

USSR

UDC 621.771.28.001.5

POLUKHIN, P. I., POTAPOV, I. N., FINAGIN, P. M., and SHEYKH-ALI, A. D.

"Theoretical Developmental Work on the Rolling Process in the Area of Large Feeding Angles"

Plasticheskaya Deformatsiya Metallov i Splavov, Moscow, No 64, "Metallurgiya," 1970, pp 158-163

Translation: A theoretical study of the process of cross-screw rolling at large feeding angles is made. It is noted that, in this case, the process has specific features which require a new approach to calibrating the tool and adjusting the mill. Two figures.

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USSR

UDC: 621.774.31

POTAPOV, I. N., POLUKHIN, P. I., GUN, G. Ya., and AKHMEDSHIN, R. I.

"Questions of Optimizing the Process of Piercing on Cross-Screw Rolling Mills"

Moscow, Plasticheskaya Deformatsiya Metallov i Splavov, "Metallurgiya" Publishing House, No 64, 1970, pp 23-28

Translation: The article considers the problem of using the mathematical theory of planning an experiment to determine the optimal value of mill productivity considering all factors influencing the process and limitations superimposed on the conditions under which cross-screw rolling occurs. The mathematical theory of the experiment makes it possible to work out principles of continuous optimal control over the process of cross-screw rolling with due regard for changes in the process related to the action of various uncontrolled factors. Two illustrations and 10 bibliographic entries.

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USSR

UDC 621.382.2

KOVTONYUK, N. F., MOROZOV, V. A., PADIN, V. G., BOGOMOLOV, P. A., ALISULTANOV, YU. B., POTAPOV, I. S.

"Storage of Light Pulse Action in Metal-Dielectric-Semiconductor-Dielectric-Metal Structures Operating in the Prebreakdown Mode"

Leningrad, Fizika i Tekhnika Poluprovodnikov, Vol 6, No 3, 1972, pp 575-576

Abstract: A study was previously made of the phenomenon of accumulation of free carriers under the effect of pulse and stationary illumination in metal-dielectric-semiconductor-dielectric-metal structures in which there were no continuous currents through the dielectric layers [N. F. Kovtonyuk, et al., FTP, No 5, 1174, 1971]. A study has now been made of the case where significant leakage currents flow through the dielectric layers and accumulation of carriers does not occur in practice. Storage of the short light pulse action was detected. On inclusion of the voltage pulse in the absence of illumination of the sample, a capacitive current pulse is observed on the leading edge of the pulse. This capacitive current pulse is characteristic of structures without leakage. Then comes a segment where the continuous current has a comparatively low value (segment I) and only after this is a significant increase in the continuous current through the structure observed. After some time, it

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SR

KOVTONYEV, N. P., et al., Fizika i Tekhnika Poluprovodnikov, Vol 6, No 3, 1972, pp 575-576

reaches a constant value (segment II). The length of segment I is less the greater the voltage pulse amplitude. The magnitude of the saturation current in segment II approaches saturation with an increase in voltage. Under the effect of a light pulse, a photoconductivity signal is observed in segment II. Current oscillations and the length of segment I and magnitude of the current of segment II as functions of the voltage pulse amplitude are presented.

Structures were manufactured so that the dielectric resistance was comparable with the semiconductor resistance, and it was discovered that the sensitivity of such structures is no lower than in good metal-dielectric-semiconductor-dielectric-metal structures operating in the pulse accumulation mode. The data indicate that the prebreakdown operating mode of the investigated structures can be used in creating dynamic storage elements and also certain types of photoreceivers.

USSR

P
UDC: 621.373:530.145.6:621.317.17

FUGOV, V. A., VOROB'YEV, L. K., KUBAREV, A. V., POTAPOV, I. S.

"A Thin-Film Laser Emission Measurement Receiver"

Dokl. Nauchno-tekhn. seminara "Metrol. v radicelektron." Tezisy. Ch. 1 (Reports of the Scientific and Technical Seminar on Metrology in Radio Electronics. Summaries, Part 1), Moscow, 1970, pp 131-136 (from RZh-Radiotekhnika, No 7, Jul 70, Abstract No 7B244)

Translation: The authors give the design and technical characteristics of a thin-film receiver designed for precision measurements of low levels of the power of radiation flux from continuous-emission lasers. The indicator film is made from a semiconductor material with a high temperature coefficient of resistance such as germanium by the method of vaporization in a vacuum. The range of measurable emission powers is 10^{-2} - 10^{-5} [W] in the wave band of 0.4-14 μ . The limiting sensitivity is 0.1 μ W. A. K.

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USSR

UDC 669.24:669.017.3

KRIYENKO, V. I., and POTAPOV, L. P., Institute of Metal Science and Metal Physics, Central Scientific Research Institute of Ferrous Metallurgy
Imeni I. P. Bardin

"Mechanism of Initial Ordering in Ni-Mo Alloys"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 33, No 2, Feb 72, pp 436-440

Abstract: Structural transformations in a Ni alloy containing approximately 18 at% Mo were studied by auto-ionic microscopy at 78°K. The presence of a heterogeneous mechanism of nonordered to ordered transition after annealing at 800°C for 30 minutes was experimentally confirmed. At 700°C there was observed a structure analogous to the earlier stages of ordering after a one-hour anneal where auto-ionic microphotographs revealed individual regions of the Ni₄Mo phase on a background of the unordered f.c.c. lattice with clearly defined interface boundaries which corresponded to the assumptions on the nucleating mechanism of transformation. Microphotographs of the sample alloy taken after the alloy had been quenched from the single-phase region and annealed for 1-500 hours at 600°C showed that little change for the first 1-6 hours of annealing. After 6-10 hours of annealing the photographs revealed
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KRIYENKO, V. I., and POTAPOV, L. P., Fizika Metallov i Metallovedeniye,
Vol 33, No 2, Feb 72, pp 436-440

a less chaotic distribution of visible parts on the auto-ionic microphoto-
graphs. Nothing is stated about ordering in Ni-Mo alloys between 10 and
500 hours of annealing at 600°C except that the structure resulting from
500 hours of annealing is heterogeneous. Two figures, 7 bibliographic
references.

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1/2 018

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--USE OF CRYSTALLOGRAPHIC PROJECTIONS IN FIELD EMISSION MICROSCOPY

P

AUTHOR--POTAPOV, L.P.

COUNTRY OF INFO--USSR

SOURCE--KRISTALLOGRAFIYA 1970, 15(1), 161-5

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--FIELD EMISSION MICROSCOPE, CRYSTALLOGRAPHY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1989/0932

STEP NO--UR/0070/70/015/001/0161/0165

CIRC ACCESSION NO--AP0107461

UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0107461

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ANAL. OF MICROIMAGES BY MEANS OF STD. AND ESP. STEREOGRAPHIC PROJECTIONS IS DISCUSSED. A MICROIMAGE AND A STEREOGRAPHIC PROJECTION OF THE SURFACE OF A W SAMPLE ARE GIVEN AND DESCRIBED AS AN EXAMPLE OF THE ANAL. FACILITY: INST. METALLOVED. FIZ. METAL., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 546.74,77:620.182.2

KIRIYENKO, V. I., POPLAVSKAYA, E. E., and POTAPOV, I. P., Institute of the Science of Metals and Physics of Metals of the Central Institute of Ferrous Metallurgy imeni I. P. Bardin

"Effect of Alloying Elements on Ordering in Nickel-Molybdenum Alloys"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 33, No 6, Jun 72, pp 1260-1266

Abstract: A study was made of the effect of 2.09-2.39 at.% V on the ordering mechanism in nickel alloys with ~19 at.% Mo and on the character of the effect of 1.34 at.% Nb. The results are analyzed on the basis of hardness evaluations, roentgenographic investigations, and direct observation of the atomic structures of alloys by autoionization microscopy. The introduction of V produced a strong retardation of isothermic transformations, most strongly expressed at 800°C. Alloying with V and Nb widens the domain of the (α +Ni₃Mo) diagram of state into the low-temperature side, changing the Ni₄Mo transformation temperature. Hypotheses are suggested for a probable retardation mechanism of transformation processes. Four figures, eight bibliographic references.

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USSR

UDC 621.394.542.3

P
PELEKHATYY, M. I., POTAPOV, N. A., SKLYAROV, S. I., SMIRNOV, V. N.

"Problems in the Reception and Transmission of Pseudo-Random PM Signals"

Moscow, Elektrosvyaz', No 7, 1970, pp 32-38

Abstract: This article deals with the following two problems in phase-modulated information transmission: the possibility of reducing the ratio of the side levels of the correlation function to the central lobe through a transformation of the signal; finding a principle on which to construct a new class of pseudo-random sequences with good autocorrelation and inter-correlation characteristics when the signal transformation is introduced. To improve the ratio of the central lobe of the correlation function to the side lobe, a transformation in which two parts of the same signal are multiplied is used. The transformation is made by breaking a sequence up into two orthogonal components. The authors show how their methods can be applied to binary and quaternary sequences.

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USSR

UDC: 537.312.62

POTAPOV, N. N.

"On the Problem of Methods of Describing the Magnetic Hysteresis of Rigid Superconductors"

V sb. Probl. sverkhprovodyashch. materialov (Problems of Superconducting Materials—collection of works), Moscow, "Nauka", 1970, pp 65-70 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5D556)

Translation: The author discusses problems associated with the use of various physical quantities for the characteristic of magnetic hysteresis of rigid superconductors. Some data are presented from a study of the hysteresis of sintered Nb-Sn alloys in the region of the Nb₃Sn composition at 4.2°K. Quantities which characterize hysteresis in cases of cooling of specimens below the critical temperature in a magnetic field and without a field are determined and compared on the basis of experimental data. A relationship is established between the field and energy quantities respectively determined for these two cases. The strength of the first critical field is $H_{k1} \approx 200$ oersteds, which was found by a method proposed by Prekul and Vol'kenshteyn [names transliterated from the Russian]. This field strength agrees well with data found by using other methods. Four illustrations, one table, bibliography of eight titles.

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USSR

UDC 537.312.62+669.293

POTAPOV. N. N.

"The Problem of Methods of Describing Magnetic Hysteresis of Solid Superconductors"

Problemy Sverkhprovodyashchikh Materialov [Problems of Superconducting Materials — Collection of Works], Moscow, Nauka Press, 1970, pp 65-70

Translation: Problems are discussed, related to the use of various physical quantities to characterize the magnetic hysteresis of solid superconductors. Results are presented from a study of the hysteresis of sintered Nb-Sn alloys in the region of the composition Nb₃Sn at 4.2°K. Experimental data are used to determine and compare quantities characterizing the hysteresis in cases of cooling of specimens to below the critical temperature in a magnetic field and with no field. The relationship of the corresponding field and energy quantities determined for these two cases is demonstrated. The value of the first critical field $K_{k1} = 200$ oe, found by the method suggested by Prekul and Vol'kenshteyn agrees well with known results produced using other methods. 4 figures; 1 table; 8 biblio. refs.

