

USSR

ARSON, L. D., MALASHENKO, L. A., Samoletostr. i tekhn. vozd. flota. Resp. mezhved. temat. nauch.-tekhn. sb., 1971, No. 24, pp 53-57

the considerable difference in the limiting deviations of strength and rigidity characteristics of thin-walled systems from nominal values. 7 ref. Authors abstract.

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Acc. Nr: AP0038120

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Ref. Code: UR 0326

PRIMARY SOURCE: Fiziologiya Rasteniy, 1970, Vol 17, Nr 1,
pp 193-197

A METHOD FOR SEPARATION OF OXYGEN FROM PLANT
PIGMENTS FOR MASS SPECTROMETER ANALYSIS

I. YU. ARTAMKINA

V. I. Vernadsky Institute of Geochemistry and Analytical Chemistry, USSR Academy
of Sciences, Moscow

A method is developed for separating oxygen from plant pigments and for studying the mechanism of reactions involving oxygen-containing nonvolatile organic compounds with aid of O^2 . The method is based on pyrolysis of the organic compounds in a hydrogen atmosphere with subsequent complete reduction of the gaseous oxides to water and quantitative collection of the water thus produced. The method can be used for extracting oxygen from small test samples (3-5 mg) by reducing it to water.

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REEL/FRAME
19731173

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28

1/2 022 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--THE STOMATOLOGISTS WAIT FOR EVERYTHING -U-
AUTHOR--ARTAMONOV, A. A
COUNTRY OF INFO--USSR
SOURCE--MOSCOW, EKONOMICHESKAYA GAZETA, JAN 70, P 17
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--DENTAL MATERIAL, DENTAL EQUIPMENT, DENTURE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/1630 STEP NO--UR/9001/70/000/000/0017/0017
CIRC ACCESSION NO--AN0135259
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AN0135259

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MOSCOW DENTAL CLINICS ARE EXPERIENCING GREAT DIFFICULTIES IN PROVIDING HIGH QUALITY CARE BECAUSE OF A SHORTAGE OF ALL KINDS OF SUPPLIES AND EQUIPMENT FROM DENTAL CEMENT TO FALSE TEETH, DRILLS, CHAIRS, ETC. LONG DELAYS AND DEFECTS IN THE MATERIALS AND EQUIPMENT ARE OTHER PERSISTENT COMPLAINTS. ON THE OTHER HAND, THE MANUFACTURERS CHARGE THAT ORDERS DO NOT REACH THEM AT THE APPROPRIATE TIME, THAT ERRORS ARE MADE IN SPECIFICATIONS, QUANTITY REQUESTED, ETC. SEVERAL EXAMPLES WERE CITED AND IT WAS CONCLUDED THAT BOTH SIDES, SUPPLIERS AND CONSUMERS, ARE JUSTIFIED IN THEIR MUTUAL REPROACHES, BUT BOTH ARE GUILTY OF FAILING TO STUDY THE SITUATION WITH SUFFICIENT THOROUGHNESS. THE ORDER SYSTEM MUST BE PUT ON A TRULY RATIONAL BASIS.

UNCLASSIFIED

USSR

ARTAMONOV, A. **A**

"The Stomatologists Wait for Everything"

Moscow, Ekonomicheskaya Gazeta, Jan 70, p 17

Abstract: Moscow dental clinics are experiencing great difficulties in providing high quality care because of a shortage of all kinds of supplies and equipment from dental cement to false teeth, drills, chairs, etc. Long delays and defects in the materials and equipment are other persistent complaints. On the other hand, the manufacturers charge that orders do not reach them at the appropriate time, that errors are made in specifications, quantity requested, etc. Several examples were cited and it was concluded that both sides -- suppliers and consumers -- are justified in their mutual reproaches, but both are guilty of failing to study the situation with sufficient thoroughness. The order system must be put on a truly rational basis.

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USSR

UDC 535

SECHKAREV, A. V., NIKOLAYENKO, P. T., ARTAMONOV, A.A., NEVZOROV, B. P.

"Distribution of Intensity in the Scattering Spectrum of the Light of Organic Liquids and Crystals in the Neighborhood of the Rayleigh Line"

V sb. Sovrem. probl. fiz. khimii (Modern Problems of Chemical Physics -- Collection of Works), Vol. 5, Moscow, Moscow University, 1970, pp 223-255 (from RZh-Fizika, No 7, Jul 71, Abstract No 7D917)

Translation: A theoretical treatment of the intramolecular scattering spectrum of liquids and crystals in the neighborhood of the Rayleigh line is given. It is shown that close to the points of phase transformations there should exist a continuous solid-liquid transition of the intramolecular scattering spectrum. Formulas are obtained describing the intensity as a function of the frequency in the spectrum of intramolecular oscillations of liquids consisting of anisotropic molecules. The distribution of intensity in the intramolecular scattering spectrum was studied in the region $15-200\text{ cm}^{-1}$ for benzene, pyridene, n-dichlorobenzene, toluene, nitrobenzene, naphthalene, cyclohexane, cyclohexanol, NaNO_3 , and KNO_3 over a wide temperature interval covering the liquid and solid phases. A continuous transition was observed from the discrete spectrum of a crystal to the continuous spectrum of a liquid where the maximums produced by rotational oscillations of the molecules disappear under orientation melting. The spectra are given.

46 ref. E. V. B.

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USSR

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UDC 535.435.43

SECHKAREV, A. V., ARTAMONOV, A. A., NEVZOROV, B. P.,
NIKOLAYENKO, P. T., PROTASOV, N. M.

"Study of the Intermolecular Dynamics of Condensed States of Matter by the Vibrational Spectroscopy Method. III. Experimental Investigation of the Temperature-Phase Relationship of the Intermolecular Dispersion Spectra of Some Organic Compounds"

Tomsk, Izvestiya: Fizika, No 5, 1970, pp 7-12

Abstract: Results of research on intensity distribution in the intermolecular dispersion spectrum are presented for a broad temperature range. The authors established the fact of continuous transition of the discrete spectrum (solid phase) into the continuous spectrum (liquid phase) as well as the presence of maxima in the intermolecular spectrum of some classes of fluids, the redistribution of intensities with temperature, and other rules governing the behavior which may, with sufficient basis, be considered general for substances with different types of intermolecular bond. Theoretical consideration with account taken of the degree of molecule-vibration noncoherence made it
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SECHKAREV, A. V., et al, Izvestiya: Fizika, No 5, 1970, pp 7-12

possible to provide a qualitative, and, in a number of cases, quantitative interpretation of these rules and to define a series of molecular parameters for a whole group of substances.

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USSR

GORYAYEV, M. I., ARTAMONOV, A. F., and IGNATOVA, L. A.

"A Purification Method for Naphtenic Acids"

USSR Author's Certificate No 362813, filed 4 Dec 70, published 27 Feb 73
(from RZh-Khimiya, No 19, Oct 73, Abstract No 19N558,P)

Translation: Technical naphtenic acids [NA] obtained by catalytic oxidation of naphtenic hydrocarbons are purified from the carcinogenic admixtures and aromatic hydrocarbons by treatment with ozone at $\leq 30^{\circ}$. Example. 50 g NA (acid number 153, n_D^{20} 1.4830) containing $1.8 \cdot 10^{-7}$ g/g of 3,4-benzpyrene is

ozonized for 15 min (ozone consumption 0.03 g). After ozonization no I can be detected by the luminescence-spectral method (the sensitivity of this method is 10^{-9} g/ml). NA is used as growth stimulator in plant growing and animal husbandry.

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USSR

UDC 621.396.621

~~ABTAMONOV~~ A.E., SHISHKIN, I.F. [Members, Scientific-Technical Society Of
Radio Engineering, Electronics, And Communication imeni A.S. Popov]

"Contrast Reception At Nonlinear Receiver"

Radiotekhnika, Vol 27, No 6, June 1972, pp 94-97

Abstract: A calculation is presented of the probability of false alarm and of correct detection during reception of signals by the contrast method. Two possible versions of the functional diagram of a contrast receiver are shown. 2 fig. 6 ref. Receiver by editors, 16 March 1971; after further improvement, 6 December 1971.

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Petroleum Processing Technology

USSR

UDC 547.29:631.547

ARTAMONOV, A. F. and GORYAYEV, M. I. Institute of Chemical Sciences, Academy of Sciences Kazakh SSR, Alma-Ata

"Properties and Biological Activity of the Naphthenic Acid Fractions of Baku Oil"

Alma-Ata, Seriya khimicheskaya, No 5, Sept-Oct 71, pp 78-87

Abstract: Described is the vacuum distillation of the total naphthenic acids of Baku oil into a series of fractions characterized by their physicochemical constants, including n_D^{20} , d_4^{20} , MR, elementary composition and IR spectra. The total naphthenic acids were processed in the form of methylesters. The experimental data suggest that the isolated naphthenic acids be categorized as cyclopentane derivatives. The biological activity (plant growth stimulation) of the naphthenic acid fractions was laboratory tested on Khar'kov-46 grade wheat. The highest growth-promoting activity was shown by the sodium salts of the naphthenic acid fraction of medium molecular weight 210-280 (C_{13} - C_{18}). The increase in the weight of the wheat's green mass was as high as 40-50% relative to the control sample. (1 illustration, 2 tables, 8 biblio. references)

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USSR

UDO 621.385.833.2:535.87

ARTAMONOV, O.M., BRODSKIY, G.N. [N.-i. Fiz. in't--Scientific-Research Institute
Of Physics]

"Reflection Electron Microscope"

USSR Author's Certificate No 255430, filed 9 Nov 66, published 31 Mar 70 (from
RZh--Elektronika i yeye primeneniye, No 1, January 1971, Abstract No 1A184P)

Translation: The construction of an electron reflection microscope (EFM) of spherical design is patented. Such an EFM consists of a source of electrons and a spherical condenser (SC), the inner electrode of which is an objective of spherical form, and a luminous screen is applied at part of the exterior of the electrode. The electrons enter into the SC through an aperture in the exterior sphere and move here in hyperbolic trajectories. The magnifying power of the EFM is proportional to the ratio of the radiuses of the spheres. The EFM in question has a simple construction; however, it is only possible to obtain resolution on the order of 1000 \AA and a magnification of 1000^* .

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USSR

UDC 621.311.6

ARTAMONOV, S.F., BRUS, V.I., SHMCYLOV, N.F.

"On The Design Of Rectifiers Dependable With Respect To Gradual Breakdowns"

Dokl. Vses. nauchno-tekhn. konferentsii po radiotekhn. izmereniyam. T. 3 (Reports Of The All-Union Scientific-Technical Conference On Radio Engineering Measurements. Vol. 3), Novosibirsk, 1970, pp 144-146 (from RZh--Elektronika i yeye primeneniye, No 1, January 1971, Abstract No 1B479)

Translation: A method is developed for analysis of a rectifier which is regulated with the help of a transistorized regulator. The method involves the distribution of each parameter affecting a breakdown into two parameters of a lower degree, down to the primary parameters of the components. Use at each degree of only two parameters makes it possible during theoretical and experimental investigation to employ the method of spacing of parameters. 2 ref. I.A.

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USSR

UDC: 621.396.6.019.3

ARTAMONOV, S. F.

"On One Possibility for Accelerating and Improving the Quality of the Graphic Method of Optimizing Electronic Radio Circuits"

Dokl. Vses. nauchno-tekhn. konferentsii po radiotekhn. izmereniyam. T. 3
(Reports of the All-Union Scientific and Technical Conference on Radio Engineering Measurements. Vol. 3), Novosibirsk, 1970, pp 142-143 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12V266)

Translation: In optimizing a circuit from the results of boundary tests it is necessary to determine the relative positions of the cross section of the region of operability and the field of distribution of parameters such that maximum reliability is assured with respect to gradual failures. The following graphic method has been developed to facilitate this process. The cross section of the region of operability and the parameters are plotted in logarithmic coordinates. In this respect, the field of distribution of parameters does not change its size and shape, and therefore it can be made in the form of a template for each set of parameters, using a transparent base in the form of lines of equal probability for convenience. Optimization is accomplished by simply moving the template over the cross section of the region of operability. N. S.

