MUST BE SMALLER THAN 50 MU IN ORDER NOT TO LIMIT THE PROCESS OF REDN. THE REDN. OF OXIDE PARTICLES (RADIUS 5 TIMES 10 PRIME NEGATIVE3 CM) AT 1000DEGREEK IS COMPLETE IN 0.5 AND 3 SEC WHEN THE PARTIAL PRESSURE OF O₂ AT THEIR SURFACE IS 760 AND 100 MM HG, RESP.

UNCLASSIFIED

Organ and Tissue Transplantation

USSR

UDC 616.12-089.843-07:616.12-07].97

KARPEL, Ye. G., Laboratory of Experimental Surgery and Laboratory of Physiology,
Institute of Surgery imeni A. V. Vishnevskiy, Academy of Medical Sciences USSR,
Moscow

"Indicators of the Electrical Activity of the Heart During Transplantation:

Moscow, Eksperimental'naya Khirurgiya i Anesteziologiya, No 5, Sep/Oct 70,
pp 14-17

Abstract: Data are reported which suggest that it should be possible to judge the suitability of a heart for transplantation on the basis of certain shifts in its electrical activity. After prolonged isolated perfusion, good heart condition is indicated by the fact that the sinoatrial node controls the heart rhythm, its frequency of contraction is higher than 90 per minute, the average duration of atrioventricular conductivity is 0.12 sec, the configuration of the QRS complex is unchanged, the average duration of electric heart systole is 0.31 sec, and the S-T interval is isoelectric. If the sinus rhythm is not uniform and is accompanied by "pathological regularity," if intra-atrial conductivity is impaired, if there is a break in the sinus rhythm and appearance of complete atrioventricular block of the nodal or idioventricular rhythm, if the QRS complex becomes broader and the intraventricular conductivity irregular, or if drastic shifts are noted in the repolarization phases, definite changes in the myocardium have occurred.

1/1

USSR

UDC 624.07:534.1

KSCHUK, A. I., NAKONECHNYI, P. S., KARPENKO, B. K., MATVEYEV, V. V.

"Method for the Automatic Determination of the Amplitude-Frequency Characteristics of a Mechanical System Over a Wide Spectrum of Its Natural Frequencies"

V sb. Rasseyaniye energii pri kolebaniyakh mekh. sistem (Energy Scattering Under Vibrations of Mechanical Systems -- Collection of Works), Kiev, "Nauk. dumka", 1972, pp 292-296 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3V290)

Translation: A device with electronic synchronization of processes for the recording and measurement of frequency of the master oscillator is described that has many advantages as compared with mechanical synchronization. The device is designed to determine amplitude-frequency characteristics of complex mechanical systems over a wide range of natural frequencies and provides a quantitative analysis of these systems and the resonance zones when slight departures in the master oscillator and the distortion in the shape of the amplitude-frequency characteristics associated with them do not have a considerable value. A block diagram of one of the versions of the device is given. The operating principle is described. Yu. A. Belyayev.

1/1

1/2 038 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--COMPOSITION FOR LOW TEMPERATURE ELECTROLYTIC BORON PLATING -U-

AUTHOR--(05)--LYAKHOVICH, L.S., VOROSHNIN, L.G., KARPENKO, D.P.,
KOSACHEVSKIY, L.N., DOLMANDV, F.V.
COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 261,086
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--06JAN70

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

TOPIC TAGS--CHEMICAL PATENT, ELECTROLYTE, METAL PLATING, BORON, LEAD
OXIDE, BORON COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1994/2001

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

CIRC ACCESSION NO--AA01158Q0

UNCLASSIFIED

2/2 038

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AA0115800

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE COMPN. CONSISTED OF NA
SUB2 B SUB4 O SUB7. 10H SUB2 O 60-75 AND PBO 25-40 WT. PERCENT.

FACILITY: BELORUSSIAN POLYTECHNIC INSTITUTE.

UNCLASSIFIED

USSR

UDC 669.017:539.56:669.788

KARPENKO, G. V., LITVIN, A. K., TKACHEV, V. I., and SOSHKO, A. I., Physico-mechanical Institute, Academy of Sciences Ukrainian SSR, L'vov

"Problem on the Mechanism of Hydrogen Brittleness"

L'vov, Fiziko-Khimicheskaya Mekhanika Materialov, Vol 9, No 4, 1973, pp 6-12

Abstract: The article consists of an examination of Soviet and non-Soviet works dealing with hydrogen brittleness of metals in conjunction with studies by the authors on the effect of hydrogen in steels U8A and 2Kh13. The authors' interpretation of hydrogen "embrittlement" is based on the general theory of the effect of a medium on mechanical properties, with consideration of the specific (for hydrogen) temperature relationship of interaction with a metal; it makes it possible to explain the unmonotonous curve of the temperature relationship of strength properties, intensification of hydrogen brittleness at the minimum rate of deforming (caused by the time function of the chemisorption process), and other experimental facts which are not explained in known hypotheses. According to the authors the phenomenon of hydrogen brittleness should be examined as a mechanicochemical effect of selective microplastication of metal caused by chemisorption of hydrogen which is activated by stresses. 2 figures, 36 bibliographic references.