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UDC: 550.834

USSR

POLSHKOV, M. K., MUSHIN, I. A., SHEKHTMAN, G. A., POTAPOV, O. A., All-Union Scientific Research Institute of Geophysical Methods of Prospecting

"A Method of Processing Seismic Data"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 7, Mar 72, Author's Certificate No 329492, Division G, filed 25 Aug 69, published 9 Feb 72, p 183

Translation: This Author's Certificate introduces: 1. A method of processing seismic data based on the effect of the change in intensity of a seismic recording when elastic oscillations are registered in media with different acoustic rigidities. As a distinguishing feature of the patent, the procedure is designed for improved precision in locating boundaries which separate media with different acoustic rigidities. Reproduced seismic recordings obtained by some such means as vertical seismic profiling at each point of the investigated medium along the direction which intersects the boundaries to be determined are integrated over a certain time interval after conversion to quadratic form, and the integral values are presented

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USSR

POLSHKOV, M. K. et al., USSR Author's Certificate No 329492

in the form of a depth curve. The presence of geological boundaries is then determined from changes in the curve. 2. A modification of this method distinguished by the fact that the integral values are obtained from seismic recordings converted to unipolar form.

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USSR

POTAPOV, R. L., (Editor)

Ekologicheskiye i Fiziologicheskiye Aspekty Pereletov Ptits (Ecological and Physiological Aspects of Bird Migrations), Leningrad, "Nauka," 1971, 244 pp

Translation: Table of Contents:

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LYULEYEVA, D. S., "Certain Typical Features of the Biology of Swallows During the Migration Period"	183
DOL'NIK, V. R., and GAVRILOV, V. M., "Caloric Equivalent of Change in the Body Weight of the Chaffinch (Fringilla coelebs)"	226
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USSR

POTAPOV, R. L., (Editor)

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172 008 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--DIS PI METHALLYLCOBALT CHLORIDE -U-
AUTHOR--(02)--~~POTAROVY~~ S.S., VASHKEVICH, V.A.
COUNTRY OF INFO--USSR
SOURCE--USSR 265,101
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--09MAR70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--CHEMICAL PATENT, COBALT CHLORIDE, ORGANOCOBALT COMPOUND,
CHEMICAL SYNTHESIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3002/1457 STEP NO--UR/0482/70/000/000/0000/0000
CIRC ACCESSION NO--AA0128856
UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AA0128856

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE COMPD. IS PREPD. FROM
METHALLYLMAGNESIUM CHLORIDE AND CO CHLORIDE IN ETHER TOLUENE AT LESS
THAN MINUS 20DEGREES AND THEN AT ROOM TEMP. FACILITY: LOMONOSOV,
M. V., INSTITUTE OF FINE CHEMICAL TECHNOLOGY, MOSCOW.

UNCLASSIFIED

1/2 009 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--SATURATED ABSORPTION ON A 1.06 MU WAVELENGTH IN GLASS -U-
AUTHOR--(03)-BONCHBRUYEVICH, A.M., POTAPOV, S.YE., KHANIN, YA.I.
COUNTRY OF INFO--USSR
SOURCE--OPT. SPEKTROSK. 1970, 28(1), 203-5
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--GLASS PROPERTY, NEODYMIUM GLASS, GLASS STRUCTURE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/0634 STEP NO--UR/0051/70/028/001/0203/0205
CIRC ACCESSION NO--AP0119546
UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0119546

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ABSORPTION SATN. CENTERS APPEAR IN GLASSES AS A RESULT OF GLASS MATRIX PROPERTIES AND ARE NOT AFFECTED BY THE PRESENCE OF NO PRIME3 POSITIVE IN GLASS.

UNCLASSIFIED

USSR

UDC 621.375.9:535+535.34

BONCH-BRUYEVICH, A. M., POTAPOV, S. Ye., KHANIN, Ya. I.

"Saturating Absorption at Wavelength 1.06μ in Glass"

Leningrad, Optika i Spektroskopiya, Vol 28, No 1, Jan 70, pp 203-205

Abstract: It was previously shown by the authors that the spike structure of laser radiation due to saturating absorption in neodymium-doped glass is found only under the action of pumping radiation with $\lambda < 450$ nm. The present article describes experiments staged for the purpose of ascertaining whether the action of this radiation results in population of high energy states of neodymium ions from which further absorption at the generation wavelength is possible, or whether saturating absorption is stimulated by the short-wave sector of the pumping spectrum in the glass matrix itself regardless of whether Nd^{3+} ions are present in it. It was found that saturating absorption occurs in the glass regardless of the presence of the neodymium dopant and is stimulated by relatively short-wave pumping radiation. An estimate was made of the parameters characterizing the stimulated saturating absorption in the glass. It is suggested that the appearance of centers of saturating absorption is determined by the properties of the glass matrix and is not due to its activation by neodymium

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BONCH-BRUYEVICH, A. M., et al., Optika i Spektroskopiya, Vol 28, No 1, Jan 70, pp 203-205

ions. A rod of inactivated glass placed in the cavity together with an active body can be used as a solid shutter controlled by ultraviolet irradiation. The pulse repetition rate of the laser radiation can be varied within a wide range by changing the ultraviolet irradiation intensity.

The authors thank I. M. Buzhinskiy for his assistance in the work and useful discussions.

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USSR

UDC 624.073.042

POTAPOV, V. D., Moscow Institute of Railroad Transportation Engineers

"Stability of Viscous-Elastic Plates With Microinhomogeneities"

Kiev, Prikladnaya mekhanika, No. 11, Nov 71, pp 65-69

Abstract: The stability of equilibrium states in studying problems in the theory of elasticity considering microinhomogeneities of the material is discussed. It is noted that although a theoretical solution to this problem generally involves overcoming considerable mathematical difficulties, the problem can be considerably simplified if the discussion is limited to the simplest assumptions concerning the mechanical properties and character of the inhomogeneities of the material. In this article an approach is made toward obtaining the probability characteristics of the critical parameters of plates by using the spectral decomposition of statistically homogeneous fields of viscous-elastic constants. The viscous-elastic constants are considered as probability functions of the coordinates of the middle plane, which are represented in the form of Fourier-Stieltjes integrals. Expressions are obtained for the first approximations of the critical parameter considering a small microinhomogeneity.

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USSR

UDC 624.071.4+539.411

POTAPOV, V. D., Moscow

"Stability of Viscous-Elastic Heterogeneous Shell"

Zhurnal Prikladnoy Mekhaniki i Tekhnicheskoy Fiziki, No 1, 1972, pp 109-113.

Abstract: A shell is studied, for which the viscous-elastic constants are random functions of the curved coordinates of the mean surface. The correlation functions of the first approximations of bending and stress functions are produced, as well as the dispersion of critical time. The critical time refers to the time after which a shell under compression under conditions of unlimited creep will "snap" under an arbitrary load. The critical time depends on many factors, primarily the characteristics of the elastic and viscous properties of the material, which are widely varied, being random functions of the coordinates.

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Acc. Nr:

AA0036271

Abstracting Service:
CHEMICAL ABST. 4/30

Ref. Code:

UR 0482

78677g p-Acetamidobenzaldehyde thiosemicarbazone.
 Predvoditeleva, G. S.; Shchukina, M. N.; Potapova, V. G.;
 Kurkina, N. V. (Ordzhonikidze, S. All-Union Scientific-Research
 Chemical-Pharmaceutical Institute). U.S.S.R. 252,331 (Cl. C
 07c), 22 Sep 1969. Appl. 01 Dec 1967; From *Otkrytiya, Izobret.,
 Prom. Obrazisy, Tovarnye Znaki* 1969, 46(29), 26. p-Acetamino-
 benzaldehyde thiosemicarbazone (I) is prepd. by boiling p-nitro-
 toluene with S in the presence of 16-18% aq.-alc. alkali. The
 resulting p-aminobenzaldehyde is acetylated with Ac₂O and the
 reaction mass dild. with water and condensed with thiosemi-
 carbazide. Before acetylation an alc. layer is sepd. An org.
 solvent is added to it to give a triple azeotrope with water and
 alc., such as xylene or PhMe. The water and alc. are distd. and
 acetylation takes place in the above-mentioned org. solvent
 which is distd. further before the reaction mass is dild. with
 water. MSCL

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ALS

REEL/FRAME
19721106

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USSR

POTAPOV, V. I. and MIRENKOV, P. V.

"The Structural Complexity and Technical Realization of Formal Neurons Using Magnetic Flux Switches"

Probl. Bioniki. Resp. Mezhd. Temat. Nauch.-Tekhn. Sb. [Problems of Bionics. Republic Interdepartmental Thematic Scientific and Technical Collection], 1973, No 10, pp 3-15 (Translated from Referativnyy Zhurnal Kibernetika, No 10, 1973, Abstract No 10V801)

Translation: Problems of the technical realization of multifunctional and monofunctional formal neurons are discussed. The general structural complexity of the following types of formal neurons is analyzed: with blocking fibers, with permitting fibers, with combining fibers and with combinations of spontaneous and blocking fibers. 11 Biblio. Refs.

Author's view

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USSR

POTAPOV, V. I., DOTSENKO, M. F.

UDC: 8.74

"Neuron-Like Elements in the Mode of Recovering Organs"

Probl. bioniki. Resp. mezhved. temat. nauch.-tekhn. sb. (Problems of Bionics. Republic Interdepartmental Thematic Scientific and Technical Collection), 1973, vyp. 10, pp 38-49 (from RZh-Kibernetika, No 7, Jul 73, abstract No 7V715 by the authors)

Translation: Mathematical models are considered for three types of neuron-like elements in the mode of regenerating organs. Expressions are derived for calculating the probability of trouble-free operation of redundant systems with nonadditive and additive neuron-like regenerating organs, and the effectiveness of the neuron-like elements is studied in the regenerating organ mode. This enables selection of the most effective structure and algorithm of adaptation of the neuron-like regenerating organ on the basis of a priori data as to the most probable situation in the process of operation at the inputs of the regenerating organ.

1/1

USSR

UDC: 681.3.055

POTAPOV, V. I., MIRENKOV, P. V., VORONKOVA, L. V., Omsk Polytechnical Institute

"A Multifunctional Threshold Element"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 10, Apr 72, Author's Certificate No 332575, Division H, filed 13 Jul 70, published 14 Mar 72, p 225

Translation: This Author's Certificate introduces a multifunctional threshold element based on magnetic cores with rectangular hysteresis loop. The element operates in accordance with the principle of current distribution, and contains a unit for setting the threshold value, and also threshold cores carrying series-connected windings for recording the weight coefficients of variables and threshold windings. As a distinguishing feature of the patent, the logic possibilities are extended by adding units for input of the code for weight coefficients of variables, and units for recording the weight coefficients on the threshold cores. The distribution windings of the units for recording the weight coefficients on the threshold cores and of the unit for setting the threshold value are con-
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POTAPOV, V. I. et al, USSR Author's Certificate No 332575

ected to the windings for recording the weight coefficients of variables and to the threshold windings, while the distribution windings of the units for input of the code for weight coefficients are connected in series with the corresponding controlling windings of the units for recording the weight coefficients on the threshold cores.

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USSR

UDC: 8.74

MKRT'CHYAN, S. O., GAZIYAN, V. N., POTAPOV, V. I.

