"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

USSR

SOKOLOVSKIY, I. I., et al., Izvestiya vuzov SSR, Radioelektronika, Vol XV, No 8, 1972, pp 949-953

(before and after the threshold) by the formation of static domains and external negative conductivity obtained as a result of depression of the domains by the probe signal is used for this purpose. By appropriate selection of the parameters of the specimen and the material it is possible for the described devices to operate on medium and high power levels where the dynamic attenuation range depends on the microwave signal level.

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USSR

UDC 621.373.53

SOKOLOVSKIY, I. I., KOSTYLEV, S. A.

"Frequency Control of Gunn-Effect Oscillators by a Magnetic Field"

Kiev, Izvestiya vuzov SSSR, Radioelektronika, Vol XV, No 8, 1972, pp 945-948

Abstract: Experimental data are presented on magnetic frequency control of Gunn-effect oscillators in the suppressed domain mode. The control is realized by magnetization of a ferrite filling part of the three-dimensional resonator containing the Gunn diode. Correspondence was obtained between the experimental results and the analytical expressions for tuning obtained in the perturbation method approximation. When operating in the fields far from ferromagnetic resonance, an acceptable tuning band is insured with good nonuniformity of the output power. The parameters are improved by rational selection of the resonance system.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

USSR

UDC: 621.382.029.6

SOKOLOVSKIY, I. I. and KOSTYLEV, S. A.

"Modulation Sensitivity of Gunn Oscillators"

Moscow, Radiotekhnika i elektronika, No 8, 1972, pp 1713-1716

Abstract: First theoretically and then experimentally, the authors investigate the connection between the bias voltage applied to the Gunn oscillator and variations in the temperature, in the resonance circuit. In this type of circuit, changes in the temperature of the specimen cause the modulation sensitivity to vary in a complex way with changes in temperature, and these changes are reflected in changes in the oscillation spectrum. It is found that the modulation sensitivity is determined by the nature of the change in concentration and mobility of the carriers with the temperature. In the experiments, the behavior of the oscillator was observed in the interval of +20 to -70° C, with a GaAs specimen having an impurity concentration of $6 \cdot 10^{14}$ to $1.5 \cdot 10^{15}$/cc, a mobility of 5500-6000 $cm^2/V \cdot sec$, and a length of 70-130 μ. It is recommended that, to keep the frequency stable in the face of applied voltage variations, the operation temperature should be kept stationary.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

USSR UDC 577.4

BUNIN, P. G., PERLAMUTROV, V. L., and SOKOLOVSKIY, L. KH.

"Methods of Mathematical Economics for the Control of Working Capital"

Ekonomiko-matematicheskiye metody upravleniya oborotnymi sredstvami (cf. English above), Moscow, "Finansy," 1973, 240 pp, ill., 77 k. (from RZh-Matematika, No 6, Jun 73, Abstract No 6V582K)

Translation: The book takes up the organization of working capital in industry on the principles of profit-and-loss accounting, as well as questions relating to the improvement of planning through the methods of mathematical economics. A procedure is shown for computer-aided calculation of aggregate working-capital requirement and determination of the optimal level of one's own capital and the demand for bank credit. The requirements that must be met by the economic information for the computer-aided evaluations are stated.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

USSR

BUNICH, P. G., PERLAMUTROV, V. L., SOKOLOVSKIY, L. Kh.

"Mathematical Economics Methods of Control of Operating Funds"

Ekonomiko-Matematicheskiye Metody Upravleniya Oborotnymn Sredstvami. [English Version Above], Moscow, Finansy Press, 1973, 240 pages (Translated from Referativnyy Zhurnal Kibernetika, No 6, 1973, Abstract No 6V582K).

Translation: Independent organization of operating capital in industry and problems of the improvement of planning using mathematical economics methods are discussed. A method is demonstrated for computer calculation of the overall requirement for operating capital, determination of the optimal ratio between equity capital and debt capital. Requirements for economic information for computor calculations are outlined.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

USSR

GROSHEV, L. V.; DEMIDOV, A. M.; SOKOLOVSKIY, L.L. (Kurchatov Institute of Atomic Energy)

"The De-Excitation of Even-Odd Nuclei over the Range $91 \leq N \leq 113$ after Capturing Thermal Neutrons"

Moscow, Yadernaya Fizika; September, 1972; pp 441-6

ABSTRACT: The peculiarities of the decay of a capturing state for even-odd deformed nuclei with the number of neutrons from 91 up to 113 are discussed. The effect of the characteristics of the Nilsson orbit of the final state as well as the "particlicity" or "holicity" of this state on the probability of E1-transition from a capturing state is noted. The maxima of the integral intensity of the high-energy part of the spectrum were found for atomic weights near 165 and 185.

The article includes three tables: "Probabilities of E1-Transitions from the Initial State for Nuclei with $91 \leq N \leq 113$"; "Ratio of Probabilities of Transitions to Various Nilsson States"; and "Ratio of Probabilities of Transitions into the State $1/2^-$ to Transitions into the State $3/2^-$ within One Rotational Band"; and a graph showing the dependence of the integral intensity of the high-energy part of the spectrum, the full radiation width, and the strength function of s-neutrons on the atomic weight. There are 24 bibliographic references.

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USSR

GROSHEV, L. V., DEMIDOV, A. M., LEONOV, V. F., SOKOLOVSKIY, L. L., Institute of Atomic Energy imeni I. V. Kurchatov

"γ-Ray Spectrum From (n, γ)-Reactions in Sm^{150} and Sm^{151} Samples"

Moscow, Yadernaya Fizika, Vol. 13, No. 4, Apr 71, pp 681-687

Abstract: The γ-spectra for the radiation capture of thermal neutrons by Sm^{150} nuclei and Sm^{151} radioactive nuclei were measured with a single-crystal Ge(Li) gamma-spectrometer. It is noted that in elements with even Z in the range of atomic weights from 90 to 200, isotopes with odd A as a rule have the greatest thermal neutron capture cross section. The cross section of some of these isotopes is so great that a purity of the sample greater than 99.99% is necessary to eliminate the considerable contribution from these. Since there is great difficulty in obtaining samples of such high purity in electromagnetic methods of isotope separation, this study used the method of burning out admixture isotopes having an anomalously high capture cross section for thermal neutrons to obtain isotopes of the required purity. The necessary Sm^{149} purity was obtained by burning out

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

USSR

GROSHEV, L. V., et al, Yadernaya fizika, Vol. 13, No. 4, Apr 71, pp 681-687

Sm^{149} in an integral neutron flux, $2.2 \cdot 10^{20}$ neutron/cm^2. The following neutron binding energies were obtained: 5596 ± 1 kev in Sm^{151} and 8258 ± 1 kev in Sm^{152}, the two isotopes which make the greatest contribution to the gamma-spectrum. Diagrams of the gamma-transitions for Sm^{151} and Sm^{152} are given. It is noted that gamma-quanta release of Sm^{151} nuclei is of interest, since the nucleus is on the boundary of the transition region from spherical to elongated nuclei. It is then possible to compare the gamma-spectra of Sm^{151} and Sm^{153}, which have a number of neutrons equal to 89 and 91 respectively. This problem will be considered in detail by the authors after measurements of the gamma spectrum of Sm^{155}.

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UDC: 577.4

USSR

SOKOLOVSKIY, M. N.

"Operations on Languages, and Spectra"

V sb. Diskretn. analiz (Discrete Analysis--collection of works), vyp. 18, Novosibirsk, 1971, pp 66-87 (from RZh-Kibernetika, No 4, Apr 72, Abstract No 4V382)

Translation: Words x and y from Σ^* are called r-indistinguishable with respect to language A if $\forall z \in \Sigma^* (|z| \leq r \Rightarrow (xz \in A \Leftrightarrow yz \in A))$. The function $\nu_A(r)$ which is equal to the number of classes of equivalence relative to r-indistinguishability is called the spectrum of language A.

The following upper estimates are given for the spectra of languages obtained by Kleene operations from given languages: $\nu_{A \cup B}(r) \leq \nu_A(r) \cdot \nu_B(r)$, $\nu_{A \cdot B}(r) \leq \nu_A(r) \cdot 2^{\nu_B(r)}$ and $\nu_{A^*}(r) \leq 2^{\nu_A(r)}$.

Examples are constructed of languages for which at all r $\nu_{A_1 \cup B_1}(r) = \nu_{A_1}(r) \cdot \nu_{B_1}(r)$, $\nu_{A_2 \cdot B_2}(r) \geq c \cdot \nu_{A_2}(r) \cdot 2^{c \cdot \nu_{B_2}(r)}$ for $c = \text{const} > 0$ and $\nu_{A_3^*}(r) \geq 2^{\frac{6}{13} \nu_{A_3}(r)}$. The

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

SOKOLOVSKIY, P.I.

metallurgy

JPRS 56010
23 May 72

UDC 539.50:669.15-194

TENDENCY OF LOW-ALLOY STEELS TO COLD-SHORTNESS FOR METALLIC STRUCTURES

[Article by V.A. Baldin, K.G. Arone, P.I. Sokolovskiy; Novosibirsk, Khladostoykost' Stali i Stal'nykh Konstruktsiy, Russian, signed to press 6 August 1970, pp 217-231]

The amount of structural work in the eastern and the northern regions of the nation is growing especially fast at the present time. In this connection, one of the real problems in "construction" metal research is seeking economically effective steels with a low threshold of cold-shortness, as well as the development of methods for a more complete evaluation of this property.

The most widely-used method of evaluating the tendency of one or another steel to cold-shortness is the method based on determining the impact strength in the temperature range from +20° and below.

A whole series of AUSS norms reflect this method, according to which the minimally allowable values of the impact strength are established that are determined on test bars of type I (according to AUSS 9454-60) at fixed temperatures.

Because of the spread of the method of impact tests and their "conventionality" a huge amount of material has been collected on the dependence of impact strength of type I test bars on temperature for steels used in various branches of industry and construction. This gives a broad base for a qualitative comparison of steels among themselves.

For convenience of comparison of the various brands of steel among themselves for the temperature of the conventional threshold of codl-shortness (T_{31}) we take the temperature at which the lower boundary of the scattering intersects the values a_n = 3 kgauss.m/cm^2.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

1/2 036 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--ESTIMATING THE BRITTLENESS OF STEEL BY REFERENCE TO THE FORM OF THE FRACTURE -U-

AUTHOR-(05)-ARONE, R.G., BERNSHTEYN, S.V., SOKOLOVSKY, P.I., RAKHMANOV, A.S., SITNOVA, N.V.

COUNTRY OF INFO--USSR

SOURCE--METALLOVEDENIE I TERM. OBRABOT. METALLOV, 1970, (1), 70-72

DATE PUBLISHED--------70

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

TOPIC TAGS--METAL BRITTLENESS, MATERIAL FRACTURE, BIBLIOGRAPHY, PLASTIC DEFORMATION, CARBON STEEL, ALLOY STEEL, MICROSCOPY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0861 STEP NO--UR/0129/70/000/001/0070/0072

CIRC ACCESSION NO--AP0124524

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

2/2 036 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0124524

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ADVANTAGES AND DISADVANTAGES OF ESTIMATING THE BRITTLENESS OF C AND ALLOY STEELS BY ANALYSING THE FORM OF THE FRACTURE IN TENSIL TEST SAMPLES ARE DISCUSSED. ANY ESTIMATE OF THE ENERGY CAPACITY OF THE RUPTURE PROCESS BASED SOLELY ON THE EXTERNAL APPEARANCE OF THE FRACTURE IS VERY ROUGH, SINCE IT TAKES NO ACCOUNT OF MICROSCOPIC PLASTIC DEFORMATIONS.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

UNCLASSIFIED PROCESSING DATE--11SEP70

1/2 032

TITLE--RELIABLE SEMIKILLED 18GPS STRUCTURAL STEEL -U-

AUTHOR--SOKOLOVSKIY, P.I., BARYNINA, I.M., YAKOVLEVA, V.S.