1/1

USCR

UDC 620.198;621.793.3

KARPENKO, G. V., POKHMURSKIY, V. I., DALISOV, V. B., RUSIN, S. I.,
ZAMIKHOVSKIY, V. S., and BRODYAK, YA. P., Academy of Sciences Ukrainian SSR,
Physicomechanical Institute

"Endurance of Chemically Nickel-Plated Aluminum Alloy D16"

Moscow, Zashchita Metallov, Vol 8, No 3, May-Jun 72, pp 364-367

Abstract: The article describes results of a study of the effect of chemical nickel-plating on the fatigue and corrosion-fatigue strength of D16, an aluminum alloy widely used in industry (0.74 percent Mn, 4.6 percent Cu, 0.87 percent Si, 0.56 percent Fe, 1 percent Mg). Specimens were nickel-plated in an alkaline solution of the composition (g/l): NiCl_2 21, NaH_2PO_2 24, $\text{NaO}_2\text{C}(\text{CO}_2\text{H})_2(\text{OH})\text{C}_3\text{H}_4$ 45, NH_4OH 50, NH_4Cl 30 at a temperature of 75-80°.

Fatigue tests showed that the endurance of aluminum alloy D16 with a nickel layer of about 0.045 (nickel-plating for three hours without subsequent heat treatment) is no less than that of the alloy without a coating, despite the presence of residual tensile stresses. Heat treatment of chemically nickel-plated specimens at 240° for one hour significantly increased their fatigue

1/2

USSR

KARPENKO, G. V., et al., Zashchita Metallov, Vol 8, No 3, May-Jun 72, pp 364-367

strength. The endurance limit of specimens with a coating about 0.008-0.010 mm thick (nickel-plating for 0.5 hour) increased 45 percent compared to uncoated specimens and specimens nickel-plated without subsequent heat treatment. An increase in the coating thickness to 0.040-0.045 mm led to a further rise in the endurance limit to almost 70 percent. The effect of a rise in endurance declines somewhat with a further increase in the coating thickness to 0.070-0.075 mm (nickel-plating for five hours). In the case of the simultaneous action of cyclic strains and a corrosive medium (3-percent aqueous solution of sodium chloride), chemically deposited nickel is not an effective means of protection against corrosion-fatigue failure of aluminum alloy D16.

2/2

- 19 -

KARPENKO, G. V.

Metallurgy

THE INFLUENCE OF SURFACE-ACTIVE SUBSTANCES ON CONTACT
FATIGUE LIFE OF HARDENED BALL-BEARING STEEL

G. V. Karpenko, K. B. Katsov & A. B. Kus111sk1

Akad Dopol Nauk UKR RSR 11, (1969) 1042-1044
(from Russian)

DRIC Transl. No. 2358 July 1972

Translated by Lt Cdr P. N. Hiles

BR 30221

USSR

UDC: 620.178.38

KARPENKO, G. V., POKHMURSKIY, V. I., and KALICHAK, T. N., Physicomechanical Institute, Academy of Sciences, Ukrainian SSR

"A Procedure for Testing Materials for Strength at Elevated Temperatures and With Periodic Wetting by a Liquid Corrosive Medium"

Moscow, Zavodskaya Laboratoriya, No 10, 1971, pp 1243-1245

Abstract: For evaluating the fatigue strength of blade material of special power installations (boiler units), a new procedure has been developed for the fatigue testing of heated samples periodically wetting by sprinkling with a corrosive medium (water, sea water, etc.); the conditions of such tests are similar to those encountered in operation. The article describes a method and a machine for the fatigue testing of materials, with the simultaneous action of elevated temperatures (up to 400°C), variable stresses, and periodic wetting of the samples by a corrosive medium. The temperature fluctuations during these tests under conditions of elevated temperatures comprised $\pm 5^{\circ}\text{C}$, the periodicity of the cycle was 1.5 minutes, the corrosive medium was distilled water. Tests results are presented for samples of steels 1Kh12N2VMF and 1Kh12N2MVFA. 2 figures. 1 table. 8 references.