"Synthesis of Formal Neurons With a Minimum Number of Fibers by the Method of Threshold Diagram Selection"

Probl. bioniki. Resp. mezhved. temat. nauch.-tekhn. sb. (Problems of Bionics. Republic Interdepartmental Thematic Scientific and Technical Collection), 1971, vyp. 7, pp 3-8 (from RZh-Kibernetika, No 4, Apr 72, Abstract No 4V600)

Translation: Algorithms for construction of a minimizing threshold diagram are presented for synthesis of formal neurons with interacting fibers of the "inhibit", "enable" and "union" types. Authors' abstract.

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1/2 023 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--IONIC MOLECULAR REACTIONS DURING THE PHOTOIONIZATION OF METHANOL
AND ETHANOL -U-
AUTHOR--(02)-POTAPOV, V.K.; SOROKIN, V.V. P
COUNTRY OF INFO--USSR
SOURCE--DOKL. AKAD. NAUK SSSR 1970, 192(3), 590-3
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, NUCLEAR SCIENCE AND TECHNOLOGY
TOPIC TAGS--PHOTOIONIZATION, METHANOL, ETHANOL, MASS SPECTRUM, PHOTON,
DEUTERIUM COMPOUND
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/1866 STEP NO--UR/0020/70/192/003/0590/0593
CIRC ACCESSION NO--AT0132128
UNCLASSIFIED

272 023

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AT0132128

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE STUDY OF MEOD, CD SUB 3 OH, MECD SUB 2 OH AND CD SUB 3 CH SUB 2 OH WAS MADE IN TERMS OF MASS SPECTRA AND REACTIONS POSSIBLE IN MEOH AND ETOH AT NORMAL TEMP. AS FOLLOWED BY A CHEM. MASS SPECTROMETER USING IONIZING PHOTONS WITH FIRST IONIZATION POTENTIALS UP TO 13 EV. THE DISTRIBUTION OF PRODUCTS AND PRODUCT FRAGMENTS WAS TABULATED; THE MOST PROBABLE ARE REACTIONS OF TRANSFER OF H FROM HO SO AS TO FORM MEOD SUB 2 PRIME PLUS FROM MEOD OR OF MECD SUB 2 OH SUBPRIME PLUS FROM MECD SUB 2 OH AND THE CORRESPONDING ALKOXY ION RADICALS SUCH AS MEO AND MECD SUB 2 O; THESE RATES ARE IN COMPARISON WITH THE LESSER RATES FROM FORMATION OF DEUTERATED IONS AND RADICALS SUCH AS CH SUB 2 OD FROM MEOD AND OR MECD OH FROM MECD SUB 2 OH, ALTHOUGH THE LATTER REACTIONS ARE ACTUALLY MORE ADVANTAGEOUS ENERGETICALLY BY SOME 0.5 EV. IN ETOH THERE WAS ALSO OBSD. THE FORMATION OF DEUTERATED CH SUB 2 CD SUB 2 OH IONS AND RADICALS, WHICH PROCEEDS DESPITE EVEN LOWER PROBABILITY RELATIVE TO THE PROCESSES CITED ABOVE. EVIDENTLY IN IONIC MOL. REACTIONS IN ALCS. THE PROGRESS ALONG DEFINITE ROUTES IS DETD. BY SPECIFICITY OF THE REACTION OF POS. IONS WITH AN INDUCED MOL. DIPOLE TYPICAL OF POLAR MOLS. FACILITY: FIZ. KHIM. INST. IM. KARPOVA, MOSCOW, USSR.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--LOAD CARRYING CAPACITY OF A STRUCTURE MADE FROM AN ISOTROPIC
MATERIAL WITH DIFFERENT YIELD POINTS WITH ALLOWANCE FOR THERMAL EFFECTS
AUTHOR--(02)-LISTROVA, YU.P., POTAPOV, V.N.
COUNTRY OF INFO--USSR
SOURCE--MASHINOSTROENIE, NO. 2, 1970, P. 5-8
DATE PUBLISHED-----70
SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--SHELL STRUCTURE, THERMAL EFFECT, SHELL OF REVOLUTION, ISOTOPIC
PROPERTY, YIELD STRESS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1985/0317 STEP NO--UR/0418/70/000/002/0005/0008
CIRC ACCESSION NO--AP0100804
UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0100804

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CONSTRUCTION OF A LIMITING YIELD SURFACE FOR SYMMETRICALLY LOADED SHELLS OF REVOLUTION MADE FROM AN ISOTROPIC IDEALLY RIGID PLASTIC MATERIAL HAVING DIFFERENT YIELD POINTS UNDER TENSION AND COMPRESSION. THE ANALYSIS IS BASED ON THE ASSUMPTION THAT THE YIELD POINTS VARY ACCORDING TO A POWER LAW ACROSS THE THICKNESS OF THE SHELL. THE UPPER CRITICAL LOAD IS DETERMINED FOR A STRUCTURE IN THE FORM OF TWO CYLINDERS COUPLED BY A SPHERICAL SEGMENT.

UNCLASSIFIED

POTAPOV, V.S.

So: JPKS 57608
25 JULY 1973

(2)

MAGNETIC CRYSTALLINE SHIFT INDICATORS FOR DOMAIN MEMORY DEVICES

V. S. Potapov and V. K. Razyv

pp 88-106

Existing designs of solid state magnetic crystalline memory devices utilize a set of accumulator registers combined by means of special keys as a communication register containing data input and readout devices [1-3]. The available total capacity of accumulator registers according to Weber's estimates [4] is 20-80 Kilobits. The digit capacity of an accumulator register is 1 to 4 kilobits.

Distinctive Features in the Construction of Cylindrical Magnetic Domain Shift Registers

In magnetic domain registers, in contrast with magnetic core shift registers [5], the transfer of information from one digit cell to a neighboring one is not accompanied by a transformation of the physical nature of the transmitted signal. The movement of domains takes place in a homogeneous magnetic medium and in accordance with the diagram of the advancing circuit, composed of massive ferromagnetic and/or conducting elements and arranged on the surface of a crystal. The presence of only passive elements in the advancing circuit leads in practice to a sharp reduction of the number of contact connections and leads, the number of which, as a rule, does not depend on the digit capacity of the registers. For example, in the circuit of the domain memory device of the Bell Telephone Company, with a total capacity of 3648 bits, there is a need for only six leads for the data input and readout devices [2].

Thus the absence of a need to transform the physical nature of transmitted signals, side by side with a greatly

Acc. Nr: AF0038048 P

Ref. Code: UR 0056

PRIMARY SOURCE: Zhurnal Eksperimental'noy i Teoreticheskoy
Fiziki, 1970, Vol 58, Nr 1, pp 264-280

ASYMPTOTIC BEHAVIOR OF THE CHARGE EXCHANGE
CROSS SECTION

Brodskiy, A. M.; Potapov, V. S.; Tolmachev, V. V.

The asymptotic behavior of terms of the iteration expansion of the transition amplitude for reaction (1a) is studied for the extreme case of high relative velocities of the colliding particles. Asymptotic expressions are obtained for the total and differential cross sections. Some features which the Born approximation possesses when applied to rearrangement problems are noted.

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REEL/FRAME
19731091

21

GB

USSR

UDC: 621.315.592

YAREMENKO, N. G., POTAPOV, V. T., and IVLEVA, V. S., Institute of
of Radio Engineering and Electronics, Moscow

"Electrical Conductivity and Hall Effect in Strongly Compensated
n-InSb at Low Temperatures"

Leningrad, Fizika i tekhnika poluprovodnikov, No 7, 1972, pp
1238-1247

Abstract: Considering that detailed investigations of the effect
of strong compensation on galvanomagnetic effects in n-InSb at
low temperatures are lacking in the literature, the authors de-
scribe experiments they performed to determine the characterist-
ics of this material. They measured the Hall effect and the con-
ductivity in pure and germanium-contaminated n-InSb monocrystals
at temperatures of 4.5 to 500 K in the d-c mode. They used the
compensation method at currents through the specimen which did
not heat the crystal lattice, measuring the Hall effect in a weak
magnetic field of 230 oersteds. A table of the specimen para-
meters, measured at 30° K instead of the usual 77° K, is given
together with curves of the n-InSb Hall constant and conductivity
1/2

USSR

YAREMENKO, N. G., et al, Fizika i tekhnika poluprovodnikov, No 7, 1972, pp 1238-1247

as functions of the temperature. Curves are also given for the Hall constant and the conductivity as functions of the lattice temperature. It is noted that in the absence of a theory of the Hall effect under conditions of current pinching, it may be assumed that the expression for the effect is no longer valid under those conditions. Appreciation is expressed to S. G. Kalashnikov and Yu. V. Gulyayev for their interest in the work, to V. I. Trifonov, I. I. Chusov, and V. M. Afinogenov for their comments, and to G. A. Mushletsova for her assistance with the measurements.

2/2

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USSR

UDC 621.376.223.029.65/.66

LISTVIN, V. N., and POTAPOV, V. T.

"A Semiconductor Modulator of the Millimeter and Submillimeter Bands"

Moscow, Radiotekhnika i Elektronika, Vol 16, No 7, Jul 71, pp 1222-1224

Abstract: The paper presents the results of an experimental study of a semiconductor modulator based on N-type indium antimonide at 4.2°K in the millimeter and submillimeter bands (0.8-8.0 mm). In compensated specimens of N-type InSb at 4.2°K, the impurity band can be separated from the conduction band. Then application of an electric field to the specimen leads to impact ionization of the impurity levels and an increase in the number of electrons in the conduction band, as well as changing the mobility of the electrons. At the same time, there is a change in the electrical conductivity of the specimen and the coefficient of absorption of the emission. This is the effect on which the proposed emission modulator is based. Relationships are found for the coefficient of modulation as a function of the amplitude of the modulating voltage and the emission wavelength. The modulator may be used in radiometers for the submillimeter band. The authors thank V. V. Rudakov for assistance in conducting the experiment, and V. V. Migulin and V. I. Trifonov for discussing the results.

1/1

Acc. Nr.: AP0029426

Ref. Code: UR 0297

PRIMARY SOURCE: Antibiotiki, 1970, Vol 15, Nr 1, pp 34-37

DEVELOPMENT OF MULTIPLE DRUG RESISTANCE IN BACTERIA REPEATEDLY
TREATED WITH TETRACYCLINE

M. F. Khanina, V. V. Potapov, A. A. Terekhov

N. F. Gamaleya Institute for Epidemiology and Microbiology, Academy of Medical
Sciences of the USSR, Moscow

On passages to media containing increasing concentrations of tetracycline the strains of *E. coli* acquired higher resistance levels to tetracycline and at the same time became resistant to chloramphenicol, streptomycin, penicillin. Other properties, such as requirements in growth factors, morphology, multiplication rate also changed in most of the polyresistant mutants studied. It is supposed that decrease in sensitivity to other drugs in tetracycline resistant mutants was associated with impaired transport of substances inside the cell.

gm

REEL/FRAME

6

USSR

UDC 536.24:537.312.51

ZHULEV, Yu. G., POTAPOV, Yu. F.

"Radiating System for Cooling of Near-Spherical or Near-Polyhedron Bodies"

Moscow, Teplofizika Vysokikh Temperatur, Vol. 9, No. 2, Mar-Apr, 71, p. 360-365.