COUNTRY OF INFO--USSR

SOURCE--PROM. STROIT. 1970, (2), 30-2

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--STRUCTURAL STEEL, IMPACT STRENGTH, DUCTILITY, CHEMICAL COMPOSITION, CARBON, MANGANESE STEEL, SILICON STEEL, FATIGUE STRENGTH/(U)18GPS STRUCTURAL STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/0584 STEP NO--UR/0227/70/000/002/0030/0032

CIRC ACCESSION NO--AP0107181

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

2/2 032 UNCLASSIFIED

CIRC ACCESSION NO--AP0107181 PROCESSING DATE--11SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IMPACT AND FATIGUE TESTING OF HOT ROLLED ANGLES, CHANNELS, AND PLATES OF C 0.15-0.22, MN 0.80-1.26, SI 0.03-0.10PERCENT SEMIKILLED STEELS SHOWED THEIR STRENGTH AND DUCTILITY WERE HIGHER THAN THOSE OF KILLED AND SEMIKILLED STEELS WITH MN LOWERED TO 0.60PERCENT; THE TRANSITION TEMP. WAS 10-20DEGREES LOWER.

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USSR

UDC: 621.373.018.756

KRIVOSHCHEKOV, G. V., NIKULIN, N. G., SMIRNOV, V. A., and SOKOLOVSKIY, R. I.

"Transient Process in a Laser With Active Modulation"

Novosibirsk, Avtometriya, No 5, 1972, pp 113-119

Abstract: An analysis is made of the transient process in lasers with active modulation of the losses involved in the excitation of ultrashort light pulses. The traveling wave laser, in which the ensemble of two-level atoms with uniformly expanded amplification lines is used as the model for the active medium, is examined. With the dispersion assumed to be negligible, the pulse variation occurs in the active medium and the modulator. The transmission of the light pulse through the medium at carrier frequency resonance is then described by a system of three equations. These are solved and an expression for the radiation intensity is derived. The computations show that linear compression is basically responsible for shortening the pulse duration. Experiments to check the effect of the linear oscillation development time on the pulse duration were conducted, and a diagram of the apparatus plus an

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USSR UDC: 621.373.018.756

KRIVOSHCHEKOV, G. V., et al, Avtometriya, No 5, 1972, pp 113-119

explanation of the procedure is given. Oscillograms of the oscillation pulses and an ultrashort pulse with a width of $6 \cdot 10^{-10}$ s are reproduced.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

USSR

UDC 621.375.82

KRIVOSHCHEKOV, G. V., NIKULIN, N. G., SOKOLOVSKIY, R. I.

"Nonstationary Processes on Excitation of Optical Harmonics"

V sb. Nelineyn. protsessy v optike. (Nonlinear Processes in Optics--collection of works), vyp. 2, Novosibirsk, 1972, pp 35-60 (from RZh-Fizika, No 12, Dec 72, Abstract No 12D880)

Translation: In the approximation of a given field, the time-space characteristics of the transition process are analyzed for excitation of the second harmonic by ultrashort pulses and series of ultrashort pulses of laser radiation for colinear and noncolinear interaction. It is demonstrated that in the first case for defined relations between the oscillation period as a result of inexact synchrony of the second harmonic amplitude and the repetition rate of the ultrashort pulses, an increase in the second harmonic amplitude with an increase in the path length in the nonlinear crystal (train synchrony) is possible. The shape of the second harmonic pulses as a function of the shape of the ultrashort pulses is discussed. The applicability of the approximate solutions obtained by the second harmonic excitation method was analyzed in the case of $\ell_k \gg \ell_\gamma$ and in the approximation of the given field in the case $\ell_k \ll \ell_\gamma$, where ℓ_k is the quasistatic length, and ℓ_γ is the length of the nonlinear interaction. It is demonstrated that the experimental measurement of

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USSR

KRIVOSHCHEKOV, G. V., et al., Nelineyn. protsessy v optike., vyp. 2, Novosibirsk, 1972, pp 35-60

the transverse distribution of the second harmonic field in the case of noncolinear interaction can be used to measure the duration of the ultrashort pulses. The bibliography has 21 entries.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

UDC 621.373.826

USSR

KRIVOSHCHEKOV, G. V., NIKULIN, N. G., and SOKOLOVSKIY, R. I.

"Transient Processes During Excitation of Optical Harmonics"

V sb. Nelineyn. protsessy v optike (Nonlinear Processes in Optics -- collection of works), Vyp.2, Novosibirsk, 1972, pp 35-60 (from RZh-Radiotekhnika, No 11, Nov 72, Abstract No 11 D145)

Translation: None.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

USSR

UDC 621.371.332.4

SOKOLOVSKIY, V. I. and CHERKASHINA, L. N.

"Method of Frequency Averaging in Problems of Wave Scattering in Media With Random Heterogeneities"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl. Sekts. 5 (Tenth All-Union Conference on the Propagation of Radio Waves; Report Theses; Section 5--collection of works) "Nauka," 1972, pp 197-201 (from RZh--Radiotekhnika, No 10, 1972, Abstract No 10A381)

Translation: A method is given for soving the problem of scattering in media with random nonuniformities, based on frequency averaging of the quantity investigated (the intensity of the scattered field, for example). The expression thus obtained is applied to an investigation of the space waves in the ionosphere as well as to scattering in a medium with volume heterogeneities and on a statistically uneven surface. Bibliography of four

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

USSR

UDC 542.941.'97:546.13'14

SOKOL'SKIY, D. V., DORFMAN, YA. A., KAZANTSEVA, I. A., Institute of Organic Catalysis and Electrochemistry, Acad. Sc. KazSSR, Alma-Ata

"The Use of Oxygen for Catalytic Oxidation of Phosphine in Gases in Presence of Metal Complex Catalyst"

Alma-Ata, Izvestiya Akademii Nauk KazakhskoySSR, Seriya Khimicheskaya, No 2, Mar-Apr 72, pp 36-44

Abstract: A study was carried out of the kinetics of phosphine oxidation with oxygen in the presence of a mixed catalyst $CuCl_2$-$HgCl_2$-HCl-LiCl-H_2O on a flow apparatus with an ideal mixing reactor. The oxygen oxidation rate depends on the activity of all the components of the system. The process includes the reactions of phosphine oxidation with copper (II) ions, and oxidation of Cu^{I} with oxygen. The reaction goes via several routes, with the following complexes being formed: $HgCl_2PH_3$, $HgCl_3PH_3^-$ and $CuCl_2Ph_3^-$. The rate of the reaction is increased appreciably with the use of mixed catalyst. It is further increased due to an exchange reaction between the intermediate products, which takes place ($HgCl^-$ and $CuCl_2Ph_3^-$), accelerating the limiting stage of the formation of $HgCl_3PH_3^-$. Overall oxidation rate of phosphine with oxygen has been analyzed as a function of the activity of Cl^- ions.

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UDC 621.378:535

USSR

KRIVOSHEKOV, G.V., NIKULIN, N.G., SOKOLOVSKIY, R.I. [Institute Of Semiconductor Physics, Siberian Branch, AS, USSR]

"Concerning One Synchronism During Excitation Of Harmonics By Supershort Light Pulse"

Izv.VUZ: Radiofizika, Vol XV, No 5, May 72, pp 795-796

Abstract: Interest in nonstationary phenomena during excitation of the second harmonic results from the advent of lasers which generate supershort light pulses. A number of detailed studies of the dynamics of excitation of the second harmonic by a single ultrashort pulse appear in the literature. In the present paper the excitation is studied of the second harmonic by a periodic sequence of supershort light pulses. The authors thank S. A. Akhmanov for helpful critical remarks. 9 ref. Received by editors, 2 April 1971.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

USSR

UDC 621.791:621.791.74:669.018.2/.8:061.3

SOKOLOVSKIY, S. A. (Cand. of Techn. Sciences), and MERKHER, A. M. (Engineer)

"Sixth Republic [Moldavian SSR] Scientific and Technical Conference on Advanced Methods for Welding and Cutting of Metals"

Moscow, Svarochnoye proizvodstvo, No 6, June 72, p. 60

Abstract: The conference was held 1-2 December 1971 in Kishenev. It was attended by 100 experts--scientists and production management personnel of Moldavia as well as by guests from other republics. The objective of the conference was the introduction of advanced methods for welding and cutting of metals to the participants and promotion of these methods in the industry. The topics of the reports included: The Present State and Prospects for the Development of Welding in Moldavian SSR (A. M. Merkher), Characteristics and Potentials of Microplasma Welding of Metals of Small Thickness (B. I. Shnayder), Mechanized Welding Methods for the Assembly and Fabrication of Building Structures (N. A. Shumov), Plasma-Arc Cutting (several reports), Friction Welding of Tractor Assemblies (Yu. I. Kharitonov), Application of Anti-corrosive Coating to Backings and Decorative Coatings in Construction (P. A. Shumov), Laser and Its Applications (Ye. M. Zamyatin). The resolutions

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USSR

SOKOLOVSKIY, S. A. and MERKHER, A. M., Svarochnoye proizvodstvo, No 6, June 72, p. 60

emphasized the need for training technicians and establishing a research and production welding laboratory for greater utilization of advanced experience in metal welding and cutting.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

UDC 624.131+539 215

USSR

SOKOLOVSHIY, S. V. and SEREBRYAKOVA, A. A.

"A Comparison of the Methods of Calculating the Stability of Slopes of Rock-Fill Dams with Central Plastic Cores"

Moscow, Vses. konf. Metody opredeleniya napryazh sostoyaniya i ustoychivosti vysokonaporn. gidrotekhn. sooruzh. i ikh osnovaniy pri statich. i dinamich. nagruzkakh. Tezisy dokl. (All-Union Conference on Methods of Determining the Stress Condition and Stability of High-Pressure Hydraulic-Engineering Structures and Their Foundations Under Static and Dynamic Loading, Thesis Report, Collection of Works), 1972, pp 348-351 (from Referativnyy Zhurnal -- Mekhanika, No 4, 1973, Abstract No 4V809 by G. A. Lipson)

Translation: The conditions of equilibrium of a central plastic core of a rock-fill dam under the actions of a system of forces are considered: the hydrostatic pressure of water is P_r, the active pressure of the upper prism is E_a and the passive resistance of the lower prism is E_{π}

$$P_r + \max E_{ax} \leq \min E_{\pi x}.$$

The coefficient of safety in this case is determined from the expression

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USSR

SOKOLOVSKIY, S. V. and SEREBRYAKOVA, A. A., Vses. konf. Metody opredeleniya napryazh sostoyaniya i ustoychivosti vysokonaporn. gidrotekhn. sooruzh. i ikh osnovaniy pri statich. i dinamich. nagruzkakh. Tezisy dokl, 1972, pp 348-351

$$K = \frac{E_{\pi} \cos \delta_{\pi}}{P_r + E_a \cos \delta_{\alpha}}$$

where δ_{π} and δ_{α} are the angles which are formed with the horizontal plane of force E_{π} and E_a. On the basis of a comparison of the proposed method of calculation with existing methods an advantage is demonstrated for the method considered, including a large safety stability (lower value of the safety factor).

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

UNCLASSIFIED PROCESSING DATE--23OCT70

1/2 015

TITLE--SELECTIVITY IN CATALYTIC OXIDATION REACTIONS AS DEPENDENT ON THE ENERGY OF OXYGEN BINDING BY THE CATALYST -U-

AUTHOR--SOKOLOVSKIY, V.D.

COUNTRY OF INFO--USSR

SOURCE--KINET. KATAL. 1970, 11(1), 120-2

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CATALYST, OXYGEN, CATALYTIC OXIDATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

STEP NO--UR/0195/70/011/001/0120/0122

PROXY REEL/FRAME--1997/1461

CIRC ACCESSION NO--AP0120248

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

UNCLASSIFIED PROCESSING DATE--23OCT70

2/2 015
CIRC ACCESSION NO--AP0120248
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A DERIVED EQUATION SHOWS THE SELECTIVITY CHANGE OF CATALYTIC OXION. WITH CHANGING ENERGY OF THE CATALYST O BOND. THE EQUATION CONSIDERS SUBSEQUENT, PARALLEL OXION. REACTIONS ON A UNIFORM CATALYST SURFACE IN WHICH THE LIMITING STAGE IS RELATED DIRECTLY WITH THE RELEASE OF O FROM THE SURFACE OF THE CATALYST. THE CHANGE IN SELECTIVITY IS POS. FOR LARGE SURFACES COVERED WITH O; IT CAN CHANGE TO A NEG. VALUE ON TRANSITION TO SMALLER AREAS COVERED WITH O.
FACILITY: INST. KATAL., NOVOSIBIRSK, USSR.