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USSR

UDC 519.48

ARTAMONOV, V. A., Moscow

"Semisimple Manifolds of Multioperator Algebras, II"

Kazan', Izvestiya Vysshikh Uchebnykh Zavedeniy -- Matematika,
No 12, Dec 71, pp 15-21

Abstract: Theorems 5-7 of Part I of the author's work give necessary conditions for the semisimplicity of manifolds. The present article (Part II) considers how sufficient these conditions are. The following theorems are proved:

Theorem 1. Let V be a manifold of commutative-associative k -algebras over field k . If $\text{char } k = 0$, manifold V is semisimple. If $\text{char } k = p > 0$, in order for V to be semisimple, it is necessary and sufficient that the identity $x^p = 0$ be satisfied in V .

Theorem 2. Let V be a nilpotent class-3 manifold of k -algebras over field k , $\text{char } k \neq 2$, given by the identities $xy+yx = (xy)z+x(yz) = 0$. Then the manifold V is semisimple.

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ARTAMONOV, V. A., Izvestiya Vysshikh Uchebnykh Zavedeniy -- Matematika, No 12, Dec 71, pp 15-21

Theorem 3. Let V be a metabelian manifold of Lie k -algebras. Then: 1) if $\text{char } k = 0$, the manifold V is semisimple; 2) if $\text{char } k = 2$ and the identities $yxxy = 0$, $xyzt = tzyx$ are satisfied in V , then V is semisimple; 3) if $\text{char } k = p > 3$, then V is semisimple if and only if V is nilpotent of a class no higher than p and Engel's identity of degree $p - 1$ is satisfied in V : i.e., $\underbrace{yx \dots x}_{p-1} = 0$.

Theorem 4. Let V be a metabelian manifold of commutative k -algebras in which the identity $x^3 = 0$ is satisfied. If $\text{char } k = p \geq 5$, then V is semisimple if and only if V is nilpotent of a class no higher than p and in V

$$\sum_{i=2}^p (-1)^i x_i x_1 \dots \hat{x}_i \dots x_p = 0,$$

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ARTAMONOV, V. A., Izvestiya Vysshikh Uchebnykh Zavedeniy -- Matematika, No 12, Dec 71, pp 15-21

where x_i^{\wedge} denotes the absence of x_i . But if $\text{char } k = 0$, the manifold V is semisimple.

Theorem 5. Let V be a manifold of k -algebras, nilpotent of a class no higher than four, over field k , $\text{char } k \neq 2$ and 3 , in which the identities $x^3 = 0$ and $xyzt = xytz$ are satisfied. Then manifold V is semisimple.

Thus, by virtue of Theorems 5-7 of Part I and the above five theorems, a description is given of all semisimple manifolds, with the exception of Engel degree-three manifolds of Lie algebras V over the field k , $\text{char } k \neq 2$ and 3 .

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USSR

UDC 535

ARTAMONOV, V. G., AKHMETOV, A. T., ZAMKOV, V. A.

"Dependence of Mandelstam-Brillouin Components in a Liquid on Temperature"

V sb. Sovrem. probl. fiz. khimii (Modern Problems of Chemical Physics -- Collection of Works), Vol. 5, Moscow, Moscow University, 1970, pp 275-279 (from RZh-Fizika, No 7, Jul 71, Abstract No 7D924)

Translation: The speed of hypersound in benzene and acetone was investigated by the light scattering method along the saturation line up to a temperature 20-30° below critical. The linear dependence of the speed on temperature that was obtained leads to a quadratic dependence of the adiabatic compressibility on $T_c - T$, which contradicts the curve found from the equation of state. An attempt is made to interpret this in the spirit of the theory of "dimensionality." V. Z.

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USSR

UDC 621.791.856:669.15-194

CHEKATILO, I. V., MARTYN, V. M., ARTAMONOV, V. I., Institute of Electric Welding imeni Ye. O. Paton, YERMILOV, YU. F., MASKIMOV, V. T., and PCHELIN, YU. I., Biysk "Elektropech" Plant

"Welding of Heat Resistant Kh25N20S2, Kh23N18, and Kh25N13 Steels in Protective Gases"

Kiev, Avtomaticheskaya Svarka, No 8, Aug 70, pp 50-53

Abstract: An investigation was conducted at the Institute of Electric Welding imeni Ye. O. Paton for the purpose of developing a technology for the gas-arc welding of Kh25N20S2 steel and its combinations with Kh23N18 and Kh23N13 steels in argon, CO₂, and technical nitrogen containing 3-5%O₂. The use of EP532 austenitic boride wire 1.2 and 2 mm in diameter containing 0.45-0.75 B and 2.5-3.0% Si made it possible to obtain welds without cracks. Welding techniques in different gases are described. Tables are presented which show the chemical contents of steels and wire and the transient mechanical properties of rolled EI253 steel joints welded with EP532 wire in protective gases, and figures show the microstructure of a butt weld and the microstructure of the metal deposited by EP532 wire. The results show that the strength of welds made with EP532 wire in argon, CO₂,
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CHEKATILO, I. V., et al., Avtomaticheskaya Svarka, No 8, Aug 70,
pp 50-53

and nitrogen is equal to that of the basic metal and that
austenization increases weld plasticity.

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USSR

UDO 621.314.61

~~ARTAMCNCV, V.V.~~

"Low-Power Rectifiers (Fundamentals Of Theory And Computation)"

Yalomoshchnyye vypryamiteli (Osnovy teorii i raschet) [cf. English above], Moscow, "Svyaz'," 1970, 240 pp, 111, 95 k (from RZh--Elektronika i yeye primeneniye, No 12, December 1970, Abstract No 12B50CK)

Translation: A method is proposed for a complete electrical computation of low-power rectifiers [vypryamitel'] of single-phase current. The principles are considered of efficient use of the elements of a rectifier, transformers, choke coils, rectifiers [ventil'], and capacitors. The account given of computation methods is illustrated with examples. 96 ill. 42 tab. 28 ref. Summary.

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USSR

UDC: 681.2:683.325

KRUG, Ye. K., Doctor of Technical Sciences; ARTAMONOV, Ye. I., Engineer

"Some Problems of Planning Digital Devices for Local Control Systems"

Abstract: An attempt is made to provide a foundation for the selection of the principal functional units in control and testing devices and the standard sizes of boards and logic elements for these units. This article is based on the experience accumulated at the Institute of Control Problems and other organizations. The types and capacities of standard modular units, as well as the standard dimensions of the boards on which the units are to be placed, should be determined, to a great extent, by the available plug-connecting equipment. This would result in the planning of such units as four pulse-potential counter positions, four register positions, and ten inverters or a decoder with ten outputs on a standard board 150 mm wide with 30 plug contacts.

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1/3 011 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--DENITRATION OF SULFURIC ACID IN THE PRODUCTION OF AMMONIUM SULFATE
-U-
AUTHOR--(05)-ZLATIN, L.YE., TRONDINA, G.I., ARTAMONOV, YU.P., SHETEYN,
A.L., YUKHNOVETS, YU.D.
COUNTRY OF INFO--USSR
SOURCE--KOKS KHIM. 1970. (3), 45-7
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--INDUSTRIAL PRODUCTION, AMMONIUM SULFATE, NITROBENZENE, COKE,
GAS, UREA, SULFURIC ACID, DENITRATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REFL/FAME--1990/1386 STEP NO--UR/0068/70/000/003/0045/0047
CIRC ACCESSION NO--AP0109455
UNCLASSIFIED

2/3 011

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0109455

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. WHEN THE SPENT H SUB2 SO SUB4, TAKEN FROM PHNO SUB2 PRODUCTION FOR (NH SUB4) SUB2 SO SUB4 MANUF. IN COKE-CHEM. PLANTS, IS CONTAMINATED WITH N OXIDES, IT CONTAMINATES THE COKE GAS AND THE USE OF THIS GAS FOR NH SUB3 SYNTHESIS IS PREVENTED. THE N OXIDES IN THE COKE GAS FOR THIS SYNTHESIS SHOULD BE SMALLER THAN 8 CM PRIME3-M PRIME3, AND THE GAS CANNOT BE USED IF IT CONTAINS LARGER THAN OR EQUAL TO 10-12 CM PRIME 3 OXIDES-M PRIME3. LAB. DENITRATION OF THE ACID WITH UREA REDUCED THE N OXIDES HARPLY BY THE REACTION: 2HNO SUB2 PLUS (NH SUB2) SUB2 CO YIELDS 3H SUB2 O PLUS CO SUB2 PLUS 2N SUB2. IN PHNO SUB2 PLANTS, THIS REACTION WAS SLOW. SINCE THE SPENT H SUB2 SO SUB4, OF 72PERCENT STRENGTH, CONTAINED OTHER KNOWN COMPS., SYNTHETIC SOLNS. WERE PREPD. TO DET. THE EFFECT OF EACH OF THESE ON DENITRATION. DURING A 17 HR PERIOD AND IN 72.4-2.6PERCENT H SUB2 SO SUB4, THE DENITRATION WAS SATISFACTORY IN THE PRESENCE OF THE H SUB2 SO SUB4, HNO SUB3, AND THE N OXIDES. THE PHNO SUB2 CONTENT WAS 0.3PERCENT OF THE H SUB2 SO SUB4 AND THE PROCESS WAS COMPLETE EVEN AT HIGHER HNO SUB3 AND THE H SUB2 SO SUB4 CONCNS. IN THE PHNO SUB2 PLANT, THE SPENT H SUB2 SO SUB4 AND THE UREA WERE INTRODUCED SIMULTANEOUSLY AND COMPRESSED AIR WAS USED FOR MIXING. THE FORCED AIR ALSO REMOVED THE N FORMED FROM THE H SUB2 SO SUB4 TREATMENT, THUS ACCELERATING THE REACTION. SULFATE SEPN. FROM THE DENITRATED ACID DID NOT INCREASE THE N OXIDES IN THE COKE GAS. THE UREA WHICH DID NOT REACT WITH THE OXIDES BUT ENTERED THE MOTHER LIQUOR WITH THE ACID WAS BENEFICIAL, SINCE IT IMPROVED THE PARTICLE SIZE COMPN. OF THE (NH SUB4) SUB2 SO SUB4.

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3/3 011

CIFC ACCESSION NO--AP0109455

UNCLASSIFIED

PROCESSING DATE--02JCT70

ABSTRACT/EXTRACT--FACILITY: KEMEROJ, KOKSOKHIM. ZAVOD., KEMEROVJ, USSR.

UNCLASSIFIED

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1/2 008 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--ISOMERIZATION OF ALPHA-(N-(BETA-CYANOETHYL)AMINO) KETONES TO
FUNCTIONAL DERIVATIVES OF PYRROLIDINE -U-
AUTHOR--(04)-FAVORSKAYA, T.A., ARTAMONOVA, I.L., DEMETYEVA, L.P.,
YAKIMOVICH, S.L.
COUNTRY OF INFO--USSR
SOURCE--KHIM. GETEROTSIKL. SOEDIN. 1970, (2), 280-1 *A*
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ISOMERIZATION, HETEROCYCLIC NITROGEN COMPOUND, CYANIDE, AMINE,
KETONE, PYRROLIDINE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1987/1108 STEP NO--UR/0409/70/000/002/0280/0281
CIRC ACCESSION NO--AP0104506
UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0104506

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE COMPS. ME SUB2 CACNR(CH SUB2)SUB2CN (I, R EQUALS H OR ME) GAVE THE CORRESPONDING II AND III WITH ALK. CATALYSTS. THUS, I (R EQUALS H) IN 50 ML ABS. ETOH CONTG. CATALYTIC AMT. KOH WAS HEATED 6 HR AT 35DEGREES TO YIELD 20PERCENT II (R EQUALS H), M. 114-15DEGREES. I (R EQUALS ME) IN 20 ML ETOH AND 0.5 G ETONA ISOMERIZED COMPLETELY IN 2 DAYS TO II (R EQUALS ME), M. 36-7DEGREES AND III (R EQUALS ME), B SUB7 86-7DEGREES, N PRIME20 SUBD 1.4795, D PRIME20 0.9439.