1/1

USSR

UDC 620.194.2

~~KARPENKO, G. V.~~, ZAGORUYKO, R. F. and BADEY, YU. I., Physics and Mechanics Institute, Academy of Sciences Ukrainian SSR, L'vov and the Novyy Rozdol Mining and Chemical Combine

"Effect of Heat Treatment on the Resistance of Steel Kh18Ni9Ti to Corrosion Cracking in a Sulfur Pulp"

L'vov Fiziko-Khimicheskaya Mekhanika Materialov, Vol 7, No 6, Nov-Dec 71, pp 73-75

Abstract: To study the resistance of stainless steel Kh18Ni9Ti to stress corrosion cracking, samples of the steel were subjected to the following heat treatment: heated to 1100°C and water quenched; annealed at 820°C for two hours and furnace cooled; normalized at 820°C for two hours and air cooled. The samples were then placed in the sulfur pulp under 45 kg/mm² of stress. An as-supplied sample was also tested (not heat treated). The tests showed that the as-supplied and quenched samples suffered severe corrosive attack and suffered brittle failure after 70 hours of testing. The annealed and normalized samples did not fracture even after 500 hours of testing. 3 figures, 3 bibliographical references.

1/1

USSR

UDC 620.194:669.15

ZAGORUYKO, R. F., BABEY, Yu. I., KARPENKO, G. V., Physicomechanical Institute, Academy of Sciences, Ukrainian SSR, Lvov; Chemical Mining Combine, Novyy Rozdol

"The Influence of Rolling on the Resistance of Steel Kh18N10T to Corrosion Cracking in Sulfur Pulp"

Kiev, Fiziko-Khimicheskaya Mekhanika Materialov, Vol 7, No 4, 1971, pp 107-108

Abstract: Parts of machines and mechanisms working under conditions of sulfur mining are made of stainless steels of the type Kh18N10T. Steels of this class at delivery are vulnerable to corrosive cracking in a sulfur pulp. The question of increasing the resistance of steel to corrosive cracking in such a medium has been insufficiently studied up to now, and is almost not at all reflected in the literature. An investigation is made in this article concerning the influence of the increasing the resistance of steel Kh18N10T to corrosive cracking under the indicated conditions by rolling with rollers in the state of delivery. Experiments showed that in pure sulfur the initial samples do not crack at all. The surface of the samples is covered with a dense film of grayish color. No signs of corrosive cracking of the surface

1/2

USSR

ZAGORUYKO, R. F., et al, Fiziko-Khimicheskaya Mekhanika Materialov, Vol 7, No 4, 1971, pp 107-108

layer nor of cracks are detected. In a sulfur pulp with a 30% aqueous solution of $MgCl_2$, the steel undergoes more intensive cracking than in 30% $MgCl_2$. The origination of cracks and their development in steel Khl8N10T in testing for corrosion cracking in sulfur pulp may be explained from the point of view of adsorption-electrochemical theory, where the essential part is played by adsorption, anode and cathode processes. During testing in sulfur pulp, hydrogen sulfide is formed in the medium, and the diffusion of hydrogen into the metal is entirely probable. Experiments have shown that rolling by rollers effectively increases the resistance of steel to corrosion cracking, the resistance being twice as great as samples that are ground. The increased resistance of the steel to corrosion cracking by rolling is caused by the favorable texture of the metal and the positive influence of the residual compression stresses in the surface layers of the samples. 4 figures. 2 references.

2/2

- 76 -

USSR

UDC 620.198.539.431.621

KARPENKO, G. V., POKHMURSKIY, V. I., DALISOV, V. B., and ZAMIKHOVSKIY, V. S.,
Institute of Physics and Mathematics, Academy of Sciences Ukrainian SSR

Vliyanie Diffuzionnykh Pokrytiy na Prochnost' Stal'nykh Izdeliy (The Effect of Diffusion Coating on the Strength of Steel Parts), Kiev, "Naukova Dumka," 1971, 166 pp

Translation of Annotation: This monograph studies the effect of electroplating and diffusion coating on the short-term static and fatigue strength of steel articles in the air and in some working media. The role of residual stresses is examined and a new classification is proposed for them. The possibility of healing such defects as cracks through diffusion metallization and the restoration of the continuity and strength of defective parts is shown. Some methods of intensifying the processes of diffusion saturation are presented.

This monograph is intended for metal scientists, process engineers, and designers in the machine building industry, and for instructors at higher educational institutions.