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

UDC 612:797.22

USSR

OSTASHKOV, K. V., LARIN, V. V., SOKOLOV'S'KIY, V. S., SAVLTS'KIY, V. A., and BYUTNER, S. I., Odessa Medical Institute

"Thermography of Aqualungers and Some Indexes of Metabolic Processes Under Different Diving Conditions"

Kiev, Fiziologicheskiy Zhurnal, No 5, 1972, pp 614-620

Abstract: Thermography of 10 aqualungers age 20 to 24 showed that diving brings about a variety of metabolic changes, the degree varying with the water temperature and pressure, type of outfit worn, respirator, and intensity of the work done. The extent of chilling of the body increases with decreasing temperature and increasing depth of submersion. The heat loss diminishes if the diving is done in a suit of the wet or dry type, if electrical heating is provided, and the aqualunger does physical work. The amount of air and oxygen consumed depends on the water temperature and type of suit. Breathing oxygen results in a greater heat loss, slower respiratory and pulse rates, and higher arterial pressure than does breathing compressed air. The hypothermia caused by submersion shows the signs of a stress reaction: some blood clotting, leukocytosis, and inhibition of serum hydrolase activity.

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UNCLASSIFIED PROCESSING DATE--27NOV70

1/2 015

TITLE--ANTIBIOTIC POLYRESISTANT STAPHYLOCOCCAL CARRIER STATE IN PATIENTS WITH TUBERCULOSIS AND IN HEALTHY PERSONS -U-

AUTHOR-(04)-GENCHIKOV, L.A., ATOPEK, S.YA., KALYUK, A.N., SOKOLOVSKIY, V.T.

COUNTRY OF INFO--USSR

SOURCE--PROBL TUBERK 48(1): 49-53. 1970

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--TUBERCULOSIS, STAPHYLOCOCCUS, ANTIBIOTIC, DRUG RESISTANCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

STEP NO--UR/0000/70/048/001/0049/0053

PROXY REEL/FRAME--3006/0450

CIRC ACCESSION NO--AP0134218

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

UNCLASSIFIED PROCESSING DATE--27NOV70

2/2 015

CIRC ACCESSION NO--AP0134218

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXCRETION BY TUBERCULOUS PATIENTS OF POLYRESISTANT STAPHYLOCOCCI AND ALSO THE STAPHYLOCOCCAL CARRIER STATE IN TUBERCULOUS PATIENTS, MEDICAL STAFF MEMBERS AND HEALTHY PERSONS OUTSIDE THE HOSPITAL WERE STUDIED. IN LOOKING INTO THE CARRIER STATE PROBLEM, THE STAPHYLOCOCCI CULTURES MOST RESISTNAT TO ANTIBIOTICS WERE OBTAINED IN THE GROUP OF PATIENTS, WERE LESS FREQUENTLY OBSERVED IN THE MEDICAL STAFF GROUP AND EVEN LESS IN HEALTHY PERSONS. IN THE CLINIC, THE POLYRESISTANT STAPHYLOCOCCAL CULTURES SHOWED CONSIDERABLY HIGHER RESISTANCE LEVELS AND WERE MUCH MORE FREQUENT (IN 38.5PERCENT OF PATIENTS AN/IN 66.9PERCENT OF THE MEDICAL STAFF MEMBERS) THAN WAS THE CASE IN HEALTHY SUBJECTS. IT IS OBVIOUS THAT WITH LENGTHY STAYS IN MEDICAL ESTABLISHMENTS AND LONG TERM MEDICATION AIDS THE OCCURRENCE OF INTENSIVE CROSS TRANSMISSION OF MICROBIAL FORMS RESISTANT TO ANTIBIOTICS BOTH ON THE PART OF PATIENTS AND MEDICAL STAFF MEMBERS. BECAUSE OF THIS, MEDICAL PERSONNEL SHOULD BE SUBJECTED TO SPECIAL EXAMINATIONS, AND IN CASES OF RESISTANT STAPHYLOCOCCI BEING EXCRETED, APPROPRIATE SANITARY MEASURES SHOULD BE UNDERTAKEN. FACILITY: DEP. EPIDEMIOL., N. R. GAMALEYA INST. EPIDEMIOL. MICROBIOL., MOSCOW, USSR.

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

Electromagnetic Wave Propagation

UDC: 621.371.332.3(21)

USSR

SOKOLOVSKIY, V. I., CHERKASHIN, Yu. N., Editorial Staff of "Radiotekhnika i Elektronika", AN SSSR

"Using the Method of Frequency Averaging for Scattering Surfaces With Large-Scale Irregularities"

Moscow, Primeneniye metoda usredneniya po chastote dlya rasseivayushchikh poverkhnostey s krupnomasshtabnymi nerovnostyami (cf. English above), 1972, 10 pp, bibl. 4 titles (manuscript deposited at VINITI, No 4704-72 Dep. from 15 Aug 72) (from RZh-Radiotekhnika, No 12, Dec 72, abstract No 12A299DEP by the authors)

Translation: The authors consider scattering by surfaces with large-scale irregularities where the Kirchhoff method is applicable to calculation of the scattered field. The scattered field is observed in the Fraunhofer zone with respect to the dimensions of the scattering surface. It is assumed that surface irregularities are in a state of rest. An investigation is made of an estimate of the average intensity of the scattered field of fixed frequency obtained by averaging the intensity in some frequency range. Based on the requirements of smallness of the estimate error due to frequency nonuniformity of the process, the spectrum of the working

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USSR

SOKOLOVSKIY, V. I., CHERKASHIN, Yu. N., Primeneniye metoda usrednenia po chastote dlya rasseivayushchikh poverkhnostey s krupnomasshtabnymi nerovnostyami, Moscow, 1972

frequencies irradiating the surface is determined and also the averaging interval. The estimate thus introduced is unbiased, and its variance is a relatively small quantity. for cases with different relations between size, inclinations and height of the surface, the authors calculate the relative mean square fluctuations of intensity averaged in the frequency range, and compute the radii of the frequency correlation of intensities.

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(18)

USSR

BALOSHIN, O. N., BLAGORODOV, A. M., BOLONKIN, B. V., VLADIMIRSKIY, V. V., GORIN, YU. P., GRIGOR'YEV, V. K., GRISHIN, A. P., YEROFEYEV, I. A., KOROL'KOV, I. YA., LUZIN, V. N., MILLER, V. V., NIKOLAYEVSKIY, YE. S., PETRUKHIN, V. N., PLIGIN, YU. S., PONOMAREV, L. A., SIROTKIN, S. M., SOKOLOVSKIY, V. V., TARASOV, YE. K., TIKHONIROV, G. D., TROSTINA, K. A., TURCHANOVICH, L. K., and SHKURENKO, YU. P., Institute of Theoretical and Experimental Physics GKI AE (State Committee for the Use of Atomic Energy)

"The $K^- p \rightarrow \bar{K}^0 n$ Charge Exchange Reaction at a Pulse of 39 Gev/sec"

Moscow, Yadernaya Fizika, Vol 18, No 3, Sep 73, pp 542-544

Abstract: The authors present the measurement results from studying the charge exchange reaction of K^--mesons on protons ($K^- p \rightarrow K^0 n$) at a pulse of 39 Gev/sec. The study was carried out using the ITEF 6-m magnetic track spectrometer. The working volume of the magnetic field of the spectrometer was 1.0 x 1.5 x 6 m . Twelve optical spark chambers were located inside the magnet, with each chamber having eight spark gaps (10 mm each). The chamber electrodes consisted of two layers of aluminum foil 14 microns thick. The photographs were taken through a special slit in the magnet yoke. A mirror system made it possible to obtain three stereoprojections of all of the chambers

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

USSR

BALOSHIN, O. N., et al., Yadernaya Fizika, Vol 18, No 3, Sep 73, pp 542-544

with one camera. The reaction was studied on the negative particle beam of the IFVE accelerator. The K^--mesons were distinguished by a differential Cerenkov counter. The beam was focused on a liquid hydrogen target 40 cm long which was set approximately three meters from the first chamber of the spectrometer. Approximately $5 \cdot 10^7$ K^--mesons were passed through the equipment and 1020 photographs taken. Pairs of uniformly charged tracks were measured on the photographs. The measurement results were then processed on the Razdan-3 computer. Only 270 intersecting tracks were found. A graph is given for the differential cross section of the reaction. The results show that the cross section value of 7.4 ± 1.2 microbarns obtained by the authors in comparison to data obtained for lower energies elsewhere shows the logarithmic dependence of the charge exchange cross section on the pulse, equal to -1.58 ± 0.05. The authors thank K. G. Boreskov, A. M. Lapidus, S. T. Sukhorukov, and K. A. Ter-Martirosyan for their presentation of the computational results as the dependence of the differential cross section onpulse transfer (do/dt). This dependence is compared with predictions of the Regge pole model.

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(12)

UDC 539.1.074.3

USSR

BORISOV, A. A., BUGORSKIY, A. P., BUSHNIN, Yu. A., DEREVSHCHIKOV, A. A., DUNAYTSEV, A. F., ZHIL'CHENKOV, V. D., MATULENKO, Yu. A., MESHCHANIN, A. P., MIKHAYLOV, Yu. V., NURUSHEV, S. B., SEN'KO, V. A., SMIRNOV, V. V., SMIRNOV, Ye. V., SISKIN, V. V., SOLOV'YEV, L. F., and SOLOV'YANOV, V. L., Institute of High-Energy Physics, Serpukhov

"A Hodoscopic Installation for Investigation of the Elastic Scattering of High-Energy Particles"

Moscow, Pribory i Tekhnika Eksperimenta, No 3, May/Jun 73, pp 49-53

Abstract: A description is given of a hodoscopic installation, developed at the Institute of High-Energy Physics, for investigation of the elastic scattering of high-energy particles within the pulse range of 30-60 gigaelectron volts/sec. The range of dispersion angles covered by the installation is 0-29 millirads with an angular resolution of $\pm$ 0.17 millirad. The total solid angle is 39 microsteres. The pulse is determined to within $\pm$ 0.22%. The resolving time is 35 nanosec. The dead time is 50 microsec. The pulse pass band of the spectrometer is 8%. The statistics-setup is up to 10^6 per hour. The installation is electrically coupled to a "Minsk-22" computer, which stores and processes the information during the experiment. The

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USSR

BORISOV, A. A., et al., Pribory i Tekhnika Eksperimenta, No 3, May/Jun 73, pp 49-53

obtained results are immediately printed out in the form of tables and graphs, and also appear on the oscillograph screen. Monitoring equipment has been developed, which keeps track of proper operation of the hodoscopes. The first results have been obtained on the scattering of π^--mesons on nuclei at a pulse of 50 gigaelectron volts/sec and of protons within the initial-pulse range of 30-60 gigaelectron volts/sec. 3 figures. 2 tables. 3 references.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

UDC 517.1:615.7/9

USSR

SOKOLOVSKIY, V. V.

"Histochemical Studies in Toxicology"

Gistokhimicheskiye issledovaniya v toksikologii, Leningrad, "Meditsina," 1971, 176 pp, ill. 1 r. 28 k. (from RZh-Biologicheskaya Khimiya, No 18, Sep 71, Abstract No 18F1844 K)

Translation: This book discusses possibilities and prospects for using histochemistry in studies of the biochemical mechanism of the toxic action of chemicals. Specifically, the author considers problems of the histochemical analysis of the pathogenesis of poisoning by specific enzyme inhibitors (thiol poisons, organophosphorus compounds, fluorine compounds, etc.), as well as possible ways of studying metabolic shifts in functionally important microstructures of tissues in the case of oxygen starvation, emphysema, and irritation of chemoreceptors which ensue under the effect of toxic substances. Data are presented on the use of quantitative cytochemical methods in toxicological research.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

UDC 8.74

USSR

SOKOLOVSKIY, YU. L.