UNCLASSIFIED

USSR

UDC: 666.117.9

ARTAMONOVA, M. V., LITVINOV, A. V., MINAKOV, A. G., MINAKOV, V. A., PAV-LUSHKIN, N. M., STREKALOV, A. V., Konstantinovskiy "Order of the Red Banner of Labor" Plant "Avtosteklo"

"A Photochromic Glass"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 10, Apr 72, Author's Certificate No 332059, Division C, filed 26 Jan 70, published 14 Mar 72, pp 85-86

Translation: This Author's Certificate introduces: 1. A photochromic glass containing SiO_2 , Al_2O_3 , B_2O_3 , Li_2O , P_2O_5 , CaO and Ag . As a distinguishing feature of the patent, the chemical resistance and mechanical strength of the glass are increased by taking the above-mentioned components in the following proportions (in wt.%):

SiO_2	64-81
Al_2O_3	3-21
B_2O_3	0.1-3.8
Li_2O	8-15
P_2O_5	1-4

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	CuO	0.01-0.1
	Ag	0.2-0.7
with the addition of	Na ₂ O	0.5-3.8
and in excess of 100%	F ₂	0.8-2
	Cl	0.5-2.5
	Br	0.3-1.2

2. A modification of this glass distinguished by the fact that the following are added (in wt.%):

	Bi ₂ O ₃	0.2-3
	LnO	0.1-1
	PbO	0.01-0.5
	CaO	0.5-5
	MgO	0.5-5
	GeO ₂	0.5-6
	K ₂ O	0.5-5.8
	Rb ₂ O	0.5-7.5
	MnO	0.01-1.5

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1/2 038 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--ON CONTROL OF CHEMICAL REACTIONS BY RESONANCE PHOTO ACTION ON THE
MOLECULES -U-
AUTHOR-(03)-ARTAMONOVA, N.D., PLATONENKO, V.T., KHOKHLOV, R.V.
COUNTRY OF INFO--USSR
SOURCE--ZHURNAL EKSPERIMENTAL'NOY I TEORETICHESKOY FIZIKI, 1970, VOL 58,
NR 6, PP 2195-2201
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--CHEMICAL REACTION, CHEMICAL REACTION KINETICS, CHEMICAL
REACTION RATE, CHEMICAL REACTION MECHANISM, IR LASER

CCNTRCL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1997/1694

STEP NO--UR/0056/70/058/006/2195/2201

CIRC ACCESSION NO--AP0120406

UNCLASSIFIED

2/2 038

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0120406

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE POSSIBILITY IS CONSIDERED OF CARRYING OUT CHEMICAL REACTIONS IN A GIVEN DIRECTION BY RESONANCE APPLICATION OF INFRARED LASER RADIATION TO A CHOSEN VIBRATIONAL DEGREE OF FREEDOM OF THE MOLECULAR SYSTEM. SUCH AN ACTION LEADS TO WEAKENING OF THE CHOSEN BOND AND TO A SHARP GROWTH OF THE RATE OF REACTIONS INVOLVING BREAKING OF THE BOND. IT IS SHOWN THAT IN ORDER TO REALIZE THIS POSSIBILITY RADIATION SOURCES WITH REAL PARAMETERS ARE REQUIRED.

FACILITY: MOSKOVSKIY GOS. UNIV. IM. M. V. LOMONOSOVA.

UNCLASSIFIED

1/2 026 UNCLASSIFIED PROCESSING DATE--020CT70
TITLE--ADHESION AND INTERNAL STRESSES IN POLYMERS -U-
AUTHOR-(05)-VINOGRADOVA, L.M., ZHERDEV, YU.V., KOROLEV, A.YA.,
SIMONENKOVA, R.V., ARTAMONOVA, R.V. A
COUNTRY OF INFO--USSR
SOURCE--VYSOKOMOL. SOEDIN. SER. A 1970, 12(2), 348-54
DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, CHEMISTRY

TOPIC TAGS--ADHESION, INTERNAL STRESS, EPOXY RESIN, STAINLESS STEEL,
ADHESIVE STRENGTH/(U)ED5 EPOXY RESIN, (U)EDG1 RESIN MODIFIER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FKAME--1989/0254

STEP NO--UR/0459/70/012/002/0348/0354

CIRC ACCESSION NO--AP0106910

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--02OCT70

2/2 026

CIRC ACCESSION NO--AP0106910

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ADHESIVE STRENGTH OF EPOXY RESIN ED-5 (I) (MODIFIED WITH DEG-1 AND HARDENED WITH POLYETHYLENEPOLYAMINE), STAINLESS STEEL (II) PAIRS WAS STUDIED AS A FUNCTION OF THE HARDENING TEMP. (T) AND WITH REF. TO INTERNAL STRESSES ARISING DUE TO THE FORMATION OF ADHESIVE BONDS. THE ADHESIVE STRENGTH WAS PROPORTIONAL TO T, REACHING A MAX. OF 360 KG-CM PRIME², WHEN THE INTERNAL STRESSES BROUGHT ABOUT PRESSURE PERPENDICULAR TO THE I-II INTERFACE. A PLOT OF ADHESIVE STRENGTH VS. TEMP. FOR THE I "DISSOLVED" IN II SYSTEM REVEALED THAT THE ADHESIVE STRENGTH DECLINED, REACHING A MIN. AT 100DEGREES AND THEN SUDDENLY INCREASED. A POSSIBLE EXPLANATION FOR THE ANOMALOUS BEHAVIOR WAS GIVEN. MEASUREMENTS OF INTERNAL STRESSES INDICATED THAT EFFECTIVE ADHESION MARKEDLY INCREASED WITH T AT LARGER THAN 100-200DEGREES, PRESUMABLY DUE TO THE FORMATION OF STRONGER ADHESIVE, AND POSSIBLY, CHEM. BONDS. AT LOWER TEMPS. THE ADHESION WAS INDEPENDENT OF T. THE COMPONENT OF THE ADHESIVE STRENGTH RELATED TO FRICTION I.E., THE NORMAL PRESSURE DUE TO INTERNAL STRESSES IN THE POLYMER AND THE STATIC FRICTION COEFF. OF THE I-II PAIR WERE DETD.

UNCLASSIFIED

1/2 024 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--INFRARED SPECTROSCOPIC STUDY OF THE CHEMISORPTION OF ORGANOSILICON
COMPOUNDS ON AN AEROSIL SURFACE -U-
AUTHOR--(05)-BROUN, E.V., KUROLEV, A.YA., VINOGRADOVA, L.M., ARTAMONOVA,
R.V., MENKOVA, T.V.
COUNTRY OF INFO--USSR
SOURCE--Zh. FIZ. KHIM. 1970, 44(3), 797-9
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--IR SPECTRUM, CHEMISORPTION, ORGANOSILICON COMPOUND, SILICA,
ORGANIC SILANE, CARBONYL COMPOUND
CENTRGL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3002/1197 STEP NO--UR/0076/70/044/003/0797/0799
CIRC ACCESSION NO--AP0128615

UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0128615

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INTERACTION OF TRIMETHYLETHOXY-SILANE (I), TRIMETHYLACETOXY-SILANE (II), AND TRIMETHYLCHLORO-SILANE (III) WITH AEROSIL OF SP. SURFACE 150 M² PER G WAS STUDIED. THE SURFACE COMPD. OF TRIMETHYLSILANE GROUPS WAS FOUND, AND ITS CONC. DEPENDENCE ON TEMP. AND TIME WAS STUDIED. I AND III GAVE A HIGH DEGREE OF SURFACE OCCUPATION AT ROOM TEMP., WHILE II PROVIDED A SUFFICIENTLY OCCUPIED MONOLAYER ONLY AT SIMILAR TO 300 DEGREES. TREATING OF II ON AN AEROSIL SURFACE CAUSED THE FORMATION OF A SMALL AMT. OF CARBONYL COMPOUNDS.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--INTERNAL STRESSES AND DIFFUSION OF WATER IN POLYMERS -U-
AUTHOR--(05)-ARTAMONOVA, R.V., VINOGRADOVA, L.M., GARANINA, S.O., ZHERDEV,
YU.V., KUROLEV, A.YA. *A*
COUNTRY OF INFO--USSR
SOURCE--VYSOKOMOL. SOEDIN. SER. A 1970, 12(2), 336-42
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--INTERNAL STRESS, WATER, EPOXY RESIN, POLYETHYLENE, POLYAMINE,
FLUID DIFFUSION/(U)EDS EPOXY RESIN
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1977/0319 STEP NO--UR/0459/70/012/002/0336/0242
CIRC ACCESSION NO--AP0111513
UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0111513

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECTS OF H SUB2 O AND H SUB2 O VAPOR ON INTERNAL STRESSES IN EPOXY RESIN ED 5 COATINGS HARDENED WITH POLYETHYLENE POLYAMINE AND MODIFIED WITH DEG-1 WERE STUDIED. SWELLING IN H SUB2 O REDUCED, AND EVEN CHANGED THE SING, OF INTERNAL STRESSES PRODUCED DURING THE THERMAL HARDENING AND SUBSEQUENT COOLING TO ROOM TEMP. THE INTERNAL STRESSES WERE INVERSELY PROPORTIONAL TO THE RELATIVE HUMIDITY. THE DIFFUSION COEFF. OF H SUB2 O (D), DETD. FROM KINETIC DATA (2.4 TIMES 10 PRIME NEGATIVE9 CM PRIME2-SEC) AGREED WITH D MEASURED BY THE SORPTION METHOD. AN EQUATION WAS PROPOSED FOR THE EVALUATION OF THE MAX. EXPTL. ERROR IN THE DETN. OF INTERNAL STRESSES BY THE CANTILEVER METHOD (A.T. SANZHAROVSKII, G. I. EPIFANOV, 1961) DUE TO A NONUNIVORM DISTRIBUTION OF H SUB2 O ALONG THE COATING.

UNCLASSIFIED

Acc. Nr: APO054285

Ref. Code: UR 0463

PRIMARY SOURCE: Molekulyarnaya Biologiya, 1970, Vol 4, Nr 2 ,
pp 224-231

ON DIFFERENCES BETWEEN THE CONDENSED AND DIFFUSE CHROMATIN
OF NORMAL AND MALIGNANT CELLS

A. . BERMAN, N. P. LEBKOVA, V. A. ARTAMONOVA, and I. B. ZBARSKIY

Advanced Training Institute for Physicians, and Institute of Epidemiology and
Microbiology, Academy of Medical Sciences, USSR, Moscow

Diffuse chromatin of both normal and malignant mouse tissues contains much more polyanions (RNA, non-histone proteins) than the condensed chromatin. For liver it was shown that ³⁵S-methionine was incorporated 20—30 per cent faster into histones and 40—50 per cent faster into non-histone proteins of the diffuse chromatin as compared with the same fractions of the condensed chromatin. Similar results were obtained in the case of hepatoma chromatin fractions. Experiments involving DNA—RNA hybridization revealed that in the liver the DNA of the diffuse chromatin was more active in mRNA synthesis than that of the condensed one. In liver the condensed chromatin contains a part of DNA cistrons that are derepressed in hepatoma.

REEL/FRAME
19831423

DI₂

Acc. Nr: **AP0044155**

Ref. Code: UR 0244

PRIMARY SOURCE: Voprosy Pitaniya, 1970, Vol 29, Nr 1,
pp 16-20

PYRIDOXINE ALLOWANCES IN ATHEROSCLEROTIC AND HYPERTONIC PATIENTS
Artayeva, L. P. (Grodno)

Summary

A total of 89 patients in different clinical stages of atherosclerosis and hypertensive disease (according to A. L. Myasnikov's classification) and 21 healthy subjects serving as controls were examined. Both groups received equal amounts of pyridoxine in their diet. The patients showed no difference in the vitamin B₆ allowance which would depend upon the stage of the disease but the vitamin's content in their blood was 4 times as low as in the healthy controls. This difference vanished on an additional ingestion of vitamin B₆ in an amount of 50 mg per day for a 7 days. The author believes that the pyridoxine deficiency uncovered by him is attributable to an elevated demand for this vitamin.