Abstract: The problem of calculating the heat transfer capacity and optimization of conical radiating elements located on the surface of a spherical cooled body and expanding radially into space is solved. The problem is solved for the case when the radius of the sphere being cooled is such that the bases of neighboring cones contact each other at the surface of the sphere and the points of intersection of their axes with the surface of the sphere are the points of a right polyhedron inscribed in the sphere. It is assumed that the surface of the body being cooled is not great in comparison to the surface of the radiating cones, that the temperature in the cross section of a cone wall is constant, that the surfaces of the cones are grey diffuse radiators.

1/1

Devices

USSR

UDC: 621.391.8

LESNICHENKO, P. S., NISHCHEV, P. A., POTAPOV, Ye. P., KARABANOV, G. G.,
DERIPALOV, B. D.

"A Device for Search of a Noise-Like Signal"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki,
No 5, Feb 71, Author's Certificate No 293304, Division H, filed 11 Aug 69,
published 15 Jan 71, p 180

Translation: This Author's Certificate introduces a device for search of a noise-like signal with respect to time delay in correction of a pseudorandom sequence oscillator with correlation detection indicator and search interval scan. As a distinguishing feature of the patent, search is accelerated by connecting the counters for reference signals and measurement of the time of accumulation of radio pulses to a coincidence circuit whose output is connected to an integrator, to a zero-reset circuit, and to the input of the stage for feeding in correction of the integration time and the pulse elimination circuit. The output of the pulse elimination circuit is connected to the pseudorandom signal oscillator. A cadence pulse generator is connected directly to the elimination circuit, and also to a slave counter through a diode which is connected to the threshold device of the detection indicator.

1/1

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USSR

UDC 621.394.622.2(088.8)

SIROBABA, Ya. Ya., POTAPOV, Ye. P., PERLYA, Ya. Z., BURTSEV, B. Y.

"A Device for Cadence Synchronization"

USSR Author's Certificate No 258368, Filed 7 Feb 68, Published 24 Apr 70 (from RZh-Radiotekhnika, No 10, Oct 70, Abstract No 10D96 P)

Translation: This Author's Certificate introduces a device for cadence synchronization of radio line receivers with noise-like phase-keyed signals. The unit contains a pseudorandom sequence discriminator and a controlled oscillator. To increase resistance to noise interferences and eliminate ambiguities, the controlled oscillator is connected through a frequency divider to a phase shifter module, the output of the discriminator also being connected to this module through a filter and an integrator. The output of the phase shifter module is connected to a pulse shaper which is connected to a pseudorandom sequence generator. Resumé.

1/1

USSR

UDC 621.791.75.754.01:533.5

SHIGANOV, N. V., Doctor of Technical Sciences, POTAPOV, YU. D., Engineer,
BARESKOV, N. A., Candidate of Technical Sciences, and MAZOK, V. K., Engineer

"Some Features of Vacuum-Arc Welding With a Hollow Cathode"

Moscow, Svarochnoye Proizvodstvo, No 9, 1973, pp 17-19

Abstract: Results from a study of the main electrical characteristics of arc discharge during vacuum-arc welding with a hollow cathode and with supply of a stabilizing gas, are presented along with the specifics of the process and properties of the produced weld joints. Lanthanum-plated tungsten tubes, 4 mm in outside diameter and 2 mm inside diameter, were used as electrodes. Stainless steel 1Kh18N10T and titanium alloy VT6 were used as the two materials welded (steel-steel and titanium-titanium). It was established that the process of vacuum-arc welding with inleakage of a plasma-forming gas into the arc zone was stable over a large range of welding rates (from 2 to 100 m/hr). With a welding rate of 40 m/hr the coefficient of seam shape changes (the ratio of seam width to height is decreased). It was concluded that when welding with a hollow cathode the change in arc length of 60-70 mm does not change its voltage. A stable arch discharge can be guaranteed here with a very insignificant consumption of plasma-forming gas (0.14-2 l/hr), which makes it possible to produce stable melting upon significant fluctuations of the arc gap.

1/2

USSR

SHIGANOV, N. V., et al., Svarochnoye Proizvodstvo, No 9, 1973, pp 17-19

Mechanical properties and welding characteristics are given for the vacuum-arc welded samples along with the same data for argon-arc welded samples for comparison. 4 figures, 1 table, 3 bibliographic references.

2/2

68

1/2 039 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--HEAT REMOVING RADIATIVE SYSTEM FOR COOLING SHORT CYLINDRICAL BODIES
-U-
AUTHOR--(02)-POTAPOV, YU.V., ZHULEV, YU.G. P
COUNTRY OF INFO--USSR
SOURCE--INZHERNERNO-FIZICHESKII ZHURNAL, VOL. 18, APR. 1970, P. 737-739
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--RADIATIVE HEAT TRANSFER, COOLING, CYLINDRIC SHELL STRUCTURE,
RADIATIVE HEAT EXCHANGER
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/1384 STEP NO--UR/0170/70/018/000/0737/0739
CIRC ACCESSION NO--AP0125032

2/2 039

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0125032

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ANALYSIS OF PREVIOUSLY DERIVED RELATIONS (ZHULEV AND POTAPOV, 1968) DESCRIBING (AS A SPECIAL CASE) A HEAT RADIATOR WHOSE RADIAL CONICAL PROJECTIONS ARE LOCATED IN ONE PLANE. THE PROBLEM OF CALCULATING AND OPTIMIZING THE RADIATOR IS ANALYZED AND SOLVED. FACILITY: TSENTRAL'NYI AEROGIDRODINAMICHESKII INSTITUT, MOSCOW, USSR.

UNCLASSIFIED

USSR

(1)
UDC 621.791

GEYNISH, Z. V., KALININ, B. P., DENISOV, A. V., BUCHINSKIY, V. N., Engineers,
and POTAP'YEVSKIY, A. G., Candidate of Technical Sciences

"The Use of Expendable-Electrode Argon Pulsed-Arc Welding for the Fabrication
of Chemical Equipment"

Moscow, Khimicheskoye i Neftyanoye Mashinostroyeniye, No 10, Oct 72, p 24

Abstract: VNIIPKhimnefteapparatury [All-Union Scientific Research, Planning
and Technological Institute of Chemical and Petroleum Equipment] has developed
a technique for the consumable-electrode argon pulsed-arc welding of stainless-
steel angle, T and lap joints for the fabrication of parts and components for
column-type apparatuses (trays, spouts, boxes etc.). The use of pulsed-arc
welding makes it possible to raise labor productivity, improve product quality
and appearance, and reduce product deformation. Pulsed-arc welding with
06Kh19N9T and 07Kh25N13 wires assures high mechanical weld-joint properties.
Such joints are not susceptible to cracking or intercrystalline corrosion.
The weld seams have the usual austenitic-ferritic structure. The technique
makes it possible to weld not only austenitic steels, but also semiferritic
steels, for example OKh13. The developed welding technique has been introduced
1/2

USSR

GEYNISH, Z. V., et al., Khimicheskoye i Neftyanoye Mashinostroyeniye, No 10,
Oct 72, p 24

at the Chernovitskiy Machine-Building Plant for the fabrication of stainless-
steel parts and components for column-type apparatuses, resulting in an annual
economic effect of about 17,000 rubles.

2/2

L/2 034 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--COMPARATIVE EFFECTS OF HIGH ENERGY RADIATION OF A 25-MEV BETATRON
AND PRIME60 CO ON THE FUNCTIONAL STATE OF CERTAIN GLANDS OF INTERNAL
AUTHOR--(03)-PEGEL, V.A., DOKSHINA, G.A., POTAPOVA, A.I.
COUNTRY OF INFO--USSR
SOURCE--RACIOBIOLOGIYA; 10: 49-53 (JAN-FEB 1970)
DATE PUBLISHED--70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--BETATRON, BREMSSTRAHLUNG, GAMMA RADIATION, COBALT ISOTOPE,
RADIATION BIOLOGIC EFFECT, RADIATION DOSAGE, EPINEPHRINE, INSULIN,
CORTICOSTEROID, LIVER FUNCTION, GLYCOGEN
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3001/1845 STEP NO--UR/0205/70/010/000/0049/0053
CIRC ACCESSION NO--AP0127255
UNCLASSIFIED

2/2 034
CIRC ACCESSION NO--AP0127255

UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RESULTS OF IRRADIATION OF RATS WITH A 25 MEV BETATRON AND WITH PRIME60 CO AT AN EQUIVALENT DOSE OF 1000 RAD ARE PRESENTED FOR THE CHANGE IN THE CONTENT OF ADRENALINE LIKE SUBSTANCES IN THE BLOOD AND URINE, 11, HYDROXYCORTICOSTEROIDS, INSULIN LIKE ACTIVITY OF THE PLASMA, AND 17, HYDROXYCORTICOSTEROIDS OF THE URINE, AS WELL AS THE LIVER SUGAR AND GLYCOGEN. DATA ON THE HIGH RBE FOR BETATRON BREMSSTRAHLUNG WERE OBTAINED. THE MORE SIGNIFICANT EFFECT OBTAINED IN THE ACCELERATOR IRRADIATED ANIMALS IS ATTRIBUTED TO THE LARGER ABSORBED DOSE CREATED IN THE ORGANS AND TISSUES.
FACILITY: TOMSK UNIV., USSR.

UNCLASSIFIED

1/2 012 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--THE TECHNIQUE OF RESEARCHING METAL EXTRACTIONS RATE DEPENDENCE ON
SPECIFIC PHASE DIVISION SURFACES -U-
AUTHOR-(03)-KLETENIK, YU.B., NAVROTSKAYA, V.A., POTAPOVA, A.I.
COUNTRY OF INFO--USSR
SOURCE--IZVESTIYA SIBIRSKOGO OTDELENIYA AKADEMII NAUK SSSR, NO 4, SERIYA
KHIMICHESKIKH NAUK, 1970, NR 2, PP 13-18
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--EXTRACTIVE METALLURGY, INDIUM, IRON, PHOSPHORIC ACID
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REFL/FRAME--1993/0564 STEP NO--UR/0289/70/000/000/0013/0018
CIRC ACCESSION NO--AP0113455
UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0113455

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EXPERIMENTAL TECHNIQUE FOR THE QUANTITATIVE RESEARCH OF METAL EXTRACTION RATE DEPENDENCE ON THE SPECIFIC PHASE DIVISION SURFACE IN SYSTEMS WITH SLOW ESTABLISHMENT OF EXTRACTION EQUILIBRIUM IS SUGGESTED. THIS TECHNIQUE IS BASED ON RECIPROCATING MIXER UTILISATION HAVING EXTENSIVELY VARIABLE AND SUFFICIENTLY STABLE MIXING RATE. PHASE DIVISION SPECIFIC SURFACE IS MEASURED BY MEANS OF LIGHT TRANSMISSION. THE SLOW STAGE OF IRON AND INDIUM EXTRACTION PROCESSES WITH THE HELP OF DIALKYL PHOSPHORIC ACIDS IS STATED TO HAVE A HETEROGENOUS NATURE. CONSIDERATIONS WERE MADE OF TWO TYPES OF EXTRACTION RATE DEPENDENCE ON SPECIFIC PHASE DIVISION SURFACE, CORRESPONDING TO TWO ESSENTIALLY DIFFERENT TYPES OF SLOW PROCESS STAGE, HOMOGENOUS AND HETEROGENOUS ONES. FACILITY: INSTITUT FIZIKO KHIMICHESKIKH OSNOV PERERABOTKI MINERAL'NOGO SYR'YA, NOVOSIBIRSK.