"An Algorithm for Measuring the Problem Requirements for Multiprogram Computation System, Resources"

V sb. Teor. kibernetika (Cybernetics Theory--collection of works), Kiev, 1971, pp 97-113 (from RZh-Kibernetika, No 12, Dec 72, Abstract No 12V418)

Translation: Within the framework of a multiprogram computation system a study was made of some general problems of developing an algorithm for dynamic gathering of data on the problem requirements of a user for system resources. In order to represent the dynamics of execution of the program elements connected with solving the problem, a two-step hierarchy of processes is used. By means of special resource control operators, the main process requests the necessary resources of the system and supplies the daughter processes with them. It also controls the initiation and is responsible for the compatibility of the daughter processes.

The investigated algorithm is a part of the system and is included in the operation when executing any resource control operator or matching operator. The functions of the algorithm reduce to taking the "routes of resource consumption" for a set of processes generated by the user problem.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

1/2 018 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--HYDROGENATION OF ALKYNES ON RHODIUM IN DIFFERENT MEDIA -U-

AUTHOR-(04)-SOKOLSKAYA, A.M., SHOSHENKOVA, V.A., RYABININA, S.A., SOKOLSKIY, D.V.

5

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 192(3), 577-9

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CATALYTIC HYDROGENATION, ISOMER, RHODIUM COMPOUND, ORGANOMETALLIC COMPOUND, ALKYNE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/1874 STEP NO--UR/0020/70/192/003/0577/0579

CIRC ACCESSION NO--AT0132136

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

2/2 018 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AT0132136

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. KINETIC CURVES WERE SHOWN FOR HYDROGENATION OF ISOMERIC OCTYNES OVER RH BLACK IN 96PERCENT ETOH AT 30DEGREES; WITH THE CATALYST SUPPORTED ON BASO SUB4. RH WAS ALSO EXAMD. IN THIS REACTION RUN EITHER IN AQ. HACL OR AQ. KOH. RH-BASO SUB4, REGARDLESS OF THE SOLVENT, GAVE LOWER RATE OF REACTION FOR TERMINAL OCTYNE AND LOWER ALKYNES THAN FOR THE PRODUCT OF ITS HYDROGENATION. THE RATE OF REACTION DECLINED IN THE ORDER: 1,HEXYNE, 1,HEPTYNE, 1,OCTYNE, WITH A CORRESPONDING SHIFT OF THE CATALYST POTENTIAL TOWARD ANODIC VALUES. THIS INDICATES THE ENHANCED ADSORPTIONAL PROPERTIES AS THE ALKYNE CHAIN INCREASES. THE RATE OF REACTION OF THE RESULTING ALKENE DECLINES WITH INCREASING SIZE OF THE MOL. BUT IN COMPOS. WITH THE UNSATD. BOND FURTHER DOWN THE CHAIN FROM THE TERMINAL POSITION THE RATE OF HYDROGENATION IS GREATLY INCREASED; IN THE CASE OF THE HEPTYNES, THE RESULTING HEPTENE FROM HYDROGENATION OF 3,HEPTYNE DOES NOT REACT FURTHER WITH H. 3,HEPTYNE IN 96PERCENT ETOH REMOVED MORE ADSORBED H FROM THE RH-BASO SUB4 SURFACE THAN DOES THE 1,ISOMER. AMONG ISOMERIC OCTYNES THERE WAS ALSO OBSD. THE SAME INCREASED RATE OF HYDROGENATION AS THE TRIPLE BOND WAS MOVED DOWN THE CHAIN AND IN 3,OCTYNE NO FURTHER REACTION TOOK PLACE AFTER THE CONVERSION TO 3,OCTENE.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

SOKOL'SKAYA, A. V.

JPRS 55304

29 February 1972

FORMATION OF AMINO ACIDS ON IRRADIATION OF FOG CONTAINING FORMALDEHYDE AND AMMONIUM NITRATE WITH UV LIGHT

[Article by T. Ye. Pavlovskaya, T. A. Telegina, A. V. Sokol'skaya, and I. Ye. El'piner (Dec); Moscow, Izvestiya Akademii Nauk SSSR, Seriya Biologicheskaya, Russian, No 6, 1971, submitted 15 June 1971, pp 922-925]

One of the possible ways of the abiogenetic formation of biologically important materials under the conditions of the primordial earth as well as under extraterrestrial conditions could have been the photochemical processes occurring in fogs, raindrops, and in clouds. Experimental data obtained by simulating these conditions are reported. The fog consisting of formaldehyde, ammonium nitrate and water was obtained by means of an ultrasonic generator and irradiated with 254 nm UV light. Glycine, alanine, and possibly threonine were identified among the photosynthetic products.

According to the present concepts, the generation of life was preceded by a long period of chemical evolution during which the formation of substances necessary for life processes occurred (Oparin, 1957). One of the experimental techniques used in the investigation of this problem in recent years is the study of the abiogenetic formation of compounds of biological importance in systems simulating the conditions of primordial earth (Pasynskiy and Pavlovskaya, 1964; Pavlovskaya, 1971).

On the other hand, the possibility of the abiogenetic formation of biologically important compounds is proved by the discovery of organic compounds in extraterrestrial sources. Pertinent data may be obtained, first of all, from the investigation of meteorites belonging to the class of carbonaceous chondrites containing organic compounds. In one investigation of this type, describing the analysis of a meteorite that fell in the region of Murchison, Australia in September 1969 (Kwenvolden et al., 1970), convincing proofs of the extraterrestrial origin of the amino acids and hydrocarbons found in the meteorite are cited.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

USSR UDC 541.128+546.21

SOKOL'SKIY, D. V., DORFMAN, YA. A., and RAKITSKAYA, T. L., Institute of Organic Catalysis and Electrochemistry, Academy of Sciences KazSSR, Alma-Ata

"Oxidation of Phosphine with Oxygen in Presence of Ironiodosulfate and Ironiodophosphate Catalysts"

Moscow, Doklady Akademii Nauk SSSR, Vol 203, No 1, 1972, pp 155-158

Abstract: Inaa previous study it was determined that phosphine is oxidized with oxygen in following solutions: $FeCl_3$-$FeCl_2$-H_3PO_4-$HClO_4$-NaI-H_2O and $FeCl_3$-$FeCl_2$-Na_2SO_4-$HClO_4$-NaI-H_2O. A detailed mechanism for this oxidation is proposed. Phosphine does not react directly with oxygen in this reaction. It reacts with elemental iodine which is liberated during oxidation-reduction breakdown of the mixed iodophosphate and iodosulfate complexes with iron (III), while oxygen converts the phosphate and sulfate complexes of iron (II) into respective iron (III) complexes. The reaction rate depends on individual components of a series of subreactions in a complex way, making it impossible to select optimal reaction conditions on an experimental way. On the basis of theoretical considerations it was possible to develop equations for the calculation of kinetic parameters. Calculated and experimentally determined

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USSR

SOKOL'SKIY, D. V., et al., Doklady Akademii Nauk SSSR, Vol 203, No 1, 1972, pp 155-158

values for the kinetics of phosphine oxidation with oxygen have been compared and found to be in good agreement.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

USSR UDC 541.125 + 542.943:546.181.1+546.13

SOKOL'SKIY, D. V., DORFMAN, YA. A., POLE, G. P., Institute of Organic Catalysis and Electrochemistry, Academy of Sciences KazSSR

"Study of the Kinetics of Oxidation of Phosphine with Chlorine Solution"

Leningrad, Zhurnal Prikladnoy Khimii, Vol 44, No 11, Nov 71, pp 2571-2573

Abstract: A study was carried out on the activity of PH_3, HClO, Cl_2 and the H_3O^+ and ClO^- ions on the rate of oxidation of phosphine with chlorine solution at 25°. A reaction mechanism has been proposed leading to the kinetic equation

$$-\frac{dCl^-}{} = \frac{4C_{Cl^-}K_pP_{PH_3}(k_1K_D[H^+]+ k_2[H^+]^2[Cl^-]\ K_GK_D}{K_D[H^+] + aH_2O + [H^+]\cdot[Cl^-]\cdot K_GK_D}$$

which described satisfactorily the reaction kinetics. The constants for chlorine hydrolysis, HClO dissociation and other parameters were calculated.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

Organophosphorous Compounds

USSR UDC 546.18+546.143

SOKOL'SKIY, D. V., DORFMAN, YA. A., and RAKITSKAYA, T. L., Institute of Organic Catalysis and Electrochemistry, Kazakh Academy of Sciences, Alma-Ata

"Oxidation of Phosphine with Hydrogen Peroxide in the Presence of Bromide Ions"

Moscow, Zhurnal Fizicheskoy Khimii, Vol XLV, No 11, Nov 71, pp 2771-2774

Abstract: Though almost inactive with hydrogen peroxide in ordinary aqueous solutions, phosphine is strongly oxidized by H_2O_2 if KBr is present in the solution. But this catalytic oxidation of PH_3, important both for the chemistry of hydrogen peroxide and in the theory of homogeneous catalysis, has so far gone unstudied. Potassium bromide was added to an H_2O_2 aqueous solution surrounded by an atmosphere of $C_2H_2 + PH_3 + N_2$. Oxidation rates were determined as affected by acidity, KBr concentration, H_2O_2 concentration, and partial PH_3 concentration. Energy of activation was computed, and a tentative mechanism for phosphine oxidation suggested. The entire reaction is described quantitatively, and stability constants for the intermediate complexes formed are calculated. Optimal concentrations for PH_3, the hydrogen ion, KBr and H_2O_2 are arrived at.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

1/2 009 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--MECHANICALLY STRONG CATALYSTS FOR LIQUID PHASE HYDROGENATION -U-

AUTHOR-(05)-SOKOLSKIY, D.V., ZHUBANOV, K.A., SHUMATEVA, N.F., GOGOL, N.A., KRUPENYA, N.G.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 264,354

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970

DATE PUBLISHED--03MAR70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CATALYST, HYDROGENATION, CHEMICAL PATENT, GYPSUM, MECHANICAL PROPERTY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/0827 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0136261

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

2/2 009 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AA0136261

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MECH. STABLE CATALYSTS ARE PREPD. BY ADDING A GYPSUM BINDER TO THE CATALYST. FACILITY: INSTITUT KHIMICHESKIKH NAUK AN KAZAKHSKOY SSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

USSR UDC 542.942.6:546.562

SOKOL'SKIY, D. V., DORFMAN, Ya. A., and YEMEL'YANOVA, V. S.

"Phosphine Reduction of Cupric Thiocyanates in Solutions"

Leningrad, Zhurnal Obshchey Khimii, Sep 71, Vol 41, No 9, pp 1918-1921

Abstract: The kinetics and mechanism of the phosphine reduction of cupric thiocyanates in solution are discussed. The mechanism of the reaction is rather complex and comprises a number of elementary stages in which the reaction rate appears to depend on the activity of the system's components. According to the given scheme, the reduction is of a catalytic nature with CNS^- ions being responsible for the catalysis. The kinetics of the reaction was studied on a circulation unit. Use was made of a gas mixture containing nitrogen, phosphine and acetylene, the phosphine concentration being 0.08-0.008% by volume. The phosphine concentration after the reaction pH_3 was 0.005% by volume. The $CuCl_2$--KCNS aqueous solution potential was measured with a platinum electrode relative to the Hg/Hg_2Cl_2-HCl system and then recalculated on a hydrogen scale. Kinetic and potentiometric curves are given for the phosphine reduction of copper II thiocynates obtained for various PH_3 concentrations (% by vol.). A diagram shows

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SOKOL'SKIY, D. V., et al., Zhurnal Obshchey Khimii, Sep 71, Vol 41, No 9, pp 1918-1921

semilogarithmic anamorphoses obtained for various C_{CNS^-} and P_{PH_3}. The innersphere decay rate constant of $Cu(CNS)_3^-$ (aq) is $1.7 \cdot 10^{-1}$ while the stability constant of $Cu(CNS)_3^-$ is $3.6 \cdot 10^{-2}$.