1/1

REEL/FRA
19770636

2

Theoretical Automation

USSR

UDC: 62-50

SOLODOVNIKOV, V. V., ARTEMENKO, A. I., Moscow Higher Technical Academy imeni N. E. Bauman

"The Principle of Complexity and Regularization of Incorrect Problems in Optimum Control"

Leningrad, Izvestiya VUZov: Priborostroyeniye, Vol 16, No 1, 1973, pp 25-30

Abstract: The optimum control problem which consists in minimizing the functional

$$F(u) = \int_0^T q(x, u, t) dt + \Phi(x(T)),$$
$$\frac{dx}{dt} = f(x, u, t), \quad x(0) = C$$

in the space $L_2(0, T)$ is incorrect if it satisfies at least one of the following conditions: its solution does not exist; the solution is unstable. - i. e., small perturbations of initial data cause arbitrarily large variations of the solution in a given region; the solution is not unique. Taking incorrectness due to instability of the solution as the most important type

1/2

- USSR

SOLODOVNIKOV, V. V., ARTEMENKO, A. I., Izvestiya VUZov: Priborostroyeniye, Vol 16, No 1, 1973, pp 25-30

encountered in practical problems, the authors present a survey of incorrect problems and propose a method of regularizing such problems based on the principle of complexity (V. V. Solodovnikov, IVUZ Priborostr., 1970, Vol 13, No 3).

2/2

- 65 -

UDC 612.825.014.42

USSR

ARTEMENKO, D. P., Institute of Physiology Imeni A. A. Bogomolets, Academy of Sciences USSR, Kiev

"Participation of Hippocampal Neurons in the Generation of Theta Waves"

Kiev, Neyrofiziologiya, Vol 4, No 5, Sep/Oct 72, pp 531-539

Abstract: Time relations between neuron potentials in the dorsal hippocampal region and various phases of surface theta waves were studied using a surface macroelectrode and a glass microelectrode placed at various depths into the neocortex. A graphic display method using a cathode ray tube was employed. Nonanesthetized rabbits immobilized with tubocurarine were studied.

Reversal of the polarity of the extracellular theta waves was noted at a depth of 0.15 to 0.2 mm below the stratum pyramidale, i.e., in the stratum radiale. Most of the neurons studied fired synchronously with the theta waves recorded extracellularly, but some decreased their background activity with stimulation of the contralateral hippocampus and sciatic nerve and were noted to fire preferentially during the positive portions of the theta waves. Intracellular recordings in these cells showed that the membrane potential decreased during the positive part of the theta waves and increased during the negative part. The less numerous basket cells

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USSR

ARTEMENKO, D. P., *Neyrofiziologiya*, Vol 4, No 5, Sep/Oct 72, pp 531-539

reacted in the opposite direction to stimulation of the contralateral hippocampus and sciatic nerve and fired predominantly during the negative part of the theta wave.

A discussion is given of the genesis of the theta rhythm and the hypothesis is advanced that the theta waves recorded extracellularly represent summated dendritic EPSP's and that IPSP's of pyramidal cells play the chief role in the generation of the "intracellular theta rhythm."

2/2

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UDC 615.31.547.75

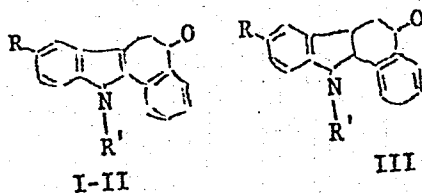
USSR

AKSANOVA, L. A., SHARKOVA, L. M., KUCHEROVA, N. F., ARTEMENKO, G. N., and FEDOROVA, I. B., Scientific Research Institute of Pharmacology of the Academy of Medical Sciences of USSR, Moscow

"Indole Derivatives. XXXVI. Synthesis and Pharmacological Investigation of Some Benzoxepinoindole Derivatives"

Moscow, Khimiko-Farmatsevticheskiy Zhurnal, Vol 5, No 11, 1971, pp 3-5

Abstract: In searching for psychotropic agents several N-substituted dihydro- and tetrahydrobenzoxepinoindoles with sedative and antidepressant properties were synthesized.



USSR

AKSANOVA, L. A., et al., Khimiko-Farmatsevticheskiy Zhurnal, Vol 5, No 11,
1971, pp 3-5

I R' = H; Ia R = H; Ib R = CH₃; Ic R = Cl; Id R = Br.
 IIa R = H, R' = (CH₂)₂N(CH₃)₂; IIb R = H, R' = (CH₂)₃N(CH₃)₂;
 IIc R = CH₃, R' = (CH₂)₂N(CH₃)₂; IId R = CH₃, R' = (CH₂)₃N(CH₃)₂;
 IIe R = Cl, R' = (CH₂)₂N(CH₃)₂; II f R = Cl, R' = (CH₂)₂N(CH₃)₂;
 IIg R = Br, R' = (CH₂)₂N(CH₃)₂; IIh R = Br, R' = (CH₂)₃N(CH₃)₂.
 IIIa R = R' = H; IIIb R = CH₃, R' = H; IIIc R = H, R' = CO(CH₂)₂Cl;
 IIId R = H, R' = COCH₂CH₂N(CH₂)₄CH₂; IIIe R = H, R' = CO(CH₂)₂N(C₂H₅)₂.

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USSR

AKSANOVA, L. A., et al., *Khimiko-Farmatsevticheskiy Zhurnal*, Vol 5, No 11, 1971, pp 3-5

Some compounds were prepared by the cyclization of corresponding arylhydrozons of homochroman-5-one (Ia-Id); others (IIa-IIh), by the reaction of dialkyl-aminoalkyl chlorides with Na derivatives of oxepinoindoles (Ia-Id). The latter were synthesized by treating oxepinoindoles (Ia-Id) with NaH in dimethylformamide. Reduction of oxepinoindoles Ia and Ib with Zn dust in HCl, in the presence of HgCl₂ yielded corresponding IIIa and IIIb. Reaction of IIIa with chloropropionyl chloride yielded IIIc which in turn formed IIId and IIIe on reaction with piperidine and diethylamine. Pharmacological tests for cholinolytic, antiserotouine and spasmolytic activity were carried out with white mice. Empirical formulas and melting points for IIb-IIh compounds are given, as well as detailed descriptions of some reactions.

3/3

1/2 035 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--NEUROTROPIC PROPERTIES OF AMINOHYDROXYACETIC AND GAMMA
AMINOHYDROXYBUTYRIC ACIDS -U-
AUTHOR-(03)-OSTROVSKAYA, R.U., ARTEMENKO, G.N., RAEVSKIY, K.S.
COUNTRY OF INFO--USSR
SOURCE--FARMAKOL. TOKSIKOL. (MOSCOW) 1970, 33(2), 137-42
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--AMINE DERIVATIVE, HYDROXYL RADICAL, MOUSE, TOXICITY,
NEUROPHYSIOLOGY, ACETIC ACID, BUTYRIC ACID, ANESTHETIC, ANTICONVULSANT
DRUG, LIVER, ENZYME
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1997/0792 STEP NO--UR/0390/70/033/002/0137/0142
CIRC ACCESSION NO--AP0119699
UNCLASSIFIED

2/2 035

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119699

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AMINOHYDROXYACETIC ACID (20 MG-KG) AND GAMMA AMINOHYDROXYBUTYRIC ACID (40 MG-KG) GIVEN I.P. TO MICE POTENTIATED THE ANESTHETIC EFFECTS OF NA THIDPENTAL, NA BARBITAL, AND NA HYDROXYBUTYRATE. THE ACIDS ACTED DIRECTLY ON NEUROTROPIC COMPONENTS AS WELL AS INDIRECTLY BY INHIBITING LIVER ENZYMES WHICH METABOLIZE THE ANESTHETICS. GAMMA AMINOHYDROXYBUTRIC ACID AT 20 MG-KG GIVEN I.V. TO RABBITS POTENTIATED THE STIMULATORY EFFECT OF GAMMA AMINOBUTYRIC ACID (20 MG-KG I.V.) ON THE ELECTROENCEPHALOGRAM. AMINOHYDROXYACETIC ACID (62.5 MG-KG I.P.) REDUCED THE TOXICITY AND LETHALITY OF SEMICARBAZIDE (200 MG-KG I.P.) IN MICE BY 70PERCENT, WHEREAS GAMMA AMINOHYDROXYBUTYRIC ACID REDUCED TOXICITY BY 71PERCENT AT 62.5 MG-KG I.P. AND LETHALITY BY 50PERCENT AT 50 MG-KG. HIGHER DOSES OF THIS LATTER COMPD. WERE LESS EFFECTIVE. GAMMA AMINOHYDROXYBUTYRIC ACID PARTIALLY PROTECTED MICE AGAINST CONVULSIONS INDUCED BY CURAZOLE (100 MG-KG S.C.), STRYCHNINE (2.5 MG-KG S.C.), AND NICOTINE (0.5 MG-KG I.V.). FACILITY: LAB. FARMAKO. NERV. SIST., INST. FARMAKOL., MOSCOW, USSR.

UNCLASSIFIED

USSR

ARTEMENKO, S. N., KAZARINOV, R. F., SURIS, R. A., Physicotechnical Institute imeni A. F. Ioffe, Academy of Sciences of the USSR, Leningrad

"Possibility of Suppressing Gunn Domains"

Leningrad, Fizika Tverdogo Tela, Vol 14, No 6, Jun 72, pp 1613-1621

Abstract: The authors investigate the possibility of suppressing Gunn instability of the uniform distribution of carriers in a semiconductor with N-shaped current-voltage characteristic by means of impact ionization of impurity centers with deep-lying levels. The generation of carriers by such ionization compensates for the loss of carriers in the high field region due to the drop in the curve for carrier velocity as a function of the field. It is shown that such compensation is possible only if the characteristic rise time of the electric instability is greater than the impurity capture time of the electrons. In this connection, the sign of the conductivity on frequencies exceeding the capture frequency remains negative, which means that microwave emission and amplification is possible in a large volume of the semiconductor.

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USSR

UDC 615.372:576.851.555].015.46

ARTEMENKO, V. D., NENASHEV, V. P., and USHAKOVA, A. A., Moscow Institute of Vaccines and Sera imeni Mechnikov

"Immunogenic and Antigenic Characteristics of Purified, Concentrated, and Sorbed Cl. oedematiens Toxoids Obtained From Concentrated Toxins"

Moscow, Zhurnal Mikrobiologii Epidemiologii i Immunobiologii, No 5, May 71, pp 94-98

Abstract: Although assaying toxoids in antigenic units makes it possible to prepare fairly standardized sorbed preparations, nevertheless the basic index of their quality is their immunogenicity as determined in direct tests on animals. In this study, the immunogenic activity and the protein fraction of type A strain No 79 Cl. oedematiens toxoids was investigated. Toxoids were purified, concentrated, and sorbed and bioassayed on white mice. The results revealed that the immunogenic activity of the preparations does not completely correspond to their antigenic activity. The immunogenic activity largely depends on the purity of the preparations. Differences in the immunogenic activity of concentrated, purified toxoids are associated with the varying protein compositions of the toxoids.

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Immunology

USSR

UDC: 615.372:576.885.557.012

NENASHEV, V. P. and ARTEMENKO, V. D., Moscow Institute of Vaccines and Sera, imeni Mechnikov

"Purified Cl. oedematiens Toxoids From Concentrated Toxins With the Use of Casein Culture Media"

Moscow, Zhurnal Mikrobiologii Epidemiologii i Immunobiologii, Vol 48, No 1, Jan 71, pp 87-90

Abstract: The filtrates of Cl. oedematiens type A, strain No 79, cultures were used as starting material. The antitoxin-binding activity of the toxins was determined on white mice. From concentrated solution of the Cl. oedematiens toxins grown on casein media, stable, harmless, purified toxoids were obtained which retained their initial activity for 8-12 months, at 6-8°. They contained 230-330 BU per mg of protein nitrogen, and they had an activity of 120-150 BU/ml. Gel filtration of the purified toxoids over a Sefadex G-100 gel produced two peaks: one corresponding to the antitoxin-binding activity and an additional one indicating the presence of low-molecular weight compounds. The concentrated purified toxoids were found to be nonhomogeneous in their antigenic composition.

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UDC 519.1

USSR

ARTEMENKO, V. V.

"On the Problem of Determining the Minimum Width of a Strip in Symmetric Systems of Linear Algebraic Equations"

V sb. EVM v issled. i proyektir. ob'yektov str-va (Computers in Investigating and Designing Structural Objects -- Collection of Works), Kiev, "Budivel'nik", 1970, pp 29-32 (from RZh-Matematika, No 10, Oct 70, Abstract No 10V250)

Translation: The author considers systems of linear equations with a strip structure in which the width of the strip h is understood to mean the maximum difference in the numbers of unknowns in one equation. Certain lower bounds for the quantity h are shown which are useful in solving problems of minimizing it. Ye. Dinitz.