1/3

- 5 -

USSR

KARPENKO, G. V., et al., "Naukova Dumka," 1971, 166 pp

	<u>Page</u>
Table of Contents:	
Foreword	3
Basic Concepts of Residual Stresses and Their Classification	5
Some Data on the Effect of Electroplating on the Mechanical Properties of Parts	10
Cementation	16
Nitriding	24
Nitrogen Case Hardening and Cyaniding	33
Sulfurization and Sulfocyaniding	38
Borating	45
Siliconizing	72
Chrome Plating	75
Calorizing	113
Vanadium Plating	133
Copper Plating	135
Zinc Coating	139
Eliminating Defects of the Open-Crack Type on Steel Articles by the Method of Diffusion Coating	143

2/3

1/2 026 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--INCREASING THE RESISTANCE OF CARBON STEEL WELDS TO CORROSION
CRACKING ON REDUCING THE RESIDUAL WELDING STRESSES BY WORKING -U-
AUTHOR--(05)-ZYUBRIK, A.I., VASILENKO, I.I., TEREKH, O.I., DIKY, I.I.,
KARPENKO, G.V.
COUNTRY OF INFO--USSR
SOURCE--FIZ.-KHIM. MEKHAN. MAT., 1970, 6, (2), 42-45
DATE PUBLISHED-----70
SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, MATERIALS
TOPIC TAGS--CORROSION CRACKING, CARBON STEEL, STEEL WELDING, RESIDUAL
STRESS, ELECTROCHEMICAL PROPERTY, PLASTIC DEFORMATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3003/0216 STEP NO--UR/0369/70/006/002/0042/0045
CIRC ACCESSION NO--AP0129472
UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0129472

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF PLASTIC DEFORMATION (WORKING) ON (I) THE RESIDUAL STRESSES ARISING IN THE NEIGHBOURHOOD OF WELDS IN C STEEL PARTS, (II) THE ELECTROCHEMICAL PROPERTIES OF THE WELD METAL, AND (III) THE RESISTANCE OF THE WHOLE TO CORROSION CRACKING WAS STUDIED. THERE WAS A SHARP FALL IN RESIDUAL STRESSES ON SUBJECTING TO 1-2PERCENT DEFORMATION; THE ELECTROCHEMICAL HETEROGENEITY OF THE METAL ALSO DIMINISHED, AND THE RESISTANCE OF THE WELDS TO CORROSION CRACKING IN BOILING ALKALI AND NITRATE SOLUTIONS INCREASED SUBSTANTIALY.

UNCLASSIFIED

1/2 040 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--EFFECT OF AQUEOUS MEDIA AND ADDITIVES OF SURFACE ACTIVE AGENTS ON
THE CONTACT FATIGUE STRENGTH OF CHISEL STEEL 20KHN3A -U-
AUTHOR--(05)-KATSOV, K.B., KUSLITSKIY, A.B., KARPENKO, G.V., SENTSOVA,
E.P., DYUSUSCHE, M.ZH.
COUNTRY OF INFO--USSR
SOURCE--FIZ.-KHIM. MEKH. MATER. 1970, 5(6), 757-8
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--SURFACE ACTIVE AGENT, ALLOY DESIGNATION, CHROMIUM NICKEL
STEEL, ELECTROSLAG MELTING, METAL CORROSION, HYDROGEN, FATIGUE STRENGTH,
METALWORKING, CUTTING TOOL/(U)20KHN3A CHROMIUM NICKEL STEEL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1988/0636 STEP NO--UR/0369/70/005/006/0757/0758
CIRC ACCESSION NO--AP0105615
UNCLASSIFIED

2/2 040

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--APO105615

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE STUDY WAS CARRIED OUT WITH STEEL 20KH3A MELTED ACCORDING TO 2 ALTERNATIVES: ELECTROARC AND ELECTROSLAG REMELTED. THE LATTER STEEL HAD MUCH LESS IMPURITIES THAN THE FORMER. AFTER MECH. WORKING SPECIMENS WERE SUBJECTED TO CEMENTATION IN SOLID CARBURIZER TO THE DEPTH OF CARBURIZED LAYER 1.8-2.0 MM WITH HARDNESS OF SURFACE LAYER HRC 57 AND 58 (CORE HARDNESS 36-8 HRC). C CONCN. AT A DISTANCE 0.2 MM FROM THE SURFACE WAS 0.8PERCENT; THE MICROSTRUCTURE OF CEMENTED LAYER WAS FINE ACICULAR MARTENSITE, WHILE THAT OF THE CORE WAS TROOSTITESORBITE. TESTING WAS DONE ON A SPECIAL APP. WITH AND WITHOUT ADDN. OF SURFACE ACTIVE SUBSTANCES (S.A.S.) TO THE WATER AND BY USING TAP WATER, STRATAL WATER WITH AND WITHOUT H SUB2 S. THE VERY SHARP DECREASE OF CONTACT ENDURANCE OF STEEL UNDER STUDY IN RUNNING (WASH) WATER WHOULD BE EXPLAINED NOT ONLY BY ADSORPTION EFFECT BUT ALSO BY THE CORROSION IN COMBINATION WITH HYDROGENATION OF STEEL SURFACE IN CONTACT WITH WATER. IN THIS CONNECTION, THE FAVORABLE EFFECT OF S.A.S. IS EXPLAINED BY THE FORMATION ON THE METAL SURFACE OF A POLYMOL. PROTECTIVE FILM.