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1/2 026 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--EFFECT OF CADMIUM AND THALLIUM CATIONS ON THE ADSORPTION PROPERTIES OF RHODIUM -U-

AUTHOR-(03)-SOKOLSKIY, D.V., ZAKUMBAYEVA, G.D., BEKETAYEVA, L.A.

COUNTRY OF INFO--USSR

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SOURCE--ZH. FIZ. KHIM. 1970, 44(4), 1017-20

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--CURRENT DENSITY, METAL ELECTRODE, ELECTROLYTE, CADMIUM, THALLIUM, ADSORPTION, RHODIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/0897 STEP NO--UR/0057/70/044/004/1017/1020

CIRC ACCESSION NO--AP0131483

UNCLASSIFIED

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2/2 026 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0131483

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CURRENT D. MINUS PHI POTENTIAL CURVES OF AGED RH-PT ELECTRODE, DIPPED IN 1 N H SUB2 SO SUB4 CONTG. 2 TIMES 10 PRIME NEGATIVE3 MINUS 1 N COSO SUB4 OR TL SUB2 SO SUB4 WERE MEASURED AT 20, 40, AND 60DEGREES. CATIONS CD PRIME3 POSITIVE AND TL PRIME POSITIVE DECREASED THE H ADSORPTION CAPACITY OF THE RH SURFACE BY OCCUPYING ITS ACTIVE CENTERS. A DECREASE IN THE ENERGY OF THE BOND RH-H WITH INCREASING AMTS. OF CD PRIME2 POSITIVE AND TL PRIME POSITIVE IN THE ELECTROLYTE WAS OBSD. FACILITY: INST. KHIM. NAUK, ALMA-ATA, USSR.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

1/2 022 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--REACTION OF CARBON MONOXIDE WITH A GOLD ELECTRODE CATALYST -U-

AUTHOR-(03)-PADYUKOVA, G.L., FASMAN, A.B., SOKOLSKIY, D.V.

COUNTRY OF INFO--USSR

SOURCE--ELEKTROKHIMIYA 1970, 6(4), 505-6

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CARBON MONOXIDE, CHEMICAL REDUCTION, METAL ELECTRODE, CATALYST, GOLD, CARBON DIOXIDE, CHEMICAL BONDING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/1155 STEP NO--UR/0364/70/006/004/0505/0506

CIRC ACCESSION NO--AP0121714

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

2/2 022 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121714

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INTERACTION OF CO WITH A 6 CM PRIME2 AU ELECTRODE WAS STUDIED IN N H SUB2 SO SUB4 AT 20-70DEGREES. CHARGING CURVES IN A H ATM. SHOWED THAT H WAS ADSORBED TO SIMILAR TO A 3PERCENT COVERAGE. THE INTRODUCTION OF CO LED TO A SLIGHT SHIFT IN POTENTIAL TOWARD MORE NEG. VALUES, WHICH INDICATED THAT CO DISPLACED H FROM THE AU. CHROMATOGRAPHIC ANAL. SHOWED ONLY A VERY SMALL CONVERSION OF CO, SIMILAR TO 0.15PERCENT, TO CO SUB2. THE DATA INDICATED THAT THERE WAS ONLY A WEAK ATTRACTION BETWEEN AU AND CO. FACILITY: KAZ. GOS. UNIV. IM. KIROVA, ALMA-ATA, USSR.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

1/2 017 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--MONOSACCHARIDE HYDROGENATION CATALYST -U-

AUTHOR-(04)-SOKOLSKIY, D.V., YUNUSOV, U.I., BIZHANOV, F.B., KHISAMETDINOV, A.M.

COUNTRY OF INFO--USSR

5

SOURCE--U.S.S.R 266,733

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--SACCHARIDE, PATENT, CATALYTIC HYDROGENATION, CATALYST, NICKEL, ALUMINUM, IRON

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/1792 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0132058

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

2/2 017 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AA0132058

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A HYDROGENATION CATALYST FOR MONOSACCHARIDES CONSISTED OF NI, AL, AND FE, WITH 2 WT. PERCENT MN ADDED. FACILITY: KAZAKH CHEMICAL TECHNOLOGICAL INSTITUTE.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

1/2 014 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--PREPARATION OF ACETYLENE AND ETHYLENE BY ELECTROCRACKING IN A DIVIDED CONDENSED DISCHARGE -U-

AUTHOR-(04)-MOROZOV, L.G., SHULYAR, B.N., BUVALKINA, L.A., SOKOLSKIY, D.V.

COUNTRY OF INFO--USSR

5

SOURCE--IZV. AKAD. NAUK KAZ. SSR, SER. KHIM. 1970, 20(1), 85-6

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ACETYLENE, ETHYLENE, DIESEL FUEL, KORESENE, AROMATIC HYDROCARBON, ELECTROCHEMICAL REACTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/2210 STEP NO--UR/0360/70/020/001/0085/0086

CIRC ACCESSION NO--AP0125790

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

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CIRC ACCESSION NO--AP0125790 PROCESSING DATE--27NOV70

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

ABSTRACT. BY ADDING MOBILE C PARTICLES TO HYDROCARBONS TO DIVIDE THE CONDENSED DISCHARGE DURING ELECTROCRACKING, PRIDUCTIVITY WAS INCREASED 5 TO 6 FOLD AS A RESULT OF THE INCREASED NO. OF DISCHARGE SITES AND RAPID QUENCHING. ELECTROCRACKING PRODUCTIVITY FOR N PARAFFINS, NAPHTHENIC HYDROCARBONS, AND DIESEL FUEL AND KEROSINE FRACTIONS WAS 23-5 L.-HR AND FOR AROMATIC HYDROCARBONS WAS 20-2 L.-HR. ENERGY CONSUMPTION WAS 5.0 KW-HR-M PRIME3 CRACKING GAS AND 7.5 KW-R-M PRIME3 UNSATD. HYDROCARBON GAS PRODUCTS. C SUB2 H SUB4 AND H IN 34-40 AND 25-9PERCENT YIELDS AND C SUB2 H SUB2 WERE THE MAIN PRODUCTS FROM C SUB6-15 N,ALKANES, BUT H CONTENT WAS HIGHER (SMALLER THAN OR EQUAL TO 60PERCENT) IN THE PRODUCTS FROM NAPHTHENIC AND AROMATIC HYDROCARBONS.

FACILITY: KAZ. GOS. UNIV. IM. KIROVA, ALMA-ATA, USSR.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

UNCLASSIFIED PROCESSING DATE--20NOV70

2/2 014

CIRC ACCESSION NO--AP0132240

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RATE OF HYDRATION OF C SUB2 H SUB2 INCREASES WITH INCREASE IN H PRIME POSITIVE ACIDITY IN SOLNS. OF HGSO SUB4, CU SUB2 SO SUB4-CUSO SUB4, OR PDSO SUB4-FE SUB2 (SO SUB4) SUB3. THIS RESULT IS EXPLAINED BY A REACTION MECHANISM IN WHICH THE METAL COMPLEX (CH TRIPLE BOND CH.MEX SUBN) PRIMEM PLUS H SUB3 O PRIME POSITIVE IN EQUILIBRIUM (CH SUB2 TRIPLE BGND CH.MEX SUBN) PRIMEM PLUS 1 MINUS H SUB2 O YIELDS (CH SUB2:CH.H SUB2 O.MEX SUBN) PRIMEM PLUS 1 MINUS 2H PRIME POSITIVE YIELDS (CHOH:CH.MEX SUBN) PRIMEM MINUS 1 MINUS H PRIME POSITIVE YIELDS CHOH:CH SUB2 PLUS MEX SUBN, IN WHICH THE RATE IN THE LAST STEP IS INCREASED BY AN INCREASE IN (H SUB3 O PRIME POSITIVE).

FACILITY: INST. KHIM. NAUK, ALMA-ATA, USSR.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

1/2 013 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--REDUCTION OF NITROBENZENE ON LOW PERCENTAGE PALLADIUM AND PLATINUM PALLADIUM CATALYSTS ON ALUMINUM OXIDE -U-

AUTHOR-(03)-SAVELYEVA, G.A., SOKOLSKIY, D.V., POPOVA, N.M.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK KAZ. SSR, SER. KHIM. 1970, 20(2), 25-31

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--NITROBENZENE, CHEMICAL REDUCTION, PALLADIUM, CATALYST ACTIVITY, PLATINUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/0266 STEP NO--UR/0360/70/020/002/0025/0031

CIRC ACCESSION NO--AP0126038

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

2/2 013 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0126038

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. REDN. OF PHNO SUB2 WAS STUDIED IN ETOH,H SUB2 O AND MEOH,DIOXANE,NH SUB4 OH AT 20DEGREES OVER PD CATALYSTS ON AL SUB2 O SUB3 (0-5 AT. PERCENT PD). ONLY CATALYSTS WITH LARGER THAN 1 AT. PERCENT PD WERE ACTIVE; ACCORDING TO THERMAL DESORPTION CURVES, THESE CATALYSTS CONTAINED H DISSOLVED IN PD LATTICE. BY ADDN. OF PT (AT. PERCENT PD PLUS PT REMAINING CONST.), THE ACTIVITY AND STABILITY OF THE CATALYSTS INCREASED. FACILITY: INST. KHIM. NAUK, ALMA-ATA, USSR.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

UNCLASSIFIED

TITLE--PREPARATION OF A MECHANICALLY STRONG, LIQUID PHASE HYDROGENATION CATALYST -U-

PROCESSING DATE--13NOV70

AUTHOR-(03)-SOKOLSKIY, D.V., GOGOL, N.A., PIPKO, G.N.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 266,735

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI, 1970,

DATE PUBLISHED--01APR70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL PATENT, CALCIUM SULFATE, CATALYTIC HYDROGENATION, CATALYST

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/1793

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

CIRC ACCESSION NO--AA0132059

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

UNCLASSIFIED

CIRC ACCESSION NO--AA0132059 PROCESSING DATE--13NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A MECH. STRONG LIQ. PHASE HYDROGENATION CATALYST WAS OBTAINED BY ADDING A BINDER, SUCH AS CASO SUB4, TO THE CATALYTIC MASS BY COPPTG. IT WITH A CARRIER AND AN ACTIVE PHASE.