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UDC: None

USSR

ARTEMENKOV, L. I., KOZLOV, P. I., MELIKHOV, P. I., MUKHIN, P. A.,
and PAPKOV, L. N.

"Maintaining a String Plasma in the TOKAMAK TO-1 by an Automatic
Control System"

Moscow, Pis'ma v Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, vol 17,
No 5, 1973, pp 251-254

Abstract: The principal difficulty in controlling the maintenance of a string plasma in the Tokamak TO-1 is the amplification of the current induced in the control winding that occurs with shifts of the plasma. To cope with this and other control problems, the authors of this letter conducted experiments on the TO-1 to study the dependence of the microscopic characteristics of a plasma string on the time constant of the control winding within the range of 0.04-2 seconds. Typical oscillograms of the discharge at initial hydrogen pressures of $2 \cdot 10^{-4}$ mm Hg, with a longitudinal magnetic field of 8.2 kgauss and a vertical correcting field of 23 gauss for two values of the control winding time constant, show that a duration of a plasma current pulse of as much as 400 msec is basically a function of the vertical correcting field. The curves for these functions are obtained. Examination of oscillograms taken by magnetic probes

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USSR

ARTEMENKOV, L. I., et al, Pis'ma v Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, vol 17, No 5, 1973, pp 251-254

measuring the shift in the plasma string along its large radius shows that it can be divided into three stages, each of which is analyzed. The authors express their thanks to I. N. Golovin for his comments and to N. N. Shvindt for conducting the optical measurements.

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UNCLASSIFIED

PROCESSING DATE--09OCT70

1/2 017

TITLE--MASS YIELDS DURING THE FISSION OF URANIUM 235 BY THERMAL AND FAST
NEUTRONS FOR FIXED KINETIC ENERGIES -U-

AUTHOR--(03)-ARTEMEV, YU.M., GROMOV, A.V., PROTOPOPOV, A.N.

COUNTRY OF INFO--USSR

A

SOURCE--YAD. FIZ. 1970, 11(2), 290-6

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--NUCLEAR FISSION, URANIUM ISOTOPE, THERMAL NEUTRON, FAST
NEUTRON

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1980/0387

STEP NO--UR/0367/70/011/002/0290/0296

CIRC ACCESSION NU--AP0048659

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--09OCT70-

2/2 017

CIRC ACCESSION NO--AP0048659

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

ABSTRACT. MASS YIELDS ARE COMPARED FOR THE FISSION OF PRIME²³⁵ U BY THERMAL N AND BY 14.8 MEV N AT FIXED TOTAL KINETIC ENERGIES E SUBK OF 148-90 MEV. FOR EQUAL K SUBK, THE POSITIONS OF MAX. YIELDS COINCIDE FOR EXCITATION BY BOTH THERMAL AND 14.8 MEV N. DURING FISSION BY THERMAL N, THE NO. OF N IN THE NECK CONNECTING THE FRAGMENTS AT THE MOMENT OF FISSION IS 15 AT E SUBK EQUALS 189.9 MEV AND 35 AT E SUBK EQUALS 148.3 MEV. THIS INCREASE IN N NO. WITH DECREASE IN E SUBK CORRELATES WITH AN INCREASE IN DEFORMATION AT THE MOMENT OF FISSION. COMPARISON OF THE EXPTL. TOTAL MASS YIELD CURVE WITH THE STATISTICAL MODEL CALCD. CURVE SHOWS GOOD AGREEMENT, BUT THE CALCD. CURVES FOR FIXED VALUES OF E SUBK DIFFER CONSIDERABLY FROM THE EXPTL. CURVES.

UNCLASSIFIED

USSR:

UDC 621.762.002.5(088.8)

BATIST, A. I., ARTEMIYEV, YE. M., BERG, B. N., SHAKIRZYANOVA, L. G.

"Worm Press for Making Tubular Products from Powders"

USSR Authors' Certificate No 273634, Cl. 49 h, 11; 49i, 16; 31 b³, 3/02,
(B 30 b 9/00, B 22 f 3/00) filed 23 Oct 68, published 14 Sep 70 (from RZh-
Metallurgiya, No 3, Mar 71, Abstract No 3 G474P)

Translation: The worm press contains a frame, charging hopper, drive mechanism, and endless scew with diminishing depth of thread. In order to press bi-metallic tubular products, the worm press is equipped with a detachable tubular jacket, and the worm is made with a longitudinal axial duct which centers the entering core that shapes the hole in the product to be pressed. One illustration.

1/1

Artemkin, A. S.

Physics

Bioluminescence

JPRS 56398

30 June 1972

Instrumentation for Studying Bioluminescence

A study of the individual parameters of the bioluminescent field requires the creation of specific instrumentation: special sensors, containers and devices. The article describes a unified complex of instrumentation making possible an easy change in instrument design in accordance with the missions formulated in the course of the research. Functionally the instrument complex consists of on-board recording apparatus and a system of sensors, containers and connecting components. The authors discuss different variants of instruments for measuring bioluminescence at sea designed on the basis of the unified complex: an instrument with passive mechanical excitation of luminescence, an instrument for measuring the spectral characteristics of the bioluminescent field, a bathyphotometer with active excitation of luminescence, etc. The described instrument complex was tested on the 44th voyage of the research vessel "Vityaz'." Using these instruments it was possible to obtain data on the microstructure of the bioluminescent field and the distribution of plankton in individual regions of the ocean.

(Abstract: "Unified Complex of Instrumentation for Studying the Characteristics of Field Bioluminescence," by I. I. Gitel'zon, L. A. Levin, V. S. Filimonov, A. P. Shevyrnogov, R. N. Utyumnev, Yu. A. Zaporozhny and A. S. Artemkin, Physics Institute Siberian Department USSR Academy of Sciences, Moscow, Okeanologiya, Vol XII, No 2, 1972, pp 343-349) *Geology*

1/3 019

UNCLASSIFIED

PROCESSING DATE--02OCT70

TITLE--MEASUREMENT OF BIOLUMINESCENCE AT MAXIMUM DEPTHS -U-

AUTHOR--(05)-GITELZON, I.I., LEVIN, L.A., SHEVYRNOGOV, A.P., FILIMONOV,
V.S., ARTEMKIN, A.S.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, DOKLADY AKADEMII NAUK SSSR, VOL 191, NO 3, 1970, PP
689-692

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, EARTH SCIENCES AND OCEANOGRAPHY, BIOLOGICAL AND
MEDICAL SCIENCES
TOPIC TAGS--BATHYPHOTOMETER, MARINE BIOLOGY, LUMINESCENCE, OCEANOGRAPHIC
INSTRUMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1990/0270

STEP NO--UR/0020/70/191/003/0689/0592

CIRC ACCESSION NO--AT0108574

UNCLASSIFIED

2/3 019

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AT0108574

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REGISTRY OF BIOLUMINESCENCE IS EVIDENTLY THE ONLY AVAILABLE MEANS FOR STUDYING MANIFESTATIONS OF LIFE OF ABYSSAL ORGANISMS IN SITU. THE PHYSICS INSTITUTE SIBERIAN DEPARTMENT ACADEMY OF SCIENCES USSR HAS DEVELOPED AN ABYSSAL BATHYPHOTOMETER WITH A SELF CONTAINED POWER SOURCE WITH THE REGISTRY OF SIGNALS FROM A PHOTODETECTOR; IT IS CONNECTED TO THE SHIP BY A CABLE. MAGNETIC RECORDING IS USED FOR SIGNAL REGISTRY. AT THE SITE OF THE INSTRUMENT IT WAS DEEMED NECESSARY TO INTRODUCE INTO THE MEDIUM SOME FORM OF EXCITATION BECAUSE MECHANICAL EXCITATION BY THE INSTRUMENT ITSELF IS SCARCELY ADEQUATE AT THE DEPTHS WHERE MEASUREMENTS WERE MADE. THE EXCITATION SOURCE WAS A FLASH LAMP. THE ARTICLE IS ACCOMPANIED BY A BLOCK DIAGRAM OF THE INSTRUMENT. THE BATHYPHOTOMETER OPERATES IN ACCORDANCE WITH A PRESTIPULATED PROGRAM. THE DURATION OF AN INDIVIDUAL FLASH IS 1 MSEC. THE INSTRUMENT CONSISTS OF TWO COUPLED INSTRUMENT PACKAGES, ORIENTED AT AN ANGLE TO ONE ANOTHER IN SUCH A WAY THAT THE OPTICAL AXES OF BOTH PACKAGES INTERSECT AND ARE DIRECTED DOWNWARD. THE LARGER OF THE CONTAINERS HOLDS THE PHOTODETECTOR AND THE POWER SOURCE, THE PROGRAMMED CONTROL SYSTEM AND THE RECORDER. THE SMALLER CONTAINER HOLDS THE FLASH LAMP WITH PROGRAMMED CONTROL AND ITS POWER SOURCE. THE CONTAINERS ARE FABRICATED FROM A TITANIUM ALLOY AND ARE DESIGNED FOR OPERATING AT PRESSURES UP TO 1,500 KG-CM PRIME2, THAT IS, UP TO THE GREATEST OCEAN DEPTHS. THE INSTRUMENT WAS USED ABOARD THE "VITYAZ'" IN DECEMBER 1968 FOR MEASURING BIOLUMINESCENCE IN THE JAPANESE DEEP AT DEPTHS OF 7,000-7,200 M.

UNCLASSIFIED

3/3 .019

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AT0108574

ABSTRACT/EXTRACT--THE BATHYPHOTOMETER EXPOSURE TIME AT THE MEASUREMENT HORIZON WAS 60 MINUTES; DURING THIS TIME 18 BIOLUMINESCENT BURSTS WERE REGISTERED. INFORMATION IS GIVEN ON THE AMPLITUDES, DURATIONS AND ENERGIES OF THESE BURSTS.

UNCLASSIFIED

3

UDC 578.087.8+577.472(26)

USSR

GITEL'ZON, I. I., LEVIN, L. A., SHEVYRNOGOV, A. P., FILIMONOV, V. S., ARTEMKIN,
A. S., UTYUSHEV, R. N., and ZAGORODNIY, Yu. A.

A

"Measurement of Bioluminescence at Great Depths"

Moscow, Doklady Akademii Nauk SSSR, Vol 191, No 3, 1970, pp 689-692

Abstract: The recording of bioluminescence appears to be the only convenient way at present of studying abyssal organisms directly in their habitat. To carry out such investigations, the Institute of Physics of the Siberian Department of the Academy of Sciences USSR developed a bathyphotometric device with autonomous power supply and recording of signals. Magnetic recording is used for the signals coming from the light receiver. The bathyphotometer consists of two hermetically sealed containers joined together. The larger one holds the light receiver, power supply, program control system, and recording apparatus, while the smaller one holds a flashing lamp with program control and power supply. Measurements made in December 1968, by the research vessel Vityaz' in the Sea of Japan at a depth of 7000-7200 m are briefly described.

1/1

1/2 027 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--DETERMINATION OF THE SCATTERING INDICATRIX BY SKY BRIGHTNESS
OBSERVATIONS -U-
AUTHOR--ARTEMKIN, YE.YE.
COUNTRY OF INFO--USSR **A**
SOURCE--AKADEMIIA NAUK SSSR, IZVESTIIA, FIZIKA ATMOSFERY I OKEANA, VOL. 6,
MAY 1970, P. 53-533
DATE PUBLISHED----MAY70
SUBJECT AREAS--ATMOSPHERIC SCIENCES
TOPIC TAGS--INDICATRIX, ATMOSPHERIC SCATTER, MULTIPLE SCATTERING, OPTIC
BRIGHTNESS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605011/F04 STEP NO--UR/0362/70/006/000/0531/0533
CIRC ACCESSION NO--AP0140227
UNCLASSIFIED

2/2 027

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0140227

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DESCRIPTION OF A PROCEDURE FOR DETERMINING THE BRIGHTNESS SCATTERING INDICATRIX IN THE EFFECTIVE ATMOSPHERIC LAYER WITHOUT THE DISTORTIONS DUE TO MULTIPLE SCATTERING AND REFLECTION FROM THE UNDERLYING SURFACE. FORMULAS ARE GIVEN FOR OBTAINING THE INDICATRIX, FREE OF THESE DISTORTIONS, FROM SKY BRIGHTNESS DATA. THE METHOD DOES NOT REQUIRE THE KNOWLEDGE OF THE TERRAIN ALBEDO AND OF THE BOUGUER OPTICAL THICKNESS OF THE ATMOSPHERE AND IS APPLICABLE ALSO WHEN THE OPTICAL STABILITY OF THE ATMOSPHERE IS SHORT LIVED. FACILITY: RIAZANSKII GOSUDARSTVENNYI PEDAGOGICHESKII INSTITUT. RYAZAN, USSR.