UNCLASSIFIED

1/2 011 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--SYNTHESIS OF ETHERS OF PRIMARY ACETYLENIC ALCOHOLS AND PRIMARY
DITERTIARY ACETYLENIC TRIOLS -U-
AUTHOR-(03)-NIKITIN, V.I., GLAZUNOVA, YE.M., POTAPOVA, I.M.
COUNTRY OF INFO--USSR
SOURCE--DUKL. AKAD. NAUK TADZH. SSR 1970, 13(2), 29-32
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ORGANIC SYNTHESIS, ACETYLENE, ALCOHOL, ETHER, HYDROLYSIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/1165 STEP NO--UR/0425/70/013/002/0029/0032
CIRC ACCESSION NO--AT0134847

UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NU--AT0134847

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ADDN. OF 0.3 MOLE HC:CCH SUB2
OH TO 0.33 MOLE NANH SUB2 IN LIQ. NH SUB3 AT NEGATIVE 40 TO NEGATIVE
50 DEGREES, FOLLOWED BY 0.2 MOLE OF N,C SUB6 H SUB13 BR OR N,C SUB8 H
SUB17 BR, AND CONVENTIONAL WORK UP, GAVE HC:CCH SUB2 OR (I) FOR WHICH
DATA ARE GIVEN. WHEN I WAS DISSOLVED IN ET SUB2 O WITH AN EQUIV. AMT.
OF ME SUB2 C(OH)C(O)ME, 3 EQUIVS. POWD. KOH, AND ULTIMATE HYDROLYSIS,
CONVENTIONAL WORK UP GAVE ME SUB2 C(OH)CME(OH)C:CCH SUB2 OR FOR WHICH
DATA ARE GIVEN. FACILITY: INST. KHIM., DUSHANBE, USSR.

UNCLASSIFIED

USSR

UDC 616.24-003.668.4-092.9-07:616-008.927.2-074

POTAPOVA, I. N., Institute of Labor Hygiene and Occupational Diseases, Academy of Medical Sciences USSR, Moscow

"Iron Metabolism in Experimental Berylliosis"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 10, Oct 70, pp 57-59

Abstract: Fine beryllium oxide dust is physiological saline (0.2, 1, and 5 mg) was administered intratracheally to white rats. Early shifts (up to 3 months) produced by the toxic and allergic effects of the dust included markedly increased vascular permeability, hemolysis, and disintegration of many eosinophilic polynuclear cells, resulting in the accumulation of hemosiderin in the lung tissues. The later stages of the disease were characterized by pronounced sclerotic changes in the lungs with signs of destruction of the parenchyma, shrinkage of the capillary bed, stasis, and increased deposits of hemosiderin. There were also large accumulations of dying macrophages with iron-containing pigment and viable phagocytes with beryllium-protein complexes in the protoplasm. However, little hemosiderin accumulated in the bifurcation lymph nodes. The iron-containing pigment deposited in the lungs during berylliosis is thought to play a role in the process of collagen formation.

Computers: Analog

USSR

UDC: 621.523.8

NOVOSELOV, B. V., GOROKHOV, Yu. S., ~~POTAPOVA, L. D.~~

"A Computer Device"

Moscow, Otkrytiya, Izobreneniya, Promyshlennyye Obratsy, Tovarnyye Znaki, No 32, Nov 71, Author's Certificate No 318959, Division G, filed 7 Feb 70, published 28 Oct 71

Translation: This Author's Certificate introduces a computer device which contains three parallel-connected narrow-band filters, each consisting of two integrators, a multiplier, and a scaling element. As a distinguishing feature of the patent, in order to determine the resonance frequency and the attenuation parameter of irregular signals, the scaling element is placed at the input of the filters, and the multiplier is incorporated into each filter with its input connected to the output of one integrator, while the multiplier output is connected to the inputs of the other integrator. Connected to the output of each narrow-band filter is a series circuit made up of a squarer and an averaging device. In addition, the computer device contains two adders, a divider, a main multiplier, a square

1/2

USSR

NOVOSELOV, B. V. et al., Soviet Patent No 318959

root extractor, and an integrator, which are connected in such a way that the outputs of the averaging devices in the filters for the side frequencies are joined to the inputs of one adder whose output is connected to the input of the integrator. The integrator is connected through the square root extractor to the multipliers in the narrow-band filters, while the output of the averaging device in the filter on the main frequency is connected to an input of the other adder. A second input of this adder is connected to the first input of the divider. The second input of the divider is connected to the output of the averaging device in the filter on the main frequency. The divider output is connected to one input of the main multiplier, and the other multiplier input is connected to the integrator output.

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- 42 -

1/2 020 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--ASSOCIATION OF DISEASES OF THE DIGESTIVE ORGANS WITH OTHER DISEASES
-U-
AUTHOR--(02)--ELSHTYEN, N.V., POTAPOVA, L.V. p
COUNTRY OF INFO--USSR
SOURCE--VRACHEBNOYE DELU, 1970, NR 5, PP 49-51
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DIGESTIVE SYSTEM DISEASE, DIAGNOSTIC METHODS, SURGERY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--3002/1728

STEP NO--UR/0475/70/000/005/0049/0059

CIRC ACCESSION NO--AP0129096

UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE—30OCT70

CIRC ACCESSION NO—AP0129096

ABSTRACT/EXTRACT—(U) GP-0- ABSTRACT. THE INCIDENCE HAS BEEN STUDIED OF ASSOCIATED AND PARALLEL DISEASES IN 1806 GASTROENTEROLOGICAL PATIENTS. AS SINGLE DISEASES DIGESTIVE PATHOLOGY MADE UP 31.3PERCENT, IN 23.3PERCENT ONE GASTROENTEROLOGICAL DISEASE WAS ASSOCIATED WITH ANOTHER, IN 26.7PERCENT IT WAS ASSOCIATED WITH NON GASTROENTEROLOGICAL PATHOLOGY AND 18.7PERCENT ASSOCIATED DISEASES OF THE DIGESTIVE ORGANS WERE ASSOCIATED WITH DISEASES OF OTHER ORGANS AND SYSTEMS. THE INCIDENCE OF ASSOCIATED PATHOLOGY INCREASED WITH AGE AND WAS MORE MARKED IN FEMALES THAN IN MALES. THE DIFFICULTIES AND PROBLEMS OF DIAGNOSIS AND DIFFERENTIAL DIAGNOSIS OF SUCH ASSOCIATED DISEASES ARE ANALYSED AND DISCUSSED. THE PROBLEMS OF TREATMENT, CHOICE OF SURGICAL TACTICS OR CONSERVATIVE THERAPY ARE DISCUSSED AS WELL. FACILITY: INSTITUTA EKSPERIMENTAL'NOY I KLINICHESKOY MEDITSINY MZ ESTSSR, TALLINSKAYA BOL'NITSA, KHAR'YUMYAE.

UNCLASSIFIED

1/2 014 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--DETERMINATION OF RESIDUAL AMOUNTS OF DDT IN MILK -U-
AUTHOR--(04)-YERMAKOVA, P.N., OLSHANOVA, K.M., FEKLISOVA, L.S., POTAPOVA,
M.A.
COUNTRY OF INFO--USSR
SOURCE--IZV. VYSSH. UCHEB. ZAVED., PISHCH. TEKHNOL. 1970, (2), 221-2
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--DDT INSECTICIDE, FOOD CONTAMINATION, PROCESSED ANIMAL PRODUCT,
CHROMATOGRAPHIC ANALYSIS, THIN LAYER CHROMATOGRAPHY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3008/0160 STEP NO--UR/0322/70/000/002/0221/0222
CIRC ACCESSION NO--AT0137304

UNCLASSIFIED

272 014

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AT0137304

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE METHOD OF THIN LAYER CHROMATOG. IS PRESENTED. THE BEST ADSORBENT WAS FOUND TO BE A MIXT. OF AL SUB2 O SUB3 AND SILICA GEL (1:1) WITH PARTICLE DIAM. 0.1-0.25 MM. THE BEST SOLVENT WAS N HEXANE, WITH MOTION ON THE PLATE AT THE SLOPE ANGLE 4-9DEGREES. FACILITY: MOSK. TEKHNOL. INST. MYAS. MOLOCH. PROM., MOSCOW, USSR.

UNCLASSIFIED

POTAPOVA, M.M.

hydroactions

3 March 1972

THE NORMALIZING EFFECT OF NEGATIVE HYDROACTIONS DURING BRADYCARDIA,
COMBINED WITH HYPOTONIA OR HYPERTENSION DURING

Article by M. M. Potapova; Leningrad, U.S.S.R., *Uchenye Zapiski Leningradskogo Universiteta*, 1971, pp. 85-89.

The search for effective means of prophylaxis and therapy of disturbances of the cardiac rhythm is one of the most important problems of contemporary physiology and clinical practice. The founder of the study of the physiological and clinical properties of air ions on the human and animal organisms is I. L. Vasil'ev (1953, 1960).

Sinus bradycardia is observed during nervous rest also during the increase of intracranial pressure, hypoxia, and during the increase of intracranial pressure, hypoxia, and during the study of the effect of negative hydroaerionization on bradycardia. Existing works on this problem indicate only a negative effect on the organism of negative air ions and variations (Kharuz and coauthors, 1959; Kalmykova, 1961; Vasil'ev, 1963; Kibkeldin, 1965; Pilegin, 1969; Portnov, 1969; Chilikov, 1969; Yefremukhin, 1969); Potapova, 1965, 1968 and coauthors, 1968) and other authors (Lopukhin, 1968; Vasil'ev and Ivanov, 1968) assume that the sympathicotrophic effect is inherent only in positive ions.

This work involves a study of the effect of natural and artificial negative hydroaerionization for the prevention and treatment of bradycardia, combined with hypotonia of hypertension and other diseases I and II stages.

We examined 20 persons ranging in age from 32 to 58 years, who all had disturbances of the sinus rhythm (arrhythmias, bradycardia), most displayed a decreased vascular tonus (hypotonia) and some suffered from hypertensive diseases.

The examinees received a concentration of ions corresponding to the functional state which was determined by data of cardio-vascular tests and electrocardiography.

No registered changes of the electrocardiogram in 17 observations before and after the ionization session. The blood pressure readings were determined by a tonometer on both arms.

One group of examinees received twice daily sessions of inhalation of natural negative hydroionization from the duration of light ions 14,000-20,000 per cubic centimeter, the duration of the session was 10-20 minutes. The first session was begun after a 3-day stay at the health resort. Electrocardiogram readings, blood pressure and pulse rate were recorded four times for each examinee: a 1st examination in the 1st day of acclimatization; the 2nd on the 1st-3rd day of acclimatization; the 3rd on the 4th-6th day and the 4th on the 7th-10th day. In the period of adaptation were practically the same as those taken on the 1st-3rd day of stay, i.e., before the first ionization session.