FACILITY: INSTITUTE OF CHEMICAL SCIENCES; ACADEMY OF SCIENCES, KAZAKH S.S.R.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

1/2 018

UNCLASSIFIED

TITLE--HYDROGENATION OF ALKYNES ON RHODIUM IN DIFFERENT MEDIA -U-

PROCESSING DATE--13NOV70

AUTHOR-(04)-SOKOLSKAYA, A.M., SHOSHENKOVA, V.A., RYABININA, S.A., SOKOLSKIY, D.V.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 192(3), 577-9

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CATALYTIC HYDROGENATION, ISOMER, RHODIUM COMPOUND, ORGANOMETALLIC COMPOUND, ALKYNE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/1874

STEP NO--UR/0020/70/192/003/0577/0579

CIRC ACCESSION NO--AT0132136

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

2/2 018

UNCLASSIFIED

CIRC ACCESSION NO--AT0132136 PROCESSING DATE--13NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. KINETIC CURVES WERE SHOWN FOR HYDROGENATION OF ISOMERIC OCTYNES OVER RH BLACK IN 96PERCENT ETOH AT 30DEGREES; WITH THE CATALYST SUPPORTED ON BASO SUB4. RH WAS ALSO EXAMD. IN THIS REACTION RUN EITHER IN AQ. HACL OR AQ. KOH. RH-BASO SUB4, REGARDLESS OF THE SOLVENT, GAVE LOWER RATE OF REACTION FOR TERMINAL OCTYNE AND LOWER ALKYNES THAN FOR THE PRODUCT OF ITS HYDROGENATION. THE RATE OF REACTION DECLINED IN THE ORDER: 1,HEXYNE, 1,HEPTYNE, 1,OCTYNE, WITH A CORRESPONDING SHIFT OF THE CATALYST POTENTIAL TOWARD ANODIC VALUES. THIS INDICATES THE ENHANCED ADSORPTIONAL PROPERTIES AS THE ALKYNE CHAIN INCREASES. THE RATE OF REACTION OF THE RESULTING ALKENE DECLINES WITH INCREASING SIZE OF THE MOL. BUT IN COMPOS. WITH THE UNSATD. BOND FURTHER DOWN THE CHAIN FROM THE TERMINAL POSITION THE RATE OF HYDROGENATION IS GREATLY INCREASED; IN THE CASE OF THE HEPTYNES, THE RESULTING HEPTENE FROM HYDROGENATION OF 3,HEPTYNE DOES NOT REACT FURTHER WITH H. 3,HEPTYNE IN 96PERCENT ETOH REMOVED MORE ADSORBED H FROM THE RH-BASO SUB4 SURFACE THAN DOES THE 1,ISOMER. AMONG ISOMERIC OCTYNES THERE WAS ALSO OBSD. THE SAME INCREASED RATE OF HYDROGENATION AS THE TRIPLE BOND WAS MOVED DOWN THE CHAIN AND IN 3,OCTYNE NO FURTHER REACTION TOOK PLACE AFTER THE CONVERSION TO 3,OCTENE.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

1/2 018 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--ELECTROCRACKING OF LIQUID PETROLEUM HYDROCARBONS IN MICRODISCHARGES -U-

AUTHOR-(04)-MOROZOV, L.G., SHULYAR, B.N., BUVALKINA, L.A., SOKOLSKIY, D.V.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK KAZ. SSR, SER. KHIM. 1970, 20(1), 70-4

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ETHYLENE, PETROLEUM PRODUCT, OCTANE, ACETYLENE, CHEMICAL REACTION RATE, CATALYTIC CRACKING, ELECTROCHEMISTRY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/2097 STEP NO--UR/0360/70/020/001/0070/0074

CIRC ACCESSION NO--AP0125681

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

2/2 018 UNCLASSIFIED

CIRC ACCESSION NO--AP0125681 PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE ELECTROCRACKING OF N OCTANE IN A 25 CM PRIME3 QUARTZ GLASS RECTANGULAR REACTOR ON OPPOSITE SIDES OF WHICH DISK ELECTRODES OCCUPIED A HORIZONTAL POSITION, HYDROCARBON WAS ADMITTED CONTINUOUSLY THROUGH A CENTRAL OPENING IN THE ELECTRODES WHILE AN ELEC. VIBRATOR WAS USED TO INSURE MAX. MICRODISCHARGES ON MOBILE C PARTICLES, 0.25-0.3 MM IN DIAM. MAX. C SUB2 H SUB2 CONTENT (30-40PERCENT) WAS OBSD. WHEN THE WT. OF C PARTICLES WAS 1-1.8 G AND THE APPLIED VOLTAGE WAS 3-5 KV. C SUB2 H SUB4 CONTENT WAS MAX. (37.0PERCENT) WHEN THE PARTICLE SIZE WAS 1.0 MM AND THE APPLIED VOLTAGE WAS 1 KV, BUT WAS STILL HIGH (25-30PERCENT) AT VOLTAGES OF 1-1.5 KV EVEN WHEN THE PARTICLE SIZE WAS 2.0-3.0 MM. SELECTIVITY FOR C SUB2 H SUB2 WAS MAX. (67PERCENT) AT A SPECIFIC ENERGY OF 11.0 KW-HR-M PRIME3 WHEN 1.0 G OF C PARTICLES 3.0 MM IN DIAM. WAS USED AND WAS STILL HIGH (60PERCENT) WHEN 1.4 G C WAS TAKEN IN ORDER TO REDUCE SPECIFIC ENERGY TO THE MIN. (6.5 KW-HR-M PRIME3) FOR PARTICLES OF THIS SIZE, AND WAS 61PERCENT WHEN 1.0 G C PARTICLES, 0.25 MM IN DIAM. WAS USED AND SPECIFIC ENERGY WAS MIN. (2.4 KW-HR-M PRIME3). FACILITY: KAZ. GOS. UNIV. IM. KIROVA, ALMA-ATA, USSR.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

1/2 017

UNCLASSIFIED

TITLE--DIFFUSION OF HYDROGEN TO THE SURFACE OF A STATIONARY CATALYST DURING THE HYDROGENATION OF FATS -U-

PROCESSING DATE--27NOV70

AUTHOR-(03)-ZHUBANOV, K.A., SHUMATEVA, N.F., SOKOLSKIY, D.V.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK KAZ. SSR, SER. KHIM. 1970, 20(2), 31-2

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--CATALYTIC HYDROGENATION, VEGETABLE OIL, NICKEL, RHODIUM, METAL CATALYST, CHEMICAL REACTION RATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/1732

STEP NO--UR/0360/70/020/002/0031/0032

CIRC ACCESSION NO--AP0138705

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

2/2 017

UNCLASSIFIED

CIRC ACCESSION NO--AP0138705 PROCESSING DATE--27NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DURING THE HYDROGENATION OF COTTONSEED OIL AT ATM. PRESSURE IN THE PRESENCE OF NI RH CATALYST, THE DIFFUSION VARIED FROM 0.423 ML-MIN AT 110DEGREES TO 2.59 ML-MIN AT 190DEGREES IN THE COUTERCURRENT MODE, AND FROM 0.158-0.199 ML-MIN TO 1.008 ML-MIN, RESP., IN THE JET MODE. THE HYDROGENATION CONSUMED 0.215-0.473 ML-MIN AND 0.15-0.45 ML-MIN, RESP. THE CONTACT TIME HAD LITTLE EFFECT ON THE HYDROGENATION VELOCITY.

FACILITY: INST. KHIM. NAUK, ALMA-ATA, USSR.

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UNCLASSIFIED PROCESSING DATE--20NOV70

1/2 016

TITLE--CATALYTIC REDUCTION OF NITROBENZENE DERIVATIVES -U-

AUTHOR-(03)-SOKOLSKIY, D.V., BABENKOVA, L.V., POPOVA, N.M.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(6), 1299-310 (CHEM)

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--NITROBENZENE, CLAY, CHEMICAL REDUCTION, HYDROGENATION, NICKEL, PLATINUM, CATALYST ACTIVITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/0216 STEP NO--UR/0020/70/191/006/1299/1301

CIRC ACCESSION NO--AT0132488

UNCLASSIFIED PROCESSING DATE--30OCT70

2/2 011

CIRC ACCESSION NO--AP0124537

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. KINETICS OF HC TRIBLE BOND CH HYDRATION CATALYZED BY POSO SUB4 AND FE SUB2(SO SUB4) SUB3 WAS INVESTIGATED [illegible] CONDITIONS AT 50-100DEGREES. THE RATES OF HC TRIPLE BOND CH CONSUMPTION AND THAT OF CARBONYL [illegible] FORMATION ARE NEARLY TEMP. INDEPENDENT. INCREASE OF THE OXION. POTENTIAL OF THE SYSTEM (FE PRIME3POSITIVE ADDN.) RASIES THE YIELD OF ALDEHYDES AND THE CATALYST STABILITY. THE SELECTIVITY OF THE PROCESS INCREASES WITH TIME. THE RATE OF CARBONYL COMPDS. FORMATION INCREASES WITH INCREASING PD PRIME2POSITIVE CONCN. UP TO 10 PRIME NEGATIVE3 G ION-L.P FURTHER INCREASE OF THE CONCN. HAS NO EFFECT. ALDEHYDES ARE FORMED ABOVE 70DEGREES.

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UNCLASSIFIED PROCESSING DATE--30OCT70

1/2 011

TITLE--CATALYTIC SYNTHESIS OF CARBONYL COMPOUNDS FROM ACETYLENE IN THE PRESENCE OF PALLADIUM,II, AND IRON,III, COMPLEXES -U-

AUTHOR-(04)-SOKOLSKIY, D.V., DORFMAN, YA.A., SEGIZBAYEVA, S.S., KAZANTSEVA, I.A.

COUNTRY OF INFO--USSR

SOURCE--KHIM. 1970, 44(1), 98-105

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

UNCLASSIFIED PROCESSING DATE--20NOV70

2/2 016
CIRC ACCESSION NO--AT0132488
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. KINETIC DATA WERE SHOWN GRAPHICALLY FOR REDN. OF ARND SUB2 ON NI-BENTONITE CLAY CATALYST USING FOLLOWING AR: M,O SUB2 NO SUB6 H SUB4, M,HOOC SUB6 H SUB4, M,HOC SUB6 H SUB4, P,MEC SUB6 H SUB4, P,ETOC SUB6 H SUB4, P,HOC SUB6 H SUB4. THE CATALYSTS USED WERE NI-BENTONITE CLAY AND NI-CU-FE-BENTONITE CLAY. THE RATE OF HYDROGENATION WAS FOUND TO INCREASE WITH DECREASING VALUE OF THE CATALYST POTENTIAL VS. SCE, AND A LINEAR RELATION WAS FOUND BETWEEN THE SHIFT OF THE CATALYST POTENTIAL, CHARACTERISTIC OF RELATIVE ADSORPTION ABILITY OF THE VARIOUS NITRO COMPDS., AND THE REACTION RATE. THE SAME RELATIONSHIP WAS FOUND BETWEEN REACTION RATE COEFFS. AND THE HAMMETT SUBSTITUENTS CONSTS. IN THE SUBSTRATES. THE RESULTS INDICATE A HIGH ENERGY OF BONDING OF THE ADSORBED H BY THE NI CATALYSTS ON THESE SUPPORTS, WHICH BRINGS SUCH CATALYSTS INTO THE AREA OF ACTION OF PT CATALYSTS. FACILITY: INST. KHIM. NAUK, ALMA-ATA, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

UNCLASSIFIED PROCESSING DATE--20NOV70

1/2 012

TITLE--ACTIVATION OF ACETYLENE BY PALLADIUM II BROMIDE COMPLEXES -U-

AUTHOR-(03)-SEKOLSKIY, D.V., SEGIZBAEVA, S.S., DORFMAN, YA.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(4), 893-7

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PALLADIUM COMPOUND, BROMIDE, METAL COMPLEX COMPOUND, ACETYLENE, AQUEOUS SOLUTION, CHEMICAL REACTION RATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1320 STEP NO--UR/0366/70/006/005/0893/0897

CIRC ACCESSION NO--AP0134994

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

UNCLASSIFIED PROCESSING DATE--20NOV70

2/2 012

CIRC ACCESSION NO--AP0134994

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PASSAGE OF HC TRIPLE BOND CH THROUGH SOLNS. CONTG. (PDBR(H SUB2O) SUB3) PRIMEPOSITIVE, BR PRIMENEGATIVE, AND (PDBR SUB2 (H SUB2 O) SUB2) AT 98DEGREES AND HYDRATION GAVE HCHO, H SUB2 C:CHCHO, AND ACH. THE RATE OF HC TRIPLE BOND CH ABSORPTION BY THE SOLN. AND ITS HYDRATION RATE CHANGED WITH BR PRIMENEGATIVE CONCN.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

1/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--THE EFFECT OF ERRORS IN THE ANGLES OF REFLECTING PRISMS ON THE QUALITY OF THE IMAGE -U-

AUTHOR--SOKOLSKIY, M.N.