UNCLASSIFIED

1/2 020 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--FAMILIAL NEPHRITIS IN CHILDREN -U-

AUTHOR--(04)-IGNATOVA, M.S., BRISKINA, M.M., FOKEYEVA, V.V., ARTEMKINA,
L.N.

COUNTRY OF INFO--USSR

SOURCE--PEDIATRIYA 49(2): 9-13. ILLUS. 1970

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PEDIATRICS, NEPHRITIS, AUDITION, HEREDITY

CENTRAL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/0542

STEP NO--UR/0546/70/049/002/0008/0013

CIRC ACCESSION NO--AP0135835

UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0135835

ABSTRACT/EXTRACT--(U) GP-C- ABSTRACT. A TOTAL OF 29 CHILDREN OUT OF 18 WITH FAMILIAL NATURE OF NEPHRITIS WERE OBSERVED. ALL THE PATIENTS WERE DIVIDED INTO THE FOLLOWING GROUPS: THE 1ST GROUP INCLUDED 7 CHILDREN OUT OF 4 FAMILIES IN WHOM THE DISEASE WAS CHARACTERIZED BY A DIFFERENT DEGREE OF THE NEPHROTIC SYNDROME MARKEDNESS; THE 2ND GROUP INCLUDED 22 CHILDREN FROM 15 FAMILIES IN WHOM STABLE HEMATURIA WAS ONE OF THE MAIN CLINICAL MANIFESTATIONS. IN 4 CHILDREN HEMATURIA WAS COMBINED WITH DEFECTIVE HEARING, I.E. ALBERT'S SYNDROME WAS MARKED. THE DISEASE RAN A MORE SEVERE COURSE IN MALE PATIENTS, THE SEVERITY GREW WITH AGE AND WAS APPARENTLY DUE TO THE DEVELOPMENT OF ENPHROSCLEROSIS. THE DATA ARE GIVEN OF THE CLINICO GENETIC ANALYSIS REVEALING NUMEROUS CASES OF NEPHROPATHY IN SOME FAMILIES. POSSIBLE MECHANISMS OF GENETIC HEREDITY OF FAMILIAL NEPHROPATHY ARE DISCUSSED. FACILITY: DEP. PEDIAT., CENT. INST. POSTGRAD. MED., MOSCOW, USSR.

UNCLASSIFIED

Pathology

USSR

UDC 616.9-022.38-039:616.3-008.1001.33

BANKHANEN, V. D., DENISOV, K. A., ARTEMOV, A. A., SITNIKOVA, G. M., SHAPTALA, V. A., and KHILINSKIY, V. P., Chair of Nutritional Hygiene and Epidemiology Donets Medical Institute imeni A. M. Gor'kiy, and Department of Nutritional Hygiene, Donets Municipal Sanitary Epidemiological Station

"Classification of Food Poisoning and Principles Underlying Its Compilation"

Moscow, Voprosy Pitaniya, No 6, Nov/Dec 71, pp 54-58

Abstract: Problems concerning classification of food poisoning and criteria to be considered are discussed, including the evolution of concepts of etiology, mechanisms of transmission, pathology and symptomatology, treatment and prevention, and data on international classification. A classification is proposed in which food poisonings are divided into four etiological categories: bacterial, nonbacterial, fungal, and of unclarified nature. According to the pathogenesis, the bacterial category is subdivided into two groups: toxininfections and bacterial toxicoses; while the nonbacterial category is subdivided into three groups specifying the pathogenic agents; additives, products inedible by man, and products which become temporarily or partly toxic

1/2 014 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--PRIME12 C(PRIME3 HE, PRIME3 HE PRIME) PRIME12 C AND PRIME12 C(PRIME
3 HE,T) PRIME12 N MIRROR REACTIONS -U-
AUTHOR--(05)-ARTEMOV, K.P., GLUKHOV, YU.A., GOLDBERG, V.Z., DAVYDOV, V.V.,
PETROV, I.P.
COUNTRY OF INFO--USSR
SOURCE--YAD. FIZ. 1970, 11(1), 43-7
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--ION BOMBARDMENT, CARBON ISOTOPE, NUCLEAR REACTION, EXCITED
NUCLEUS, DIFFERENTIAL CROSS SECTION, HELIUM ISOTOPE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1980/0171

STEP NO--UR/0367/70/011/001/0043/0047

CIRC ACCESSION NO--AP0048463

UNCLASSIFIED

2/2 014 UNCLASSIFIED PROCESSING DATE--09OCT70
CIRC ACCESSION NO--AP0048463
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DIFFERENTIAL CROSS SECTIONS ARE MEASURED FOR THE TITLE MIRROR REACTIONS AT AN ${}^3\text{He}$ ION ENERGY OF 36 MEV. DIRECT EVIDENCE IS PRESENTED THAT THE STATES OF THE ${}^{12}\text{C}$ NUCLEUS WITH ENERGIES 15.1 MEV (1 PLUS, T) EQUALS 1) AND 16.1 MEV (2 PLUS, T EQUALS 1) ARE ANALOGOUS TO THE GROUND STATE (1 PLUS) AND THE 1ST EXCITED STATE (0.95 MEV) OF ${}^{12}\text{N}$. THUS, THE 0.95-MEV LEVEL OF ${}^{12}\text{N}$ HAS THE QUANTUM NOS. 2 PLUS. THE ADMIXT. OF THE T EQUALS 0 STATE TO THE 15.1-MEV STATE OF ${}^{12}\text{C}$ IS NO MORE THAN 3PERCENT IN THE AMPLITUDE. THE SAME ADMIXT. TO THE 16.1-MEV STATE OF ${}^{12}\text{C}$ IS ALSO, VERY LIKELY NO MORE THAN A FEW PER CENT FACILITY: INST. AT. ENERGY, IM. KURCHATOVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 621.372.855

KOTOSONOV, N. V., IVANOV, V. N., SIDORKIN, A. F., ARTEMOV, K. S.

"Optically Controllable Semiconductor Waveguide Load"

Tr. Voronezh. un-ta (Works of Voronezh University), No 77, 1971, pp 11-18 (from RZh-Radiotekhnika, No 10, Oct 71, Abstract No 10B165)

Translation: The reflection of electromagnetic energy from a semiconductor-dielectric-metal structure was investigated theoretically. The relation of the reflected power to the conductance of the semiconductor material was obtained. The possibility of using this effect to create an optically controllable load for waveguide channels was demonstrated, and an experimental estimate of its parameters was made. There are 5 illustrations and a 2-entry bibliography.

1/1

USSR

UDC 615.919:591.145.2.615.918:58.615.9.576.8.097.29

ARTEMOV, N. M., KINEYEVA, V. F., and GUDENKO, N. A.

"Effect of Bee Venom on the Sugar Level in the Blood"

Uch. zap. Gov'kov. un-t. Ser. biol. (Educational Proceedings of the Gor'kov University, Biological Series), Vyp 40, 1972, pp 5-8 (from Referativnyy Zhurnal -- Farmakologiya. Khimioterapevticheskiye Sredstva. Toksikologiya, No 1, 1973, Abstract No 1.54.789)

Translation: An increase in the concentration of reducing compounds by 14.9% and of glucose by 29.8% was observed in the blood of rabbits 1.5 hours after they had been injected with 5 mg/kg of bee venom (BV). After 4 hours the concentrations were normal. For a BV dose of 1 mg/kg no change was noted in the above indicators. Possible mechanisms for the change in glucose level in rabbits treated with BV are considered. (11 references)

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USSR

UDC 621.791.55:/661.857+669.14/

BEREZHNIISKIY, S. N., BATAKSHEV, A. F., MITUS, A. K., ARTEMOV, N. S., and OFITSEROV, A. M., Engrs.

"Welding of Silver to Steel"

Moscow, Khimicheskoye i Neftyanoye Mashinostroyeniye, No 11, Nov 71, p 21

Abstract: Ag cannot be welded to steel directly, because it forms no compounds or solid solutions with Fe. Use of an intermediate layer of pure Cu is unsatisfactory, because deoxidizers and modifiers are absent in Cu, so that pores and cracks develop in the welded joints. Use of standard welding wires of Cu alloyed with Si, Ni, Mn, Ti, and Fe was tried in the lap and butt welding of Ag to steel in experiments in which pure Ag 2 mm thick was welded with steel St. 3 2-11 mm thick. Welding wires with a diameter of 2-3 mm that consisted of bronze Br. KMts 3-1 or bronze Br. MNZh KT5 - 1-0.2-0.2 were used. Welding was carried out manually in Ar with a direct current arc (150-200 A, 15-18 V) at a rate of 15-20 m/hr. The joints that formed had a sufficient mechanical strength and retained their tightness in vacuo at temperatures up to 779°, the melting point of the Ag-Cu eutectic. Microstructural analysis on etching with 4% HNO₃ showed that defects (cracks, 1/2

USSR

BEREZHNITSKIY, S. N., et al., Khimicheskoye i Neftyanoye Mashinostroyeniye,
No 11, Nov 71, p 21

pores, and lack of joining) were absent in the transitional zone between Ag and steel. The procedure that has been developed is being applied in the experimental production of equipment made of Ag and Ag-clad steel and welded with Br. MNZh KT5-1-0.2-0.2.

2/2

USSR

UDC 666.3/71539.24:549.517.11621.762.4

PAVLIKOV, V. N., MIKHASHCHUK, YE. P., and ARTEMOV, V. A., Institute of Problems of Material Science, Academy of Sciences USSR

"Effect of Beta-Alumina Lamellar Crystals on Certain Properties of a Corundum Ceramic"

Moscow, Neorganicheskiye Materialy, Vol 10, No 1, Jan 74, pp 117-121

Abstract: Results are reported from studies on the effect of additions of crystalline beta-alumina with a lamellar structure on the properties of a dense corundum ceramic. The basic material was the gamma-modification of alumina containing 99.5% (by weight) with lamellar crystals of beta-alumina added as the filler. The samples were hot pressed at temperatures of 1400-1700° C and pressures of 50-175 kG/mm² with a sintering time at maximum temperature of 15-45 minutes. It was found that the bend strength of the ceramic decreased with increased volume content of the filler, which was caused by the weak bonding of the matrix material with the smooth surfaces of the lamellar crystals. Despite the loss of strength, this ceramic had high thermal stability which increased with increased beta-alumina content, with the best thermal stability being exhibited by a composite alumina+15% beta-alumina ceramic
1/2

-USSR

PAVLIKOV, V. N., et al., Neorganicheskiye Materialy, Vol 10, No 1, Jan 74,
pp 117-121

which withstood 45 thermal shocks from being heated from 20° C to 1100° C and quenched in water to 20° C. It was concluded that it is not possible to achieve a high strength and high thermal stability for this material and that the trade-offs in its use must be taken into consideration. Three figures, two tables, seven bibliographic references.

2/2

USSR

UDC 669.787:541.8

ARTEMOV, V. I., BURTSEV, V. T., KASHIN, V. I., and SAKSONOVA, L. N., Moscow

"Investigation of the Solubility of Oxygen in Iron Carbide, Cobalt Carbide, and Nickel Carbide Melts"

Moscow, Izvestiya Akademii Nauk USSR, Metally, No 4, Jul/Aug 72, pp 25-31

Abstract: A study was made of the solubility of oxygen in Fe-C-O, Co-C-O, and Ni-C-O melts at 1950°C and $P_{CO}=1$ atm, in order to obtain thermodynamic parameters of the decarburization reaction applicable to electroslag, plasma, and electron-beam remelts. The method of the experiment, which prevented contact between the liquid metal and the refractory lining of the fusion crucible, particularly at higher C concentrations (0.04-5%), is described. Diagrams show the minimum oxygen solubilities of 0.0028% at 3%C for the Fe-C-O system, 0.0010% at 0.6% C for the Co-C-O system, and 0.0010% at 0.3% C for the Ni-C-O system. Values of K_p of the decarburization reaction were determined, and derived e_O^C values are compared with data from other authors.