UNCLASSIFIED

1/2 020

UNCLASSIFIED

PROCESSING DATE--27NOV70

TITLE--SCALE EFFECT IN THE CORROSION FATIGUE OF STEEL SHAFTS WITH PRESS
FITTED PARTS -U-

AUTHOR--(04)-KARPENKO, G.V., PRGORETSKY, R.G., SIRAK, YA.M., FILIMONOV,
G.N.

COUNTRY OF INFO--USSR

SOURCE--FIZ. KHIM. MEKHAN. MAT., 1970, 6, (2), 7-10

DATE PUBLISHED-----70

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

TOPIC TAGS--SEA WATER CORROSION, CORROSION FATIGUE, CORROSION RESISTANCE,
STEEL CORROSION, SHAFT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REFL/FRAME--3002/1671

STEP NO--LR/0369/70/006/002/0007/0010

CIRC ACCESSION NO--AP0129041

UNCLASSIFIED

2/2 920

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0129041

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STEEL SHAFTS 5-50 MM IN DIA. WITH PRESS FITTED PARTS ATTACHED TO THEM WERE SUBJECTED TO CORROSION FATIGUE TESTS IN A 3PERCENT NACL SOLUTION (SIMULATED SEA WATER). THE CORROSION FATIGUE RESISTANCE OF THE SHAFTS WAS APPRECIABLY REDUCED BY THE PRESENCE OF THE PRESS FITTED PARTS (BUSHINGS). HOWEVER, THE SCALE FACTOR (THE EFFECT OF SHAFT DIA. ON CORROSION FATIGUE RESISTANCE) WAS QUALITATIVELY THE SAME; INCREASING THE DIA. ALSO INCREASED THE FATIGUE LIFE.

UNCLASSIFIED

1/2 026 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--EFFECT OF NON METALLIC INCLUSIONS ON STRESS CONCENTRATIONS , IN
ARMCO IRON, AS DETERMINED FROM ELECTRODE POTENTIAL MEASUREMENTS -U-
AUTHOR--(03)-KUSLITSKIY, A.B., ZAMOSTYANIK, I.E., KARPENKO, G.V.

COUNTRY OF INFO--USSR

SOURCE--FIZ. KHIM. MEKHAN. MAT., 1970, 6, (2), 95-96

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--ELECTRODE POTENTIAL, IRON ALLOY, NONMETALLIC INCLUSION, STRESS
CONCENTRATION, ELASTIC DEFORMATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1814

STEP NO--UR/0369/70/006/002/0095/0096

CIRC ACCESSION NO--AP0129182

UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0129182

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF NON METALLIC INCLUSIONS, BOTH REAL AND ARTIFICIALLY SIMULATED, ON STRESS CONCENTRATIONS IN METALS (PARTICULARLY ARMC0 FE) WAS STUDIED WITH SPECIAL REF. TO THE RELATION BETWEEN SUCH NON METALLIC INCLUSIONS AND THE ELECTROCHEMICAL CHARACTERISTICS OF THE METAL AS REPRESENTED BY ITS ELECTRODE POTENTIAL. THE ELECTRODE POTENTIAL WAS VERY SENSITIVE TO CHANGES IN ELASTIC STRAINS, SUCH AS ARISE IN THE NEIGHBORHOOD OF INCLUSIONS. HOWEVER, THERE WAS NO PERFECT ANALOGY BETWEEN THE EFFECTS OF INCLUSIONS AND STRESS RAISERS, SUCH AS NOTCHES, ON THE ELECTRODE POTENTIALS.