COUNTRY OF INFO--USSR

SOURCE--LENINGRAD, OPTIKO-MEKHANICHESKAYA PROMYSHLENNOST', NO 2, FEB 70, PP 19-20

DATE PUBLISHED----FEB70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--LIGHT REFLECTION, OPTIC PRISM, FREQUENCY CHARACTERISTIC, ERROR ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/1582 STEP NO--UR/0237/70/000/002/0019/0020

CIRC ACCESSION NO--AP0118565

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

UNCLASSIFIED

2/2 019 PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0118565

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF ERRORS IN THE ANGLES OF REFLECTING PRISMS ON THE FREQUENCY CONTRAST CHARACTERISTIC IS DISCUSSED.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

UDC 612:531.113

USSR

MATSYNIN, V. V. and SOKOLYANS'KIY, I. F., Department of Hypoxic States, Institute of Physiology imeni O. O. Bogomolets, Academy of Sciences, Ukrainian SSR, Kiev

"Physiological Responses of White Rats in a State of Hypothermia to Acceleration"

Kiev, Fiziologicheskiy Zhurnal, No 5, 1972, pp 675-680

Abstract: The resistance of rats to accelerations of 40 G while in a state of hypothermia was found to be higher than in controls. The accelerations (4 min) decreased pO_2 in the brain and skeletal muscles and inhibited bioelectrical activity of the muscles to the point of "bioelectrical silence." This did not happen in the diaphragm muscles. Acceleration also lowered the reactivity of the respiratory system and muscles in experimental animals.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

UNCLASSIFIED PROCESSING DATE--16OCT70

1/2 026

TITLE--SOME INDICES OF THE ORGANISM FUNCTIONAL STATE DURING DROWNING AND REANIMATION -U-

AUTHOR-(04)-SUKOLYANSKIY, I.F., GERYA, YU.F., ZAPLATKINA, A.I., YANKOVSKIY, V.D.

COUNTRY OF INFO--USSR

SOURCE--FIZIOLOGICHNIY ZHURNAL, 1970, VOL 16, NR 3, PP 326-329

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DROWNING, RESUSCITATION, BODY TEMPERATURE, BLOOD PRESSURE, CLINICAL DEATH, BLOOD TRANSFUSION, ACIDOSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/1352 STEP NO--UR/0238/70/016/003/0326/0329

CIRC ACCESSION NO--AP0115327

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

2/2 026 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0115327

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CHANGES WERE TRACED OF OXYGEN TENSION IN ARTERIAL BLOOD AND SKELETAL MUSCLE, OF BLOOD PRESSURE, RESPIRATION, BODY TEMPERATURE CONCENTRATION OF THE HYDROGEN IONS IN BLOOD AND OTHER INDICES OF THE ORGANISM FUNCTIONAL STATE DURING THE DROWNING OF DOGS IN SALT WATER AND THEIR FOLLOWING REANIMATION. CLINICAL DEATH, COMING FROM THE LAST MOVEMENT OF THE THORAX, LASTED FROM 9 MIN 36 SEC UP TO 21 MIN. REANIMATION OF THE DROWNED ANIMALS WAS CARRIED OUT BY THE METHOD OF ARTIFICIAL BLOOD CIRCULATION ACCORDING TO S. S. BRYUKHONENKO OR ACCORDING TO A VARIANT OF THIS METHOD, USING A PUMP OF AUTOJECTOR AND A DONOR (LIVING ORGANISM). THE DIFFERENCE IS SHOWN IN THE DYNAMICS OF PO SUB2 CHANGES IN ARTERIAL BLOOD AND SKELETAL MUSCLE. IT DECREASES IN BLOOD QUICKER THAN IN THE MUSCLE WHEN SUBMERGING AN ANIMAL INTO WATER, AT THE SAME TIME DURING REANIMATION, AFTER PROLONGED CLINICAL DEATH, PO SUB2 IN THE SKELETAL MUSCLE REACHES CONSIDERABLE VALUES WITH RECOVERY OF RESPIRATION AND HEART ACTIVITY, IF THE BLOOD FLOW RATE IS HIGHER THAN 100 ML-KG-MIN. DATA ARE OBTAINED EVIDENCING FOR A RELATIVELY QUICK LIQUIDATION OF BLOOD ACIDOSIS, AS WELL AS FOR THERMOGENESIS INTENSIFICATION. AFTER SWITCHING OFF THE EXTRACORPORAL BLOOD CIRCULATION, AS A RULE THE FREE OXYGEN CONCENTRATION IN THE MUSCLE DROPS. IT MIGHT BE A REASON FOR PUTTING THE REANIMATED ANIMALS INTO CONDITIONS OF THE ELEVATED OXYGEN PRESSURE.

FACILITY: DEPARTMENT OF PATHOLOGY OF HYPO AND HYPEROXY, THE A. A. BOGOMOLETZ INSTITUTE OF PHYSIOLOGY, ACADEMY OF SCIENCES, UKRAINIAN SSR.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

1/2 021 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--CHANGES IN OXYGEN TENSION IN HYPODERMIS OF PATIENTS WITH BASEN INDURATIVE ERYTHEMA IN OXYGEN INHALATION -U-

AUTHOR-(03)-VEYNEROV, I.B., SOKOLYANSKIY, I.F., RUDCHENKO, YU.A.

COUNTRY OF INFO--USSR

SOURCE--FIZIOLOGICHNIY ZHURNAL, 1970, VOL 16, NR 3, PP 369-373

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--OXYGEN THERAPY, OXYGEN METABOLISM, RESPIRATORY PHYSIOLOGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/1356 STEP NO--UR/0238/70/016/003/0369/0373

CIRC ACCESSION NO--AP0115329

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

2/2 021 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0115329

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INVESTIGATIONS WERE CONDUCTED ON DETECTING THE PO SUB2 CHANGES IN HEALTHY HYPODERMIS AND IN THE NODES OF THE PATIENTS WITH THE BASEN INDURATIVE ERYTHEMA. IT IS SHOWN THAT WITH THE BEGINNING OF OXYGEN INHALATION PO SUB2 IN THE NODE OF THE BASEN INDURATIVE ERYTHEMA INCREASES INTENSIVELY DURING THE FIRST FIVE MINUTES. DURING THE FOLLOWING FIVE MINUTES THE INCREASE OF PO SUB2 IS COMPARATIVEY SMALL. THE INCREASE OF PO SUB2 IN HYPODERMIS DEPENDS ON THE PECULIARITIES OF THE LOCAL AFFECTION CLINICAL MANIFESTATION. THE HIGHEST (IS SIMILAR TO 450PERCENT WITH RESPECT TO THE INITIAL LEVEL) PO SUB2 WAS IN THE NODES OF THE MIDDLE SIZE REACHING THE DIMENSIONS OF A BIG PLUM. AFTER STOPPING OXYGEN INHALATION THE PO SUB2 INDICES LOWERED UP TO THE INITIAL LEVEL IN THE AFFECTED HYPODERMIS QUICKER THAN IN THE UNAFFECTED ONES. WITH RESOLVE OF THE NODE DURING THE PROCESS OF TREATMENT PO SUB2 DECREASES, APPROACHING THE LEVEL OF THE HEALTHY HYPODERMIS, BUT NOT REACHING IT EVEN WITH ITS COMPLETE RESOLVE DETERMINED VISUALLY AND PALPATORY. THE INVESTIGATION SHOWED, THAT THE DETERMINATION OF PO SUB2 DYNAMICS MAKES IT POSSIBLE TO JUDGE OF THE DISEASE PROCESS AS WELL AS TO CONTROL THE EFFICIENCY OF THE APPLIED THERAPEUTICS. FACILITY: THE A. A. BOGOMOLETZ INSTITUTE OF PHYSIOLOGY, ACADEMY OF SCIENCES, UKRAINIAN SSR, KIEV; INSTITUTE OF TUBERCULOSIS AND THORACIC SURGERY, KIEV.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

USSR

UDC 529.7

SOKOVA, A. A.

"Some Questions of Spectral Analysis of the Output Signal of Frequency Standards"

Tr. VNII Piz.-Tekhn. i Radiotekhn. Izmereniy (Works of the Scientific Research Institute of Physicotechnical and Radiotechnical Measurements), No 3, (33), 1970, pp 245-258 (from Referativnyy Zhurnal, Metrologiya i Izmeritel'naya Tekhnika, No 12, Dec 71, Abstract No 12.32.664)

Translation: The article deals with some metrological questions of spectral analysis of the output signal of frequency standards and an evaluation of its impurities, as well as parameters which make it possible to evaluate the spectral impurities of the output signal and the relation of these parameters to the metrological characteristics of frequency standards. Expressions for the values of dispersion and the power spectrum are presented; it is shown that the influence of distortions introduced by the measuring instrument can be taken into account by introducing the appropriate transmission functions. The concept of frequency instability may be extended to adjacent measurements conducted over brief intervals of time. 5 references.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

USSR UDC 621.375.526.001.088

ORAYEVSKIY, A. N., SOKOVA, A. A.

"Effect of Quantum Fluctuations on the Spectral Purity of the Output Signal of Lasers"

Tr. VNII fiz.-tekhn. i radiotekhn. izmereniy (Works of the All-Union Scientific Research Institute of Physicotechnical and Radio Engineering Measurements), 1970, No. 3(33), pp 200-208 (from Referativnyy Zhurnal, Metrologiya i izmeritel'naya tekhnika, No 11, Nov 71, Abstract No 11.32.63)

Translation: The effect of quantum fluctuations on the spectral purity of the output signal of lasers is discussed, the effect of these fluctuations on the electromagnetic field in the resonator is calculated and the fluctuations arising in the radiation field phase are determined. The calculation shows that the broadening caused by spontaneous radiation in the resonator is different from that in free space. The reason for this difference is associated not only with the fact that the probabilities of spontaneous radiation in the resonator and free space are different, but also with the effect of the correlation between atoms in the resonator and the finite interaction time of atoms with the field. 1 ill., 4 ref.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

1/2 012 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--PREPARATION OF CYCLODODECANONE BY THE LIQUID PHASE OXIDATION OF CYCLODODECANOL -U-

AUTHOR-(05)-SOKOVA, K.M., ANDREYEVA, T.P., ZELENAYA, G.A., KRUGLIKOVA, V.S., SHIRYAYEVA, V.YE.

COUNTRY OF INFO--USSR

SOURCE--NEFTEKHIMIYA 1970, 10(2), 236-41

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CYCLIC GROUP, HYDROXYL RADICAL, OXIDATION, AROMATIC KETONE, ALCOHOL, CHEMICAL SYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/0963 STEP NO--UR/0204/70/010/002/0236/0241

CIRC ACCESSION NO--AP0134681

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

UNCLASSIFIED PROCESSING DATE--04DEC70

2/2 012

CIRC ACCESSION NO--AP0134681

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SELECTIVITY OF THE OXION. OF CYCLODECANOL (I) BY O DEPENDED MAINLY ON THE DEGREE OF CONVERSION OF I AND THE CONCN. OF O IN THE OXION. GAS. AT LESS THAN OR EQUAL TO 10PERCENT CONVERSION OF I, THE SELECTIVITY OF THE REACTION APPRAOCHED 100PERCENT AND AT 45PERCETN, IT WAS 77PERCENT. THE PRODUCTS WERE TREATED WITH H SUB3 BO SUB3, AND THEN WITH BOILING H SUB2 O, AND THE ALCS. SEPD. BY EXTN. WITH ET SUB2 O. FACILITY: INST. NEFTEKHIM. SIN. IM. TOPCHIEVA, MOSCOW, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

1/2 043 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--MONTE CARLO OPTIMIZATION OF THE SHAPE OF SHIELDING -U-

AUTHOR-(02)-SOKOVICH, V.A., GENEROZOV, V.L.

5

COUNTRY OF INFO--USSR

SOURCE--ATOMNAYA ENERGIYA (USSR), VOL. 28, NO. 2, P. 175, FEB. 1970

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--MONTE CARLO METHOD, RADIATION SHIELDING, GAMMA RADIATION, CYLINDRIC SHELL STRUCTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/1728 STEP NO--UR/0089/70/028/002/0175/0175

CIRC ACCESSION NO--AP0133633

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

2/2 043 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0133633

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A CALCULATION IS DESCRIBED WHERE THE OPTIMUM SHAPE OF A SHADOW SHIELD IN AN ASSUMED CYLINDIRCAL GEOMETRY WAS FOUND BY MINIMIZING A FUNCTION DESCRIBED THE ENERGY FLUX OF GAMMA RADIATION, THE TOTAL WEIGHT OF THE SHIELD BEING CONSTANT.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

USSR

UDC: 621.375.82

SOBOLEV, N. N., SOKOVIKOV, V. V., TARANENKS, V. G.