Five illustrations, one table, twelve bibliographic references.

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- 65 -

Receivers and Transmitters

USSR

UDC: 621.372.061

ARTEMOV, Yu. I., KRASKEVICH, M. M.

"Signal-to-Noise Ratio in a Channel With Random Variable Parameters"

V sb. Sistemy i sredstva avtomat. upr. (Systems and Facilities for Automatic Control--collection of works), Kiev, 1970, pp 140-143 (from RZh--Radiotekhnika, No 2, Feb 71, Abstract No 2A122)

Translation: The authors consider passage of a signal through a linear system which has randomly changing parameters and a frequency-independent transfer function. The function of mutual correlation of signal and noise is computed (both are considered Gaussian). The effect which a reduction in the signal band has on the signal-to-noise ratio is investigated for the case where special additive interference is present within the passband of the receiver. It is shown that proper selection of the signal band can improve the signal-to-noise ratio in the given system. Two illustrations, bibliography of one title. N. S.

1/1

1/2 007 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--IMPROVEMENT IN THE WAXING OF CANVAS TENT FABRICS -U
AUTHOR--(05)-ALTEPPESOTSKIY, F.L., ARTEMOVA, L.A., INVANOVA, V.E., PUZYREV,
M.F., SIDROVA, Z.A. A
COUNTRY OF INFO--USSR
SOURCE--TEKST. PROM. (MOSCOW) 1970, 30(2), 53-4
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, MILITARY SCIENCES
TOPIC TAGS--CANVAS EQUIPMENT, TENT, WAX
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1120 STEP NO--UR/0342/70/030/002/0053/0054
CIRC ACCESSION NO--AP0128547
UNCLASSIFIED

2/2 007

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0128547

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF THE RATIO OF FABRIC LEVEL RATE (V SUBR) TO THE COATING ROLLER SURFACE TRAVEL (IN THE SAME DIRECTION) RATE (V SUBR) ON THE AMT. (Q) OF PARAFFIN DEPOSITED TO TENT FABRIC WAS DETD. THE OPTIMUM ANGLE (PHI) SUBTENDED BY THE CLOTH CONTACTING AND LEAVING THE ROLLER WAS SIMILAR TO 15DEGREES, THE DEPTH (H) OF THE ROLLER IMMERSION IN PARAFFIN, KEPT AT 80-95DEGREES, WAS 40-5 MM, THE CLOTH TEMP. 110-15DEGREES, AND THE ROLLER TEMP. 114-17DEGREES. Q INCREASED WITH INCREASING V SUBF-V SUBR, AND COULD BE REGULATED BY CHANGING BOTH H AND PHI.

UNCLASSIFIED

Acc. Nr.: AP0029323

Ref. Code: UR 0297

PRIMARY SOURCE: Antibiotiki, 1970, Vol 15, Nr 1, pp 63-67

EFFECT OF RUBOMYCIN C ON IMMUNOLOGICAL REACTIVITY
OF ORGANISM

L. K. Artemova, S. P. Shapovalova

Institute for New Antibiotics, Moscow

Effect of rubomycin C on immunogenesis was different in various species of animals. The most active inhibition of immunogenesis was observed in rats and mice, whereas the antibiotic had no effect on production of antibodies in guinea pigs and rabbits. When administered intravenously in a single dose of 0.3 of LD₅₀, rubomycin C suppressed the phagocytic activity of leucocytes in the peritoneal cavity of mice. On multiple administrations the antibiotic had no effect on phagocytosis. On both the single and the multiple administration in a dose of 0.3 of LD₅₀ rubomycin C had no effect on the absorption capacity of cells of the reticulo-endothelial system of mice. When administered intravenously in a single dose of 0.3 of LD₅₀, rubomycin C decreased the resistance of test animals to infections caused by Coli bacteria.

1/1 REEL/FRAME

19680895

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USSR

UDC 621.317.4:621.318.12

ARTEMOVA, M. A., BAGALEY, O. Yu., GROBOVITSKIY, M. I., ZINGERMAN, V. I.

"Installation for Determination of Static Magnetic Characteristics of Specimens of Magnetically Hard Materials"

Izmeritel'naya Tekhnika, No 11, 1971, pp 65-67.

ABSTRACT: A description is presented of a new installation, designed for certification testing of specimens of magnetically hard materials. It allows determination of demagnetization curves of specimens consisting of rectangular parallelepipeds with cross sections of 0.5 to 9 cm², from 15 to 100 mm in length. The coercive force of the specimens tested should be not over 200 ka/m (for 15 mm specimens) or 80 ka/m (for 100 mm specimens). The design and construction of the new installation eliminate the preliminary calibration operations, the system itself being suitable as a standard source for certification of standard specimens. The installation uses a measurement method allowing the advantages of pulse magnetization and induction measurement of magnetic induction to be combined. A photograph is presented of the device, plus a description of its primary characteristics.

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- 161 -

ARTEMOVA, N. Ye.

APR 55899
5 May 72

- 05 -

The division of the Soviet Union into territories with respect to nature of the wind regime and, namely, with respect to the directions of the prevailing winds and their mean annual recurrence rate performed by us on the basis of the references on USSR climate and the genetic classification of USSR climate of N. P. Allslov [1.] is presented in this paper. As the practical criterion considering the recurrence rate of the prevailing wind direction in each area, we propose a variable characterizing the degree of elongation of the wind rose and the ratio of the actual recurrence rate of the prevailing wind direction to the recurrence rate of all other directions under conditions of equiprobability of them. The prevailing wind direction and degree of

of equiprobability of them. The prevailing wind direction and degree of

Article by N. Ye. Artemova, Ye. N. Bereznyy. Institute of Applied Geophysics: Moscow, Meteorologiya i Gidrologiya, Russian, No 3, 1972, submitted 29 October 1970, pp. 63-65.

SOME CHARACTERISTICS OF THE PREVAILING WIND DIRECTION REGIME OVER THE TERRITORY OF THE SOVIET UNION

UDC 551.593.6(47-57)

The territory of the USSR was divided into districts with respect to directions of the mean annual prevailing ground winds and their mean annual recurrence rate.

The results obtained can be used directly when calculating the mean monthly and mean annual concentrations of pollution in the atmosphere from the operation of industrial enterprises.

The calculations connected with estimating the possible mean monthly and mean annual pollution concentrations entering the atmosphere during the operation of different types of industrial enterprises require knowledge and correct evaluation of the mean wind rose over many years for a defined month or season or on the whole for a year in the corresponding specific part of the country. The ground wind regime over the enormous territory of the Soviet Union is highly complex and varied; however, utilization of climatic maps of the pressure distribution, the prevailing wind directions and other climatological data permits discovery of certain stable characteristic features repeating from year to year in the extraordinarily variable current system.

USSR

UDC: 669.245:620.183

(3)

KALININA, Z. M., VERTIY, I. G., KHISMATULLINA, N. S., ~~LONGINOV, M. F.~~,
SERGEYEVA, L. V., FILATOV, B. A., ARTEMOVA, S. P., Chelyabinsk

"Influence of Magnesium on the Structure of Heat-Resistant Nickel-Based Alloys"

Izvestiya Akademii Nauk SSSR, Metally, No 4, Jul-Aug 73, pp 193-196.

Abstract: The influence of magnesium on the structure of nickel alloys was studied under the assumption that magnesium is concentrated primarily along the grain boundaries and in areas of other defects of the crystalline lattice. Assuming that a very slight concentration of magnesium could produce an excess of magnesium at these defect locations and thus hinder the separation of carbides and other excessive phases in these locations, facilitating their more even distribution through the entire volume of the alloy, the authors turned primary attention to the study of the influence of magnesium on the form, dispersion and nature of distribution of excess phases in the solid solution. It was found that the optimal addition of magnesium to heat resistant nickel-based alloys decreases dendritic liquation, makes the excess phases finer and facilitates their more even distribution. This

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USSR

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Kalinina, Z. M., Vertiy, I. G., Khismatullina, N. S., Longinov, M. F.,
Sergeyeva, L. V., Filatov, B. A., Artemova, S. P., Izvestiya Akademii Nauk
SSSR, Metally, No 4, Jul-Aug 73, pp 193-196.

increases the technological plasticity and long-term strength of the metal.
Excess alloying or enrichment of alloys with magnesium from the slag and
lining in the furnace cause an increase in local chemical heterogeneity, in
turn causing the appearance of new excess phases, decreasing the melting point
of the metal in the area of these phases and reducing technological plasticity.

ARTEMOVA,

JPRS 55320
1 Mar 72, T. Z.

UDC: 616.9-078

SANITARY MICROBIOLOGICAL RESEARCH DEALING WITH PREVENTION OF BACTERIAL AND VIRAL INFECTIONS

[Article by L.Ye. Korsh, G.A. Baidaralyan, V.V. Vladavsky, Yu.G. Talayeva, Ye.L. Lovitskiy, S.Z. Artyukov, M.A. Zhukriyeva (Moscow); Moscow, Vestnik Nauchno-Issledovatel'skogo Instituta, Russian, No 1, 1972, pp 71-78]

One of the decisive factors in nonspecific prophylaxis of bacterial and viral infections is institution of health improving hygienic measures. Prompt development of first and foremost sanitary measures is determined largely by the results of systematic sanitary microbiological investigations of environmental objects (water, air in buildings, soil).

Sanitary microbiology, which has been studying the quality of drinking water and sanitary state of reservoirs, soil, and air, jointly with hygienists, have developed sensitive methods and accumulated extensive experimental and factual data, which permitted recommendation of norms that are used in routine sanitary practice to regulate the quality of water.

From the standpoint of prophylaxis of intestinal infections, improvement of routine methods of rating the quality of water and sanitary condition of reservoirs with respect to bacterial contamination is becoming very important. One of the directions of work in this area is evaluation of the existing methodological approaches to isolation of the E. coli group of bacteria as indicators of the degree of fecal pollution of water. For this purpose, the sanitary significance of bacteria included in the E. coli group was investigated, on the basis of fermentation of glucose at 43° according to best (all-Union State Standard) 5216-50, for several years in different climatic zones of the nation, in reservoirs of different types and with constant degrees of pollution. It was established that the glucose temperature test does not permit precise differentiation between bacteria that are significant from the sanitary point of view and E. coli that have lost this property and water bacteria. This was confirmed not only for the reservoirs in the South but also in the temperate zone. The quality of water in reservoirs, with respect to fecal contamination, is best characterized by lactose-sensitive variants of Enterobacteriaceae, studied on lactose media at a temperature of 37° and demonstrated best by the method of membrane filters (L.Ye.

USSR

UDC 614.777-078

ARTEMOVA, T. Z., Candidate of Biological Sciences, Institute of General and Communal Hygiene imeni A. N. Sysin, Academy of Medical Sciences USSR, Moscow

"Sanitary Bacteriological Evaluation of the Quality of Water in Open Bodies of Water"

Moscow, Gigiyena i Sanitariya, No 7, 1971, pp 23-27

Abstract: The genus *Aeromonas* has properties in common with *Escherichia* and other intestinal bacteria, differing from them only in its behavior toward lactose, sorbite, rhamnose, xylose, and starch and in its extremely rapid rate of reproduction. The rules for running water quality tests do not call for differentiating *Aeromonas* from *E. coli*. This distorts the value of *E. coli* as an indicator of fecal contamination. Since *Aeromonas* is generally absent from the human intestine and possesses little health significance, the author suggests that it be excluded from coli counts, using the oxidase test as a simple method of distinguishing the two.

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USSR

UDC 541.138.3:547

ARTEMOVA, V. M., DERKUL'SKAYA, V. S., and GOVORUKHA, V. G., Donetsk Institute
of Soviet Trade

"Study of the Activity of Titanium, Zirconium, Niobium, and Tantalum During
Electroreduction of Certain Organic Acids"

Moscow, Elektrokhimiya, Vol 6, No 8, Aug 70, pp 1128-1130

Abstract: A study was made of the activity of the transition metals in groups 4 and 5 to reduction of organic acids of various structures. The reduction of maleic, benzoic, oxalic, and phthalic acids in sulphuric acid or alcohol-sulphuric acid solutions was studied by the polarization curve method and also coulometrically. The data indicate that maleic acid causes a potential shift in the positive direction, reaching 200 mv in titanium, niobium, and tantalum. The coulometric measurements showed that electroreduction of maleic acid occurs with good yield on tantalum and with somewhat less yield on niobium and zirconium. Electroreduction of oxalic acid does not occur on any of these cathodes at a concentration on the order of 0.1 mol/l. However, when the acid concentration is increased by five times, some reduction does occur on zirconium. Benzoic and phthalic acids, practically speaking, are not reduced under the

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ARTEMOVA, V. M., et al, *Elektrokhimiya*, Vol 6, No 8, Aug 70, pp 1128-1130

conditions used on any of the metals. The selectivity of the process probably results not only from the greater or lesser change in hydrogen potential, but also from the differing nature of the hydrating agent on the metals, which have different capacities for hydrogen adsorption.