The other group of examinees, under the conditions of Leningrad, received, in one session, daily, hydroionization from a Mikulim design ionizer (the ion concentration equalled 500,000-150,000 ions per cubic centimeter), the length of the session was 4-6 minutes and the distance from the nozzle was 40-80 centimeters.

Hemodynamic indices obtained from the therapy are presented in Table 1 and 2.

The very first session of both natural and artificial negative hydroionization, increased the heart rate (4-12 beats a minute) i.e., it normalized the sinus rhythm. Some data of ionization, according to electrocardiogram data, showed a stable after-effect and by the end of therapy, the pulse rate was increased by 22 percent from 59.60 to 67.33 beats per minute). Statistical reliability of the data obtained was 0.999-0.999 percent.

This effect can be considered to be a positive, because a session of the sympathetic element of the nervous system which normalizes the work of the pacemaker.

Vascular asymmetry, observed among examinees before treatment, decreased after a session of natural ionization. Maximum blood pressure before the session in the left radial artery is 145 mm mercury column, in the right -- 134 mm mercury column. By the end of the session, it decreased by 21.5 percent.

USSR

UDC [621.357:621.79.027]:669.295

SHMANEV, V. A., SIRAZH, YU. A., ~~PO~~ POTAPOVA, N. I.

"Electrochemical Dimensional Machining of Titanium Alloys"

V sb. Novoye v elektrofiz. i elektrokhim. obrabotke materialov (What's New in Electrophysical and Electrochemical Treatment of Materials -- collection of works), Leningrad, Mashinostroyeniye Press, 1972, pp 35-37 (from RZh-Khimiya, No 12, Jun 72, Abstract No 12L304)

Translation: A study was made to select the electrolyte composition and the conditions of electrochemical dimensional machining for a large group of Ti-alloys at low voltage and low temperature, permitting high quality machined surfaces of the parts to be obtained. Six optimal electrolyte compositions are presented. One of them recommended for electrochemical machining of all the investigated alloys has the following composition (in % by weight): KNO_3 4.8, KBr 1.25, NaCl 4.8, Na_2SO_4 0.45, the rest, water.

1/1

- 19 -

1/2 009
UNCLASSIFIED
TITLE—SULFONATION REACTIONS. 72. HYDROLYSIS OF BROMOBENZENESULFONIC ACIDS
—U— PROCESSING DATE—30OCT70
AUTHOR—(03)—POTAPOVA, T.I., SPRYSKOV, A.A., KUKUSHKIN, YE.P.
COUNTRY OF INFO—USSR
SOURCE—IZV. VYSSH. UCHEB. ZAVED., KHIM. KHIM. TEKHNOL. 1970, 13(1), 75-8
DATE PUBLISHED—70
SUBJECT AREAS—CHEMISTRY
TOPIC TAGS—SULFONATION, HYDROLYSIS, BROMINATED ORGANIC COMPOUND, BENZENE,
SULFONIC ACID, ISCHER
CONTROL MARKING—NO RESTRICTIONS
DOCUMENT CLASS—UNCLASSIFIED
PROXY REEL/FRAE—2000/0783
STEP NO—UR/0153/70/013/001/0075/0078
CIRC ACCESSION NO—AP0124452
UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124452

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FROM STUDIES ON THE DEGREE OF SULFONATION OF PHBR BY 50-94PERCENT H SUB2 SO SUB4 IN 10 HR AT 50-200DEGREES, THE MAX. ACID CONCNS. FOR 1PERCENT OR LESS SULFONATION ARE: 89.5PERCENT AT 50DEGREES, 80PERCENT AT 100DEGREES, 73PERCENT AT 150DEGREES, AND 61.5PERCENT AT 200DEGREES. STUDIES OF THE PERCENT HYDROLYSIS IN 10 HR OF O-BROMOBENZENESULFONIC ACID AT 109-47DEGREES IN 76.3-70.4PERCENT H SUB2 SO SUB4, OF P-BROMOBENZENESULFONIC ACID AT 121-65DEGREES IN 74.9-66.6PERCENT H SUB2 SO SUB4, AND OF M-BROMOBENZENESULFONIC ACID AT 160-200DEGREES IN 67.6-57.9PERCENT H SUB2 SO SUB4, INDICATE THAT HYDROLYSIS OF THE ORTHO ISOMER IS INITIATED IN 73.3PERCENT H SUB2 SO SUB4 AT 128.5DEGREES, OF THE PARAISOMER 144.5DEGREES IN 70.8PERCENT H SUB2 SO SUB4, AND OF THE META ISOMER AT 182DEGREES IN 62PERCENT H SUB2 SO SUB4. FACILITY: IVANOV. KHIM.-TEKHNOL. INST., IVANOVO, USSR.

UNCLASSIFIED

1/2 015 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--COPOLYMERIZATION OF MALEIC ANHYDRIDE WITH VINYL COMPOUNDS -U-
AUTHOR--(03)--SHANTAROVICH, P.S., SOSNOVSKAYA, L.N., POTAPOVA, T.P.
COUNTRY OF INFO--USSR
SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(1), 100-2 (CHEM)
DATE PUBLISHED--70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--COPOLYMERIZATION, MALEIC ANHYDRIDE, VINYL COMPOUND, STYRENE,
ORGANIC COMPLEX COMPOUND, HETEROCYCLIC OXYGEN COMPOUND
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/0713 STEP NO--UR/0020/70/191/001/0100/0102
CIRC ACCESSION NO--AT0124383
UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AT0124383

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE ACCEPTED THEORY (T. ALFREY ET AL., 1945) OF PHCH:CH SUB2 (I) COPOLYMN. WITH MALEIC ANHYDRIDE (II) THE CONST. COPOLYMER COMPN. (SIMILAR TO 1:1 I-II) AND THE SEQUENTIAL ORDERING OF ALTERNATIVE I-II UNITS OBTAINED WITH DIFFERENT STARTING MONOMER MIXTS. IS EXPLAINED BY THE INABILITY OF I TO REACT WITH THE COPOLYMER CCNTG. I END GROUP. THIS IS CONTRARY TO THE EXPTL. EVIDENCE OBTAINED IN I HOMOPOLYMN. ON THE BASIS OF THE EXPTL. AND LITERATURE DATA A NEW COPOLYMN. MODEL IS PROPOSED FOR THE I-II AND I-II-H SUB2 C:CHOAC (III) SYSTEMS: THE COPOLYMER CAN REACT ONLY WITH THE POLAR FREE RADICAL COMPLEXES, SUCH AS IV OR V, AND NOT WITH THE MONOMERS. THE CALORIMETRY SHOWED THAT IV OR V ARE FORMED IMMEDIATELY WHEN II IS DISOLVED IN I OR III. FACILITY: INST. KHIM. FIZ., MOSCOW, USSR.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--WATERPROOFING OF MATERIALS -U-
AUTHOR-(05)-SHANTAROVICH, P.S., LARIONOVA, V.D., POTAPOVA, T.P., ZURABYAN,
K.M., MATETSKENE, N.I.
COUNTRY OF INFO--USSR
SOURCE--U.S.S.R. 265,063
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--09MAR70
SUBJECT AREAS--MATERIALS, CHEMISTRY
TOPIC TAGS--WATERPROOFING, CHEMICAL PATENT, LEATHER, ALKALI METAL, GLYCOL,
COPOLYMER, STYRENE, MALEIC ANHYDRIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3007/1753 STEP NO--UR/0492/70/000/000/0000/0000
CIRC ACCESSION NO--AA0136993
UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AA0136993

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

ABSTRACT. MATERIALS SUCH AS LEATHER ARE WATERPROOFED BY TREATING THEM WITH THE REACTION PRODUCT OF AN ALKALI METAL GLYCOLATE AND A COPOLYMER OF STYRENE WITH MALEIC ANHYDRIDE OR POLY(ACRYLIC ACID). FACILITY: INSTITUT KHIMICHESKOY FIZIKI AN SSSR I TSENTRAL'NOY NAUCHNO-ISSLEDOVATEL'SKIY INSTITUT KOZHEVENNOY PROMYSH LENNOSTI.

UNCLASSIFIED

USSR

UDC 620.171.3.531.781.2.087-92.62-974

LESHCHENKO, V. M., DOZLOV, I. A., NOVIKOV, N. V., POTAPOVA, V. F., SENIN, A. M. and GORODYSKIY, N. I. Institute of Strength Problems, Ukrainian SSR Academy of Sciences (Kiev, Kaliningrad, Moskovskaya oblast)

"Investigation of the Work Capability of Series-Produced Tensoresistors Under Temperature Conditions to -269°C "

Kiev, Problemy Prochnosti, No 11, Nov 73, pp 101-105

Abstract: On the basis of experimental research, it is established that series-produced tensoresistors, with the use of constantan for the sensitive element and vinyflex lacquer as the base and adhesive, may be used for the measurement of deformations at static and dynamic loads under low-temperature conditions (to -269°C). An evaluation is made of the influence of low temperatures upon the coefficient of tensoresistor sensitivity, and consideration is given to the origination of apparent deformations and to the possibilities of taking them into account.

It was found that tensoresistors made in the manner described above are capable of functioning to a relative deformation of $\epsilon \approx 2.5\%$, and that with dynamic loading at a temperature of -269°C and with symmetric loading to a relative deformation of $\epsilon = \pm 0.434\%$ these tensoresistors are capable of

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USSR

LESHCHENKO, V. M., et al., Problemy Prochnosti, No 11, Nov 73, pp 101-105

functioning for up to $(2.4-3.1) \times 10^6$ cycles. The stressed and deformed state of tubular specimens from various materials was investigated during cooling of the specimens from 20 to -269°C .

For measuring deformations brought about by temperature gradients or due to inhomogeneity of the material of the components, tensoresistors with identical temperature characteristics should be used, and the tensoresistors should be selected and grouped on the basis of the apparent deformations in the given temperature interval.

7 figures. 6 references.

2

USSR

UDC 621.396.679

AVDEYEV, Ye. V., ~~POTAPOVA, V. I.~~, Active Members of the Scientific and Technical Society of Radio Engineering, Electronics and Communications
imeni A. S. Popov

"Determination of the Parameters of Open Strip Waveguides"

Moscow, Radiotekhnika, Vol 26, No 8, Aug 71, pp 56-64

Abstract: Open strip transmission lines are quite extensively used in microwave technology, chiefly because of their technological and structural simplicity. Requirements for miniaturization combined with low losses make it necessary to use a high-permittivity dielectric as the substrate. In this paper, universal families of graphs and nomograms are presented for determining the parameters of open strip transmission lines. The graphic results were obtained by a sufficiently accurate and flexible method of analysis with no limitations on the geometry and electromagnetic parameters of the problem. The characteristics of the quasi-TEM mode are considered in an open asymmetric infinitely long strip waveguide which is homogeneous longitudinally and has a nonhomogeneous cross section. The authors thank A. P. Shpakov, Yu. K. Aleksandrov and I. L. Chegiz for constructive criticism during discussion of the manuscript.

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USSR

UDC:669.18:621.746

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.