UNCLASSIFIED

1/2 027 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--ON THE ADSORPTION CHARACTERISTICS OF METALS -U-
AUTHOR-(03)-MINDYUK, A.K., BABEY, YU.I., KARPENKO, G.V.
COUNTRY OF INFO--USSR
SOURCE--FIZ. KHIM. MEKHAN. MAT., 1970, 6, (1), 97-100
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ADSORPTION, ELECTRON STRUCTURE, METAL SURFACE PROPERTY,
CHEMISORPTION, IRON, MERCURY, ELECTROLYTE, SODIUM HYDROXIDE,
HYDROCHLORIC ACID
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1680 STEP NO--UR/0369/70/006/001/0097/0100
CIRC ACCESSION NO--AP0129050
UNCLASSIFIED

2/2 027

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--A0129050

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RELATIONSHIP BETWEEN THE ELECTRON STRUCTURE AND ADSORPTION CHARACTERISTICS OF METALS IS DISCUSSED IN THE LIGHT OF ACCUMULATED THEORETICAL AND EXPERIMENTAL DATA. DEPENDING ON THE NATURE OF THE METAL (WHETHER IT IS A DONOR OR AN ACCEPTOR OF ELECTRONS, ETC.), ADSORPTION MAY TAKE PLACE IN SEVERAL DIFFERENT WAYS, E.G. THE ELECTRONS OF THE ADSORBED PARTICLES MAY OR MAY NOT BE LOCALIZED BY THE IONS OF THE METALLIC LATTICE (STRONG AND WEAK CHEMISORPTION, RESP.). PRACTICAL EXAMPLES ARE GIVEN FOR FE AND HG IN RELATION TO VARIOUS ELECTROLYTES (NAOH, HCL, ETC.).

UNCLASSIFIED

USSR

UDC 539.434.539.219.1

~~KARPENKO, G. V., KUSLITSKIY, A. B., MIZETSKIY, V. L., ZLOTNIKOV, S. A., TKACHEV, V. I., SHIL'NIKOVA, G. K., and BEREZHKO, B. I., L'vov, Leningrad~~

"Effect of the Composition of Nonmetallic Inclusions on the Fatigue Limit of Steel 20"

Moscow, Izvestiya Akademii Nauk SSR, Metally, No 1, Jan-Feb 1970, pp 104-108

Abstract: Qualitative investigations were made of programmed amounts of impurities in steel. In connection with this, experiments were conducted on the formation in steel of non-metallic inclusions of a given chemical composition: plastic silicates, alumina and high-alumina aluminosilicates, semi-brittle silicates, and titanium nitrides. It is shown that the composition of non-metallic inclusions has a significant effect on the fatigue limit of the steel. Of the four types of inclusions studied, the most damaging proved to be plastic unsaturated silicates and titanium nitrides; silica inclusions were the least damaging. The principal negative role of non-metallic inclusions results in the appearance of considerable residual stresses owing to the difference in the physical properties of the inclusions and the metal matrix. These stresses are formed in the metal during unavoidable technological heating and cooling, even before external forces are applied.

1/1

- 41 -

UNCLASSIFIED

AN0012157

K

UR 9003

AUTHORS-- KARPENKO, I., AND MIKHAYLOV, V., CORRESPONDENTS

TITLE-- THE GENERAL POLICY IS THE SCIENTIFIC-TECHNICAL PROGRAMS

NEWSPAPER-- IZVESTIYA, JANUARY 11, 1970, P 1, COLS 1-3

ABSTRACT-- IN THIS INTERVIEW, A. ZAKHAROV, CHIEF, RESEARCH DEPARTMENT, V. IGNATYEV, DIRECTOR, "POZITRON" PLANT, A. GOLENISHCHEV, GENERAL DIRECTOR, "POZITRON" RESEARCH-PRODUCTION CORPORATION, AND N. POMUKHIN, CHIEF ENGINEER, THE CENTRAL DESIGN BUREAU OF TECHNOLOGY AND EQUIPMENT, OUTLINE THE STRUCTURE AND THE OPERATIONS OF THE "POZITRON" CORPORATION. THE "POZITRON", REFERRED TO AS THE FIRST RESEARCH-PRODUCTION CORPORATION IN THE UNION, WAS FORMED IN LENINGRAD SIX MONTHS AGO BY MERGING A LEADING SCIENTIFIC-RESEARCH INSTITUTE OF THE INDUSTRY, A LARGE DESIGN BUREAU OF TECHNOLOGICAL EQUIPMENT, AND TWO LARGE LOT-PRODUCING PLANTS.

R. SEYSYAN, DEPARTMENT CHIEF, A. ZAKHAROV, HEAD OF A RESEARCH DEPARTMENT, AND N. ZAMBROVSKIY, ONE OF THE CHIEFS OF THE DESIGN BUREAU, HAVE ALSO BEEN INTERVIEWED.

19570988

30

Lubricants and Lubrication

USSR

UDC 621.777.2:621.892

KARPENKO, I. V., OGNETOVA, ZH. N., and PRIMISLER, V. B.