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1/2 018 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--ANTIMICROBIAL TIN CONTAINING CELLULOSIC MATERIALS -U-
AUTHOR--(05)-ARTEMOVA, YU.V., VIRNIK, A.D., PLOTKINA, N.S., ZEMLYANSKIY,
N.N., MAKAROVA, R.A.
COUNTRY OF INFO--USSR A
SOURCE--IZV. VYSSH. UCHEB. ZAVED., TEKHNOL. TEKST. PROM. 1970, (1), 93-6
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, MATERIALS
TOPIC TAGS--WOOD CHEMICAL PRODUCT, FABRIC, ORGANOTIN COMPOUND,
BACTERICIDE, STAPHYLOCOCCUS AUREUS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3005/0746 STEP NO--UR/0324/70/000/001/0093/0096
CIRC ACCESSION NO--AT0132848
UNCLASSIFIED

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PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AT0132848

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CELLULOSIC FABRICS WITH 9PERCENT GRAFTED ACRYLIC ACID WERE SOAKED 10 HR AT 20DEGREES IN AQ. SOLNS. CONTG. 0.05-5PERCENT (BY WT. OF FABRIC) ME SUB3 SNOH, ET SUB3 SNOSNET SUB3, OR BU SUB3 SNOSMBU SUB3. ALTERNATELY, THE FABRIC WAS BOILED IN AN ACETONE SOLN. OF PH SUB3 SNOH. THE TREATED FABRICS INHIBITED THE GROWTH OF STAPHYLOCOCCUS AUREUS AND OTHER BACTERIA ON AGAR, AND THE EFFECT PERSISTED AFTER SEVERAL LAUNDERING CYCLES. BEST RESULTS WERE OBTAINED WITH ET SUB3 SNOSNET SUB3 AND BU SUB3 SNOSMBU SUB3. FACILITY: MOSK. TEKST. INST., MOSCOW, USSR.

UNCLASSIFIED

I/2 019 UNCLASSIFIED PROCESSING DATE--020CT70
TITLE--CHEMICAL STATE OF THE TIN ATOM IN ORGANOTIN CELLULOSE DERIVATIVES
STUDIED BY GAMMA, RESONANCE SPECTROSCOPY -U-
AUTHOR--(05)-KHRAPOV, V.V., ROCHEV, V.YA., ARTEMOVA, YU.V., VIRNIK, A.D.,
ZEMLYANSKIY, N.N.
COUNTRY OF INFO--USSR
SOURCE--VYSOKOMOL. SOEDIN., SER. B 1970, 12(2), 145-9
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ORGANOTIN COMPOUND, CELLULOSE, ACRYLIC ACID, COPOLYMER,
POLYMER STRUCTURE, GAMMA SPECTROSCOPY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY RTEL/FRAME--1992/0315 STEP NO--UR/0460/70/012/002/0145/0149
CIRC ACCESSION NO--AP0111509
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0111509

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REACTION OF A CELLULOSE (I), POLY (ACRYLIC ACID) GRAFT COPOLYMER (II) AND OF CM CELLULOSE (III) WITH (BU SUB3 SN)SUB2 O OR BU SUB2 SNCL AND THE STRUCTURE OF THE POLYMERS THEREOF WERE STUDIED BY GAMMA, RESONANCE SPECTROSCOPY. THE GAMMA, RESONANCE SPECTROSCOPIC PARAMETERS OF THE ORGANOTIN DERIVS. OF II AND III SUGGESTED THAT NEW SN CONTG. I DERIVS. HAVING BU SUB3 SN O SUB2 O GROUPS WERE FORMED. THE DATA AGREED WITH CHEM. ANAL.

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S/019/60/000/023/010/116
A154/A027

AUTHORS: Strepikheyev, Yu.A., Artem'yev, A.A., Khaylov, V.S., Babkin, B.M.

TITLE: A Method of Obtaining Dimethyl Ether of Terephthalic Acid and Methyl Ether of *p*-toluic Acid

PERIODICAL: Byulleten' izobreteniy, 1960, No. 23, p. 15

TEXT: Class 12o, 14. No. 133874 (461294/23 of January 11, 1955). This method of obtaining dimethyl ether of terephthalic acid and methyl ether of *p*-toluic acid by esterification by methyl alcohol is distinguished by the fact that, in order to exclude a catalyst and dehydrants from the process, the esterification is carried out at 250-260^oC and a pressure of 80-130 atmospheres with a surplus of methyl alcohol.

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1/2 007 UNCLASSIFIED PROCESSING DATE--11DEC70
TITLE--SYNTHESIS OF ENANTHOLACTAM BASED ON CYCLOPENTADIENE -U-
AUTHOR--(05)-ARTEMYEV, A.A., GENKINA, YE.V., GOLGVKIN, G.V., KONONOV, N.E.,
MALINOV, ~~A.B.~~
COUNTRY OF INFO--USSR *A*
SOURCE--Zh. PRIKL. KHIM. (LENINGRAD) 1970, 43(5), 1137-40
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--LACTAM, CYCLIC GROUP, HEPTANE, AROMATIC KETONE, OXIME
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO---F070/605001/E04 STEP NO--UR/0080/70/043/005/1137/1140
CIRC ACCESSION NO--AP0139368
UNCLASSIFIED

2/2 007 UNCLASSIFIED PROCESSING DATE--11DEC70
CIRC ACCESSION NO--AP0139368
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE MONOMER (I) WAS PREPD.
BY A SERIES OF REACTIONS FROM CYCLOPENTADIENE (II). THUS, II WAS
CONDENSED WITH C SUB2 H SUB2 AT 420DEGREES AND 2 ATM, THE RESULTANT
CYCLOHEPTATRIENE HYDROGENATED CATALYTICALLY AT 25DEGREES, AND THE
CYCLOHEPTANE PRODUCED WAS TREATED WITH NOCL PLUS HCL IN THE PRESENCE OF
LIGHT, AND FINALLY THE CYCLOHEPTANONE OXIME HYDROCHLORIDE WAS ISOMERIZED
TO I (IN 85-90PERCENT YIELD) AT 120-30DEGREES IN THE PRESENCE OF H SUB2
SO SUB4. FACILITY: GDS. NAUCH.-ISSLED. PROEKT. INST. AZOTN.
PKOM. PROD. ORG. SIN., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC: 539.172.3:539.2

ARTEMIYEV, A. N., ALESHIN, K. P., MIRZABABAYEV, R. M., SKLYA-
REVSKIY, V. V., SMIRNOV, G. V., and STEPANOV, Ye. P.

"Mössbauer High Angular Resolution Diffractometer"

Moscow, Pribory i Tekhnika Eksperimenta, No 6, 1971, pp 64-66

Abstract: A Mössbauer diffractometer, designed for a broad variety of measurements with x-rays and gamma radiation, is described. The essential characteristic of this instrument is the low count rate of gamma quanta even with strong gamma ray sources, thus resulting in the repeated and prolonged measurement of a single peak. The instrument contains an x-ray tube in addition to the Mössbauer source, thus permitting the correction and investigation of a crystal structure preparatory to operation with gamma radiation. The basic structure of the instrument is that of the URS-50IM x-ray equipment. A description of it is given together with an external-view photograph and a sample of the spectrum for a quartz crystal and an α -Fe₂O₃ monocrystal. The authors thank I. B. Filippov and M. A. Volkov for their assistance in preparing and setting up the instrument. They are associated with the Institute of Atomic Energy at Moscow.

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Thermomechanical Treatment

USSR

UDC 669.14.018.298:539.4

TIKHOMIROVA, L. B. and ARTEM'YEV, A. P., Novosibirsk Electrical Engineering Institute

"Increasing the Structural Strength of Carbonaceous Steel by Thermomechanical Treatment"

Moscow, Izvestiya VUZ, Chernaya Metallurgiya, No 10, 1973, pp 120-122

Abstract: High-temperature thermomechanical treatment with diffusion conversion of the austenite leads to an increase in the indicators of the structural strength of U8 steel. As the criteria of structural strength the authors determined the critical opening in the mouth of the crack, the number of cycles prior to fracture with a sign-variable load and deflection under static bending. The optimal rate of cooling after hot deformation of the austenite is 30-35 deg/sec which ensures an interplate distance of 650-700 Å. This method makes it possible to have better indicators of ductile fracture at higher indicators of strength.

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TIKHOMIROVA, L. B., and ARTEM'YEV, A. P., *Izvestiya VUZ, Chernaya Metallurgiya*, No 10, 1973, pp 120-122

The following conclusions are made by the authors:

1. Thermomechanical treatment of U8 carbonaceous steel with diffusion conversion of supercooled austenite permits obtaining a good group of properties for the structural strength at a cooling rate that ensures creation of an interplate spacing in the perlite of approximately 700 Å. 2. The increased group of mechanical properties is created by a special substructure which is formed by hot deformation in austenite and then inherited (with partial transformation) by the ferrite along with obtaining an optimal interplate spacing in the final structure.

Figure 1 illustrates the influence of cooling rate on interplate spacing in U8 steel; Figure 2 shows the change in strength and fracture ductility.

The article contains 2 illustrations and 1 bibliographic reference.

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1/2 024 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--REGIONS OF MOTION OF ELECTRICALLY CHARGED PARTICLES NEAR THE EARTH
-U-
AUTHOR--ARTEMYEV, A.V. A
COUNTRY OF INFO--USSR
SOURCE--GOR'KIY STATE UNIVERSITY; MOSCOW, ASTRONOMICHESKIY VESTNIK, VOL
IV, NO 2, 1970, PP 115-122
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, MATHEMATICAL SCIENCES, ATMOSPHERIC SCIENCES
TOPIC TAGS--CHARGED PARTICLE, PARTICLE MOTION, MOTION EQUATION

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/1568 STEP NO--UR/0454/70/004/002/0115/0122
CIRC ACCESSION NO--AT0135211
UNCLASSIFIED

2/2 024 UNCLASSIFIED PROCESSING DATE--27NOV70
CIRC ACCESSION NO--AT0135211

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THIS PAPER IT IS SHOWN THAT THE MOTION OF ELECTRICALLY CHARGED PARTICLES IN THE MAGNETIC FIELD OF GRAVITATING DIPOLE CAN BE LIMITED BY SURFACES OF A ZERO RELATIVE VELOCITY. THESE ARE INTRODUCED USING THE ENERGY INTEGRAL OF EQUATIONS OF PARTICLE MOTION IN A STATE OF REST, ROTATING ABOUT A DIPOLE AXIS. IN THEIR MAIN PROPERTIES THESE SURFACES ARE SIMILAR TO HILL'S SURFACES. BY CHOOSING THE STATE OF REST, ROTATING IN DIFFERENT DIRECTIONS WITH DIFFERENT ANGULAR VELOCITIES, IT IS POSSIBLE TO DETERMINE VARIOUS REGIONS OF REAL AND IMAGINARY MOTIONS OF THE SAME PARTICLE. A PARTICLE MOVES IN THE REGION WHICH IS ALLOWED FROM THE POINT OF VIEW OF ALL SYSTEMS SIMULTANEOUSLY. THUS, THE POSSIBILITY IS AFFORDED FOR NARROWING THE REGION OF PARTICLE MOTION AND BRINGING IT CLOSER TO THE PARTICLE TRAJECTORY. THE PROPERTIES OF THE SURFACES AND THEIR CHANGE WITH CONVERSION TO DIFFERENT COORDINATE SYSTEMS ARE INVESTIGATED. DYNAMICALLY EQUILIBRIUM SOLUTIONS ARE FOUND. THE INVESTIGATION IS CARRIED OUT WITHIN THE FRAMEWORK OF THE CLASSICAL APPROXIMATION.

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