USSR

UDC 541.138.3:546

BAGOTSKAYA, I. A., ~~POTAPOVA, VE. A.~~, Institute of Electrochemistry
Academy of Science, USSR, Moscow

"Study of the Effect of Electric Double Layer Structure on
Hydrogen Overvoltage on High Purity Liquid Gallium"

Moscow, Elektrokhimiya, Vol 7, No 12, Dec 71, pp 1849-1851

Abstract: Previous studies showed that electrochemical properties of gallium depend on its purity. Therefore, the conclusions reached in those studies had to be checked out on highly purified gallium--99.9998 percent pure. It was determined that the effect of pH and of the total concentration of electrolyte on the kinetics of hydrogen liberation is the same with gallium GL-000 as it was with GL-0 material: with increased pH and total concentration of the electrolyte the hydrogen overvoltage increases. Comparison of experimental and theoretical data showed that the change in γ' -potential with electrode potential has smaller effect on the kinetics of hydrogen evolution than expected from theoretical considerations; on gallium the γ' -potential changes with electrode potential to a lesser degree than expected from the Guy-1/1 Chapman theory.

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USSR

UDC: 681.3

SHUM, L. S., DIMITRIYEV, Yu. K., TOMILOV, Yu. F., POTAPOVA,
Yu. N.

"A Homogeneous Linear Control Computer System"

V sb. Vychisl. sistemy (Computer Systems--collection of works),
vyp. 39, Novosibirsk, 1970, pp 89-108 (from RZh-Matematika,
No 11, Nov 71, Abstract No 11V794)

Translation: The paper describes a linear homogeneous control computer system with partially variable structure developed and constructed at the Institute of Mathematics of the Siberian Department of the Academy of Sciences of the USSR. The computer system can operate in real time and in the time sharing mode. It can be used both for controlling scientific and technical experiments and production processes and for computations. V. Mikheyev.

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USSR

UDC: 681.3

DIMITRIYEV, Yu. K., SHUM, L. S., TOMILOV, Yu. F., POTAPOVA, Yu. N.

"Commutation Block and Interaction of Elementary Computers
in a Homogeneous Control Computer System"

V sb. Vychisl. sistemy (Computer Systems--collection of works),
vyp. 39, Novosibirsk, 1970, pp 107-118 (from RZh-Matematika,
No 11, Nov 71, Abstract No 11V793)

Translation: The paper describes the structure of a commu-
tation block and the principles of interaction between ele-
mentary computers in a linear homogeneous control computer
system. V. Mikheyev.

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USSR

UDC: 681.3

DIMITRIYEV, Yu. K., SHUM, L. S., TOMILOV, Yu. F., POTAPOVA, Yu. N.

V sb. Vychisl. sistemy (Computer Systems--collection of works), Vyp. 39, Novosibirsk, 1970, pp 107-118 (from RZh-Kibernetika, No 11, Nov 71, Abstract No 11V793)

Translation: The paper describes the structure of the commutation block and the principles of interaction of the elementary machines in a linear homogeneous computer control system. V. Mikheyev.

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USSR

UDC: 681.3

SHUM, L. S., POTAPOVA, Yu. N.

"An Interruption System for Controlling a Universal Computer System"

V sb. Vychisl. sistemy (Computer Systems--collection of works), vyp. 39, Novosibirsk, 1970, pp 119-127 (from RZh-Kibernetika, No 11, Nov 71, Abstract No 11V791)

Translation: The authors consider the organization and operation of a hardware-software system of interruption for a homogeneous computer system and various schemes for isolating priority demands. Equipment and depth estimates are given for the isolation schemes. V. Mikheyev.

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USSR

UDC: 681.3

SHUM, L. S., DIMITRIYEV, Yu. K., TOMILOV, Yu. F., POTAPOVA, Yu. N.

"A Linear Homogeneous Computer Control System"

V sb. Vychisl. sistemy (Computer Systems--collection of works), vyp. 39, Novosibirsk, 1970, pp 89-106 (from RZh-Kibernetika, No 11, Nov 71, Abstract No 11V794)

Translation: The paper describes a linear homogeneous computer control system with partially variable structure developed and built at the Institute of Mathematics of the Siberian Department of the Academy of Sciences of the USSR. The system can operate in real-time and time-sharing modes. It can be used both for controlling scientific and technical experiments and processes in production, and for computations. V. Mikheyev.

1/1

- 41 -

POTAPOVA, Z

Industrial Engineer

ELECTRIC BRASS PLATING
Industrial Engineer Z. Potapova

Brass electroplating is employed to ensure sufficient bonding strength between steel and rubber. For this purpose our repair enterprise uses a cyanide solution. The rubber which brass is deposited on parts -- the fittings of compression shock absorbers, which are rubberized through

for the electrolyte showed that with a heliograph conditions bent in the plating (about 86-88 percent) the bonding strength requirements posed in GOST 11579-65. Thus we concluded that the electrolyte should contain: zinc -- 1.8-2.8 gm/liter, copper -- 56 gm/liter, and free sodium cyanide -- 3.8-4.5 gm/liter. The overall alkalinity should be 0.4-0.7.

We have also developed the plating procedures: The fittings (25-40 d-ies) (transliteration unknown) are immersed into a bath (300 liter volume) containing electrolyte at a potential of 18-25V and a 10-14 amp current for less than 2.5 volts is passed through the electrolyte for 30 minutes (not less).

Let us examine the processes involved in brass plating. After annealing of the rubber the fittings are subjected to electrocorundum cleaning. When they are mounted on a wire and under electrochemical degrading and melting in standard solutions. If there is a thin coat of corrosion, which arises when chemical treatment of the fittings in standard cleaning is delayed, the parts are subjected to electrocorundum cleaning in a 15-20 percent solution of hydrochloric acid at room temperature. Nodes made out of L-69 brass and K-1 copper are

USSR

UDC: 621.791.753.9

PATON, B. YE., Academician, and POTAP'YEVSKIY, A. G., Candidate of Technical Sciences, Institute of Arc Welding imeni Ye. O. Paton, Academy of Sciences of the Ukrainian SSR

"Types of Welding in Shielding Gases With Steady and Pulsed Arcs (Survey)"

Kiev, Avtomaticheskaya Svarka, No 9, Sep 73, pp 1-8

Abstract: The authors attempt to classify the basic types of welding processes according to the particulars associated with the electrophysical phenomena observed during the stable flow of the processes. The most efficient utilization of these processes is indicated. The study is based on literature and data obtained by the authors with the aid of high-speed photography which was synchronized with the oscillographic monitoring of voltage and current. Tables are given showing the type of shielding gas, type of welding process, material welded, material thickness, and position of weld seam. Recommendations are given for controlling the various welding processes listed.

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USSR

UDC: 621.396.69:621.316.826(088.8)

POTASHEV, Yu. N., KARACHENTSEV, A. Ya.

"A Varistor"

USSR Author's Certificate No 267725, filed 5 Mar 68, published 20 Jul 70
(from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1V355 P)

Translation: As a distinguishing feature of the proposed varistor, the electrodes, which are made in the form of a wavy strip or a Π , are located in depressions. The edges of the controlling electrodes are sharpened, and between them are circular or horseshoe-shaped holes. The electrode material is applied to the walls of the depressions which face the opposite electrode.

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POTASHNIK L.A.

Acc. Nr.: AN0104123

Ref. Code: 7189003

TITLE-- ANNOUNCEMENT OF THE COMMITTEE ON LENIN AND STATE PRIZES, U.S.S.R.

49

NEWSPAPER-- IZVESTIYA, MAY 28, 1970, P 4, COLS 1-5

ABSTRACT-- NINETY ONE BASIC AND APPLIED RESEARCH WORKS HAVE BEEN NOMINATED FOR THE STATE PRIZES. TWO OF THESE, "THE MULTI-PURPOSE INDUSTRIAL HELICOPTER KA-26", BY N. I. KAMOV, V. B. ALPEROVICH, V. B. BARSHEVSKIY, A. A. DMITRIYEV, G. I. IOFFE, M. A. KUPFER, L. A. POTASHNIK, N. N. PRIOROV, A. G. SATAROV, I. M. VEDENEYEV, S. B. BREN, AND V. A. NAZAROV, AND "THE DEVELOPMENT OF TURBOFAN JET ENGINES NK-8 AND NK-8-4, AND THE DEVELOPMENT AND REDUCTION TO SERIAL PRODUCTION A SYSTEM OF TECHNOLOGICAL PROCESSES WHICH ASSURED WIDE USES FOR TITANIUM ALLOYS", BY N. D. KUZNETSOV, M. I. VASILISHIN, V. A. KURGANOV, P. M. MARKIN, V. D. RADCHENKO, P. A. SUKHOV, A. A. MUKHIN, V. G. SHITOV, G. I. MUSHENKO, L. A. SHKODO, AND G. P. DOLGOLENKO, HAVE BEEN SUBMITTED BY THE MINISTRY OF THE AVIATION INDUSTRY.

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Reel/Frame
19870555

4

Acc. Nr.: ANO104123

"A SERIES OF INVESTIGATIONS INTO THE DYNAMICS OF A BODY WITH FLUID-FILLED CAVITIES", /65-68/, BY N. N. MOISEYEV, A. A. PETROV, V. V. RUMYANTSEV AND F. L. CHERNOUSKO AND "ULTRA HIGH PRECISION JIG BORING MILLS WITH 1,000 X 1,600 AND 1,400 X 2,240 MM PLATENS", BY A. I. KIRYANOV, V. G. ABRAMOVICH, I. V. GUTKIN, A. S. ALIMPIYEV, G. B. PAUKOV, AND A. S. YEGUDKIN, HAVE BEEN SUBMITTED BY THE COMPUTATION CENTER OF THE ACADEMY OF SCIENCES AND THE MINISTRY OF THE MACHINE TOOL CONSTRUCTION AND TOOL INDUSTRY, RESPECTIVELY.

"THE RADICALLY IMPROVED MELTING TECHNOLOGY OF CRITICAL-PURPOSE HIGH-ALLOY STEELS AND ALLOYS OF IMPROVED QUALITY ACHIEVED BY THE INERT GAS TREATMENT OUTSIDE THE FURNACE", BY YU. V. GERASIMOV, O. M. CHEKHOMOV, N. V. SIDOROV, S. K. FILATOV, B. A. CHEREMNYKH, R. M. KHAYROTDINOV, I. P. BARMOTIN, L. K. KOSYREV, K. P. BAKANOV, N. N. VLASOV, P. I. MELIKHOV, AND N. A. TULIN, HAS BEEN SUBMITTED BY THE ZLATOUST METALLURGICAL PLANT.

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Reel/Frame19870556

KZ

USSR

UDC 612.115:38:616.151.5-073.96

DEGEN, I. L., Candidate of Medical Sciences, and POTASHNIK, V. Ya., Kiev

"Change in Blood Coagulation Time in a Constant Magnetic Field"

Kiev, Vrachebnoye Delo, No 7, Jul 70, pp 45-46

Abstract: An in vitro study was made of coagulation of blood taken from 65 healthy and sick persons exposed to a constant magnetic field (1,500 oersted). Coagulation was accelerated in 47 cases (72.3), retarded in 14 (21.5%), and unchanged in 4 (6.2%). No correlation was noted between changes in coagulation and such factors as age, sex, ESR, or quantity and quality of elements formed. No differences were noted between the coagulation of blood taken from healthy persons and that of blood from sick persons all of whom were being treated on an ambulatory basis).