"Action of Molybdenum Disulfide-Base Lubricants During Hydrostatic Extrusion"

Moscow, Kuznechno-Shtampovochnoye Proizvodstvo, No 10, Oct 73, pp 12-15

Abstract: Investigation of MoS_2 -base lubricants was conducted for the hydrostatic extrusion of steels U8, ShKh15, R6M3, and R18, and titanium alloy VT8. Data are presented in this article for steel ShKh15 since the mechanism of the action of solid MoS_2 -base lubricants was identical for all the materials studied.

Extrusion was done at room temperature using a MoS_2 -base, thermoreactive film-forming substance -- phenolformaldehyde resin, and a MoS_2 -base thermoplastic substance -- polyvinyl acetate resin. For comparison, lubricant VNIINP-232, consisting of MoS_2 and mineral oil, was also studied. The working fluid used was

"Industrial'noye-12" oil. Studies showed that the properties of the film-forming substances have a substantial effect on lubricating action. Extrusion pressure is not lowered using VNIINP-232 but is lowered using the polyvinyl acetate resin. In both cases scratches were found on the extruded surfaces. In the hydrostatic extrusion of hard-to-deform materials with large
1/2

USSR

KARPENKO, I. V., et al., Kuznechno-Shtampovochnoye Proizvodstvo, No 10, Oct 73,
pp 12-15

degrees of deformation in the contact zone of the blank material with the die, any liquid or solid lubricant is squeezed out. The degree of deformation has limits depending on type of lubricant. For instance, in the extrusion of a blank, using a solid lubricant with the PVA resin, the lubricant is not squeezed out of the contact zone at reductions of 30 and 50% (at 30% reduction the pressure was reduced by 33% and at 50% -- by 7%). A reduction of 66% was not possible with VNIINP-232 because, evidently, the pressure increased so much that the lubricant was squeezed from the contact zone. The solid lubricant, MoS₂-phenolformaldehyde resin, possesses higher strength properties and is not squeezed out at the contact pressures which form for a 66% degree of reduction. Thus, thermo-reactive resins provide the best lubricating properties for hydrostatic extrusion at high degrees of reduction because they provide a separating film. Two figures, three tables, four bibliographic references.

2/2

- 26 -

1/2 025

UNCLASSIFIED

PROCESSING DATE--20NOV70

TITLE--INFLUENCE OF THE MOLYBDENUM DISULFIDE BASED LUBRICANTS ON THE
HYDROEXTRUSION PROCESS OF THE SHKH15 STEEL -U-
AUTHOR--(04)-KARPENKO, I.V., KATSOV, K.B., OGNETOVA, ZH.N., KHRUNIK, R.A.

COUNTRY OF INFO--USSR

K

SOURCE--FIZIKO-KHIMICHESKAIA MEKHANIKA MATERIALOV, VOL. 6, NO. 2, 1970, P.
115, 116

DATE PUBLISHED-----70

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

TOPIC TAGS--HYDROSTATIC EXTRUSION, METAL LUBRICANT, MOLYBDENUM DISULFIDE,
BALL BEARING STEEL, BIBLIOGRAPHY/(U)SHKH15 BALL BEARING STEEL

CENTRCL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/0072

STEP NO--UR/0369/70/006/002/0115/0116

CIRC ACCESSION NO--AP0125907

UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--APG125907

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. STUDY OF THE HYDROEXTRUSION PROCESS OF SHKH15 STEEL AT DIFFERENT REDUCTIONS AND USING DIFFERENT LUBRICANTS. THE USEFULNESS OF LUBRICANTS BASED ON MOLYBDENUM DISULFIDE AND PHENOL FORMALDEHYDE RESIN FOR HYDROEXTRUSION PURPOSES IS DEMONSTRATED.

FACILITY: AKADEMIIA NAUK UKRAINSKOI SSR, FIZIKO-TEKHNICHESKII INSTITUT, DONETSK. FACILITY: AKADEMIIA NAUK UKRAINSKOI SSR, FIZIKO-MEKANICHESKII INSTITUT, LVOV, UKRAINIAN SSR.

UNCLASSIFIED

Acc. Nr:

AP0053746

Abstracting Service:

CHEMICAL ABST.

Ref. Code:

UR0080

K 970

110598v Kinetics of the decarbonylation of furfural on an
oxide catalyst. ~~Karpov, L. A.; Panfilov, M. N. (USSR).~~
Zh. Prikl. Khim. (Leningrad) 1970, 43(1), 135-40 (Russ). Ki-
netic curves were shown for the title reaction on mixed oxides of
Mn, Zn and Cr run in a flow system with H₂O; furfural ratio in
the feed being varied from 17 to 28.5 (molar scale) in the 400°
temp. range. The reaction followed apparent 1st order kinetics
and activation energy of 24.3 kcal/mole. An approx. empirical
kinetic equation was derived from the data. G. M. Kosolapoff]

mu

1

REEL/FRA
19830807

7

Recorders & Transducers

USSR

UDC 621.317.757

KARPENKO, L. F.