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1/2 010 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--KINETICS OF THE DISSOLUTION OF CALCIUM TUNGSTATE IN OXALATE ACID
SOLUTIONS -U-
AUTHOR--(04)--POTASHNIKOV, YU.M., GAMOLSKIY, A.M., MOKHOSOVYEV, M.V.,
KOZLOVA, F.M. *P*
COUNTRY OF INFO--USSR
SOURCE--Zh. NEORG. KHIM. 1970, 15(2), 502-8
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--CHEMICAL REACTION KINETICS, AQUEOUS SOLUTION, CALCIUM
CHLORIDE, SOLUBILITY, TUNGSTATE, OXALATE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1994/1706 STEP NO--UR/0078/70/015/002/0502/0508
CIRC ACCESSION NO--AP0115535
UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0115535

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. CAC SUB2 O SUB4.H SUB2 O FORMED WHEN CA WO SUB4.H SUB2 O WAS DISSOLVED IN AN AQ. SOLN. OF H SUB3 C SUB2 C SUB4 AT 20-60DEGREES. RATE OF CAWO SUB4.H SUB2 O DISSOLN. IS INDEPENDENT OF MIXING RATE AND IS LINEARLY PROPORTIONAL TO H SUB2 C SUB2 O SUB4 CONC. IN THIS PROCESS, H SUB2 C SUB2 O SUB4 PERFORMS 2 FUNCTIONS, 1ST IT CAUSES SEPN. OF 2 SOLIDS, CAC SUB2 O SUB4 AND H SUB2 WO SUB4, AND 2ND IT REACTS WITH H SUB2 WO SUB4 TO GIVE H SUB2 (WO SUB3 (C SUB2 O SUB4)). IN THE PRESENCE OF HCL, CACL SUB2 FORMS ALONG WITH H SUB2 (WO SUB3 (C SUB2 O SUB4)). FACILITY: DONETS. GOS. UNIV., DONETSK, USSR.

UNCLASSIFIED

6 g. pure *m*-cresol, and 3 g. dry urea. The test tube was heated in a hot glycerol bath until the contents were molten, 2 g. dried gypsum was added after removal from the bath, the contents were cooled with stirring until a slight temp. rise and hindered movement of the stirrer indicated incipient crystals. Melting and refreezing with addn. of gypsum were repeated until the max. f.p. observed was const. within 0.5°. The content of *m*-cresol was then calcd. from a table giving concns. corresponding to f.p.s. of the adduct in artificial mixts. at 0.1° intervals between 50.2° at 60% *m*-cresol and 68.5° at 100%. This cryoscopic method was much more accurate for detg. *m*-cresol in tri-cresols than GOST 2264-54 and MPTU 2153-49 although the deviation of the latter methods in detg. it in cresols was only 0-1.4%.

Ludile S. Davison

AP9017341

CA 5/69 we 0068

84150e Determination of *m*-cresol in phenolic products.
Cruzdeya, N. A.; Teikhrub, T. K.; Zhilina, N. B.; Korenskaya,
T. A.; Potashnikova, E. T. (USSR). *Koks Khim.* 1969; (2),
40-4 (Russ). The content of *m*-cresol in phenolic products was
detd. with an av. relative error of ~2-3% by measuring the f.p.
of the urea-*m*-cresol adduct in mixes. to which sufficient pure
m-cresol had been added to bring its concn. to >60%. To a test
tube equipped with a stopper, thermometer, and a nichrome wire
stirrer, were added 4 g. of the thoroughly dried phenolic material,
6 g. pure *m*-cresol, and 3 g. dry urea. The test tube was heated
in a hot glycerol bath until the contents were molten. 2 g. dried

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PROCESSING DATE--02OCT70

1/2 009
TITLE--REACTIONS OF CYCLAMMINIUM CATIONS. VII. REACTION OF ACRIDINE WITH
ACTIVATED AROMATIC COMPOUNDS IN THE PRESENCE OF AN ACYLATING AGENT -U-
AUTHOR--(03)-SHEYNKMAN, A.K., POTASHNIKOVA, S.G., BARANOV, S.N.

P

COUNTRY OF INFO--USSR

SOURCE--ZH. URG., KHIM. 1970, 6(3) 614-19

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ACRIDINE, MORPHOLINE, IODINATED ORGANIC COMPOUND, QUINOLINE,
CHEMICAL SYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAKE--1992/1425

STEP NO--UR/0366/70/005/003/0614/0619

CIA ACCESSION NO--AP0112419

UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--A90112419

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REACTION OF
 10, METHYL, 9, MORPHOLINO, 9, 10, DIHYDROACRIDINE WITH ACRIDINIUM METHIODIDE
 GAVE STABLE 9, MORPHOLINOACRIDINIUM METHIODIDE AND N, METHYLACRIDINE.
 THIS HYDRIDE TRANSFER REACTION SERVED AS A MODEL FOR A NEW SYNTHESIS OF
 9, (R, SUBSTITUTED), ACRIDINES (I). THE REACTION OF ACRIDINE WITH A MIXT.
 OF RH AND R PRIME1 COCL GAVE 39-83PERCENT I AND N (R PRIME1 CO
 SUBSTITUTED) ACRIDINES (R GIVEN): P, ME SUB2 NC SUB6 H SUB4, P, ET SUB2
 NC SUB6 H SUB4, P, MEETNC SUB6 H SUB4, P, (PH CH SUB2) SUB2 NC SUB5 H
 SUB4, P, ME(PHCH SUB2)HC SUB6 H SUB4, 1, METHYL, 2, 3, DIHYDRO, 5, INDOLINYL,
 1, METHYL, 1, 2, 3, 4, TETRAHYDRO, 6, QUINOLINYL, 1, ETHYL, 2, METHYL
 1, 2, 3, 4, TETRAHYDRO, 6, QUINOLINYL,
 1, ETHYL, 2, METHYL, 1, 2, 3, 4, TETRAHYDRO, 6, QUINOLINYL, AND
 P, MORPHOLINO, PHENYL.

UNCLASSIFIED

USSR

UDC 576.895.421.098.217/218

STEPANCHENOK-RUDNIK, G. I., POTASHOVA, L. A., and GROKHOVSKAYA, I. M.,
Department of Natural Focus Infections, Institute of Epidemiology and Micro-
biology imeni N. F. Gamaleya, Academy of Medical Sciences USSR

"Nitrogen and Phosphorus Contents of Intact Blood-Sucking Ticks (Ixodoidea)
and of Some of Their Organs"

Moscow, Meditsinskaya Parazitologiya i Parazitarnyye Bolézní, No 5, 1971,
pp 584-589

Abstract: Analysis of total nitrogen and phosphorus content in adult ticks belonging to two families (Ixodidae and Argasidae), 6 genera, and 12 species showed that all the species were essentially alike in this respect, with the nitrogen and phosphorus contents ranging from 12.8 to 17.5% and 0.36 to 0.96%, respectively (except in the case of *Haemaphysalis concinna*, in which the levels were appreciably higher). The nitrogen content was somewhat higher in males. Both total nitrogen and total phosphorus increased as the tick developed from larva to nymph. Analysis of total nitrogen and total phosphorus in the intestine, salivary glands, Malpighian vessels, gonads, and testes showed that the amounts of these elements was highest in the Malpighian vessels and lowest in the intestine.

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Acc. Nr:

AP0034209

Abstracting Service:
CHEMICAL ABST. 4-70

Ref. Code:

UR 0078

P

71274q Stability of complexes of zinc and cadmium with ethanoliamines in aqueous solutions. Udovenko, V. V.; Reiter, L. G.; Poraskalova, N. I. (Kiev. Politekh. Inst., Kiev, USSR). *Zh. Neorg. Khim.* 1970, 15(1), 97-102 (Russ). Complex formation of Zn(II) and Cd(II) with $\text{HOCH}_2\text{CH}_2\text{NH}_2$ (L), $(\text{HOCH}_2\text{CH}_2)_2\text{NH}$ (L'), and $(\text{HOCH}_2\text{CH}_2)_3\text{N}$ (L'') was studied by pH-potentiometry in aq. solns. The instability const. ($\text{p}K_1$) of Zn complexes were 2.62, 2.33, and 2.56 and of Cd complexes 2.67, 2.46, and 3.15 for L, L', and L'' complexes, resp. It is assumed that the investigated ligands coordinate via O along with the coordination via N atom. The metal-O bond becomes stronger in the order of ligand: $L < L' < L''$.

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UDC: 621.378:681.332.5

GIBIN, I. S., NEZHEVENKO, Ye. S., POTATURKIN, O. I., and TVERDO-
KHLEB, P. Ye.

"Coherent Optical Device for Generalized Spectral Analysis of
Images"

Novosibirsk, Avtometriya, No 5, 1972, pp 3-9

Abstract: This paper offers a method of generalizing spectral analysis of images by using holographic methods of storing and processing information realized by coherent optical techniques. This spectrum is defined as the expansion of a function describing the image in a generalized Fourier series. Although the problem can be done with a computer, it is often best to use optical analyzers because the objects of the analysis are basically optical images. To generalize the spectral analysis, holographic methods are used in the present paper for storing and processing information; a scalar mechanism is used for storage, and the correlation mechanism of Gabor is used for the processing. Both these methods are analyzed and the synthesis of the images discussed. The authors find that their coherent optical system has high memory capacity,
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UDC: 621.378:681.332.5

GIBIN, I. S., et al, Avtometriya, No 5, 1972, pp 3-9

high velocity in analysis, and improved noise immunity.

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UNCLASSIFIED

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1/2 022
TITLE--EFFECTIVENESS OF MOLYBDENUM AND BORON ADDED TO SUPERPHOSPHATE -U-

AUTHOR--POTATUYEVA, YU.A.

P

COUNTRY OF INFO--USSR

SOURCE--KHIM. SEL. KHOZ. 1970, 8(3), 169-73

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, AGRICULTURE

TOPIC TAGS--MOLYBDENUM, PHOSPHATE, BORON, FERTILIZER YIELD, AGRICULTURAL CROP YIELD

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1998/0443

STEP NO--UR/0394/70/008/003/0169/0173

CIRC ACCESSION NO--AP0121117

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PROCESSING DATE--23OCT70

2/2 022

CIRC ACCESSION NO--AP0121117

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

ABSTRACT. MO AND B WERE ADDED TO SUPERPHOSPHATE BY DIFFERENT MEANS AND THEIR EFFECTIVENESS STUDIED ON THE YIELD OF LEGUMES. THE MOST EFFECTIVE WAY WAS THE ADDN. OF THE TRACE ELEMENTS TO H SUB3 PD SUB4 OR INTO THE PRODUCT BEFORE GRANULATION. DUSTING THE GRANULES WAS LESS EFFECTIVE. THE PRESENCE OF FREE ACIDS (0.46-5.30PERCENT) OR OF AN ACID DYE IN THE FERTILIZER DID NOT INFLUENCE THE EFFECTIVENESS OF MO. MO AND B INCREASED THE YIELD OF PEAS.

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