"Particulars on Using Direct Magnetic Recording in Spectra Transposers"

Tr. Taganrog, radiotekhn. in-ta (Works of the Taganrog Radio-Engineering Institute), 1972, vyp.28, pp 160-164 (from RZh-Radiotekhnika, No 11, Nov 72, Abstract No 11 A284)

Translation: The author studies the use of spectra transposers with various type of memory elements with respect to the development of spectroanalyzers designed to work in real time. The transposers are designed to reduce the time required for the analysis of infra-low frequency apparatus. Transposers with a magnetic tape memory are characterized by accelerated readout of the reproducing head. The latter is located in a rotating disc, part of which is spanned by the magnetic tape. A.K.

1/1

USSR

UDC 612.21+612.274

KARPENKO, L. I., Leningrad Research Institute of Physical Culture

"External Respiration in Athletes Breathing Pure Oxygen at Different Altitudes"

Leningrad, Fiziologicheskii Zhurnal, SSSR, No 12, 1971, pp 1,799-1,801

Abstract: The rate, depth, and minute volume of respiration were measured in 30 trained athletes after they stayed from 13 to 26 days at altitudes of 1,600 and 2,200 mm where they breathed pure oxygen. The findings were compared with the results obtained in the same persons breathing oxygen at sea level. Examination of lung ventilation after 13 days in the mountains revealed a noticeable change compared with sea level. The minute volume increased due to deepening of respiration in 41%, acceleration in 47%, and deepening and acceleration simultaneously in 12%. The coefficient of oxygen utilization decreased significantly. Oxygen saturation of arterial blood ranged from 95 to 98% or about the same as at sea level. Thus, at 1,600 m and especially 2,200 m, there was an almost complete absence of arterial hypoxemia and increased lung ventilation.

1/1

172 011 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--HARDENING OF EPOXY RESINS -U-

AUTHOR--(03)-OGIY, M.S., KARPENKO, L.M., MOSHCHINSKAYA, N.K.

COUNTRY OF INFO--USSR

SOURCE--USSR 264,667

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--03MAR70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--EPOXY RESIN, CHEMICAL PATENT, CURING AGENT, CHLORINATED
ORGANIC COMPOUND, BENZENE DERIVATIVE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--3002/1466

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

CIRC ACCESSION NO--AA0128865

UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AA0128865

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EPOXY RESINS ARE HARDENED BY USING THE CONDENSATION PRODUCT OF 2,3,5,6-TETRACHLORO,P,XYLENE DICHLORIDE WITH PHENOL AS A CURING AGENT. FACILITY: DZERZHINSKII, F. E., CHEMICAL TECHNOLOGICAL INSTITUTE, DNEPROPETROVSK.

UNCLASSIFIED

USSR

UDC 911.3.613.6(477)

~~KARPENKO, M. I.~~ and KITEI', V. S.

"The Effect of Atmospheric Air Pollution on the Health of Children in Chervonograd"

Gigiyena naselen. mest. Resp. mezhved. sb. (Hygiene of Populated Districts. Republic, Interdepartmental Collection), vyp. 9, 1970, pp 154-157 (from RZh-36. Meditsinskaya Geografiya, No 1, Jan 71, Abstract No 1.36.189)

Translation: The effect of burning coal mine waste heaps on atmospheric air pollution is examined. A significant increase in the morbidity of respiratory organs in children was established. This is related to the heavy pollution of atmospheric air with carbon monoxide and sulfur dioxide.

1/1

- 53 -

1/2 022 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--DETERMINATION OF VAPOR PRESSURE AND COMPOSITION IN SNCL SUB2 RB,
CS,CL SYSTEMS -U-
AUTHOR--KARPENKO, N.V. *K*
COUNTRY OF INFO--USSR
SOURCE--ZH. NEORG. KHIM. 1970, 15(5), 1378-82
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, CHEMISTRY
TOPIC TAGS--VAPOR PRESSURE, THERMODYNAMIC CALCULATION, BINARY FLUID
SYSTEM, TIN CHLORIDE, RUBIDIUM CHLORIDE, CESIUM CHLORIDE, MASS
SPECTROSCOPY

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/1222 STEP NO--UR/0078/70/015/005/1378/1382
CIRC ACCESSION NO--AP0136633
UNCLASSIFIED