"Kinetic Model of the Formation of a Population Inversion in a Carbon Monoxide Gas-Discharge Laser"

Moscow, Kineticheskaya model' obrazovaniya inversii zaselennostey v gazorazryadnom lazere na okisi ugleroda. Fiz. in-t AN SSSR. Lab. optiki nizkotemperatur. plazmy (cf. English above. Physics Institute of the Soviet Academy of Sciences. Laboratory of Low-Temperature Plasma Optics), Preprint No 34, 1973, 26 pp, ill., mimeo. (from RZh-Fizika, No 8, Aug 73, abstract No 8D1054 [résumé])

Translation: The populations of vibrational levels of CO are numerically calculated in the plasma of a CO-He laser. The system of kinetic equations describing processes of excitation and de-excitation of the vibrational levels of CO in the discharge is solved for different gas temperatures and pressures and different values of the parameter T_1^* characterizing pumping. The probabilities of vibrational transitions were calculated by the Hertzfeld formulas modified to account for anharmonicity of molecules. The resultant population distributions differ appreciably from Boltzmann distri-

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

USSR

SOBOLEV, N. N. et al., Kineticheskaya model' obrazovaniya inversii zaselennostey v gazorazryadnom lazere na okisi ugleroda. Fiz. in-t AN SSSR. Lab. optiki nizkotemperatur. plazmy, Preprint No 34, 1973

butions. The initial sections of the distribution curves are approximately described by the Trenor formula and are weakly dependent on the probabilities of transitions. The further behavior of the curves is determined by the ratios between the rate constants of the processes involved in the system of equations. Plateaus formed on the curves i.e., sections with a high vibrational temperature are a consequence of accounting for anharmonicity of molecules. The theoretical and experimental data agree satisfactorily, confirming the validity of the model on which the computations are based.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

UDC 621.373:530.145.6

USSR

SOBOLEV, N. N., SOKOVIKOV, V. V.

"Oscillatory Relaxation in Molecular Gas Lasers"

Elektron. tekhnika. Nauchno-tekhn. sb. Gazorazryadn. pribory (Electrical Engineering. Scientific and Technical Collection. Gas Discharge Devices), 1970, vyp. 4 (20), pp 3-7 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4D189)

Translation: A theoretical study was made of the oscillatory relaxation of an anharmonic oscillator system. It is demonstrated that the transition probabilities determined by the Hertzfeld method with consideration of corrections for the energy variation ΔE can be used for these calculations. It is established that the conclusion of existence of inverse distribution between levels during the oscillatory relaxation process is correct for CO and a large number of other molecules.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

1/2 015 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--SPECTROPHOTOMETRIC STUDY OF A HAFNIUM MOLYBDENUM HETEROPOLY ACID
-U-

AUTHOR-(03)-SHAKHOVA, Z.F., SEMENOVSKAYA, YE.N., SOKOVIKOVA, N.K.

COUNTRY OF INFO--USSR

SOURCE--ZH. ANAL. KHIM. 1970, 25(3), 485-9

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--HAFNIUM COMPOUND, MOLYBDENUM COMPOUND, SPECTROPHOTOMETRIC ANALYSIS, ABSORPTION SPECTRUM, METAL COMPLEX COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1049 STEP NO--UR/0075/70/025/003/0485/0489

CIRC ACCESSION NO--AP0123042

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

UNCLASSIFIED PROCESSING DATE--13NOV70

2/2 015

CIRC ACCESSION NO--AP0123042

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FORMATION OF HF-MO HETEROPOLY ACID (I) IN SOLN. WAS STUDIED SPECTROPHOTOMETRICALLY. I CAN BE OBTAINED BY THE INTERACTION OF AMMONIUM FLUOROHAFNATE AND AMMONIUM MOLYBDATE AND BY THE INTERACTION OF HF SULFATE AND NA MOLYBDATE. WHEN THE COMPLEX IS FORMED FROM AMMONIUM FLUOROHAFNATE OPTIMUM CONDITIONS EXIST AT A 14 FOLD EXCESS OF AMMONIUM MOLYBDATE AT PH 0.8; 0.4 ML H SUB3 BO SUB3 COMPLEXIZE F IONS. ABSORPTION SPECTRA OF COLORLESS I HAVE NO MAX ABSORBANCE AND DO NOT DIFFER FROM ACID MOLYBDATES. I IS MOST STABLE IN SMALLER THAN OR EQUAL TO 15N H SUB2 SO SUB4 AND LEAST IN LARGER THAN OR EQUAL TO 2N HCLO SUB4. DURING REDN. WITH SNCL SUB2 AND ASCORBIC ACID, BLUE PRODUCTS ARE FORMED WITH MAX. ABSORBANCE AT 800 NM. WHEN THE COMPLEX IS FORMED FROM SULFATE COMPLEXES THE OPTIMUM CONDITIONS ARE PH 1.0-1.5 AND A 200-300 FOLD EXCESS OF MOLYBDATE. ABSORPTION SPECTRA IN THE UV REGION COINCIDE WITH THOSE OF ACID MOLYBDATES WITH MAX. ABSORBANCE AT 245 NM. THESE COMPLEXES ARE REDUCED WITH ASCORBIC ACID, OXALATES AND SNCL SUB2 AS WELL AS BY METALLIC MO; REDUCED I IS WELL EXTD. BY O CONTG. EXTRANTS AND THEIR MIXTS. WITH C SUB6 H SUB6. HF REACTS WITH MO IN THE SATD. COMPLEX IN A 1:12 MOLAR RATIO.

FACILITY: MOSCOW STATE UNIV., MOSCOW, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

1/2 026 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--REDUCTION OF A HAFNIUM MOLYBDENUM HETEROPOLY ACID BY VARIOUS REDUCING AGENTS DURING THE PHOTOMETRIC DETERMINATION OF HAFNIUM -U-

AUTHOR-(04)-SHAKHOVA, Z.F., SEMENOVSKAYA, YE.N., SOKOVIKOVA, N.K., KOVALCHUK, V.A.

COUNTRY OF INFO--USSR

S

SOURCE--ZH. ANAL. KHIM. 1970, 25(3), 490-4

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, CHEMISTRY

TOPIC TAGS--HAFNIUM, MOLYBDENUM, SPECTROPHOTOMETRIC ANALYSIS, METAL CHEMICAL ANALYSIS, CHEMICAL REDUCTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/0479 STEP NO--UR/0075/70/025/003/0490/0494

CIRC ACCESSION NO--AP0126231

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203120003-8

2/2 026 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0126231

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CONDITIONS FOR THE REDN. OF HG-MO HETROPOLYACID (I) BY ASCORBIC ACID, SNCL SUB2 AND STANNOUS OXALATE, A MO(V) SALT SOLN., AND METALLIC MO WERE STUDIED SPECTROPHOTOMETRICALLY. ALL THE REDUCING AGENTS REDUCE I GIVING IDENTICAL REDN. PRODUCTS; THEIR ABSORBANCE MAX. IS AT 720-40 NM. SN (II) OXALATE IS THE BEST REDUCING AGENT. AFTER 2 HR THE REDN. IS COMPLETE. A DIRECT DEPENDANCE EXISTS BETWEEN THE ABSORBANCE AND HF CONCN. IN THE 80 MUG HG-ML RANGE, WHICH CAN BE USED FOR HF DETN. AS ITS REDUCED I COMPLEX. CONDITIONS FOR THE EXTN. OF REDUCED I WERE FOUND. BUOH, ISOAMYL ALC., MECOET, AND THEIR MIXTS. WHICH C SUB6 H SUB6 EXT. I AND ITS SALTS FROM ACIDIFIED AQ. SOLNS; ALCS, EXT. I FROM 0.7N SOLNS., BUT KETONES AND THE MIXTS. NEED MORE ACID SOLNS. A METHOD WAS SUGGESTED FOR THE DETN. OF HG IN PURE SOLNS. BY USING SN OXALATE AS REDUCING AGENT IN AN AQ. AND AN EXTN. METHOD (MOLAR ABSORPTIVITY EQUALS 6.7 TIMES 10 PRIME3 AND 7.7 TIMES 10 PRIME3, RESP.). FACILITY: MOSCOW STATE UNIV., MOSCOW, USSR.

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Environment

USSR

UDC 539.16:551.46

PERTSOV, L. A., PROKHORYCHEVA, N. P., and SOKOVISHIN, V. A., Atlantic Scientific Research Institute of Fisheries and Oceanography

"Biological Significance of Current Levels of Radioactive Pollution of the Sea"

Moscow, Nauchnyye Doklady Vysshey Shkoly, Biologicheskiye Nauki, No 7, 1972, pp 64-68

Abstract: Examination of various organs and tissues of sharks, burbots, tuna, herring, eels, and other fishes showed that these hydrobionts receive considerably smaller irradiation doses from strontium-90, cesium-137, and other artificial radionuclides now polluting the ocean than they do from natural radiation sources normally present in the water. The exposure dose of gamma radiation from artificial radionuclides scattered in the water is approximately one million times less than from natural radiation sources. The average dose of internal irradiation by natural radionuclides deposited in muscle is almost two hundred times higher than the average dose from cesium-137. Approximately the same ratio is found in all the internal organs of the fish. Thus, the current levels of radioactive pollution of the ocean and hydrobionts are not pathogenic.

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USSR UDC 532.517.4:532.526

KORTIKOV, N. N., ZHIVOV, M. Z., and SOKOVISHIN, Yu. A., Leningrad Polytechnic Institute imeni M. I. Kalinin

"A Wall Jet on a Curved Surface"

Minsk, Inzhenerno-Fizicheskiy Zhurnal, Vol 22, No 5, 1972, pp 881-884

Abstract: The paper deals with the propagation of a two-dimensional jet of incompressible fluid on a curved surface, spurting from a thin slit into a space occupied by the same fluid. The calculations are conducted by numerical methods by means of the profile used by N. I. Akatnov for a two-dimensional wall jet in the initial cross section. The calculation results are processed in the form of dimensionless profiles of the velocity and friction stress on the wall. It is shown that restructuring of the boundary layer takes place in the initial cross section. The calculation results are compared with those obtained by the method of perturbations. The low exactness of the method of perturbations is shown. 1 figure. 6 references.

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SOKOVYKH, Yu. A.

JPRS 55729

17 April 1972

REPETITION RATE OF RANGING SIGNALS OF DOLPHINS AS A FUNCTION OF DISTANCE TO TARGET

[Article by V. P. Morozov, A. I. Akopian, V. I. Burdin, K. A. Zaytseva and Yu. A. Sokovykh, Institute of Evolutionary Physiology and Biochemistry imeni I. M. Sechenov, USSR Academy of Sciences, Leningrad; Moscow, Biofizika, Russian, Vol 17, No 1, 1972, submitted 24 September 1970, pp 139-144]

Abstract: This paper gives the results of an experimental study of the patterns of change in the repetition rate of ranging signals of a dolphin in the process of active ranging to a target (fish). It was established that the repetition rate of ranging signals during movement of the animal toward the fish varies within a certain range, at the same time retaining high values $T_0 = 2L/c$, where L is the distance from the dolphin to the target, c is the speed of propagation of sound in the water. The collected data make it possible to assume that the dolphin emits each successive ranging pulse only some time (averaging 20 msec) after the echo from the preceding pulse is received.

The ever-increasing interest in the study of dolphins is attributable to a high degree to their possession of a highly developed echo-ranging apparatus. This enables them even in the absolute darkness and with inoperative vision to detect and discriminate extremely reliably and precisely different types of food and other objects and to differentiate precisely not only the size and shape of objects, but their structure (material) as well /1-8/. It is natural that the biophysical principles of the operation of the echo-ranging apparatus of the dolphin are of great interest in both evolutionary-physiological and bionic respects.

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USSR UDC 612.014-576.3

FUDEL'-OSYPOVA, S. I., RODIONOV, G. O., and SOKUR, A. I., Laboratory of Physiology, Pathological Morphology and Histochemistry, All Union Institute of Hygiene and Toxicology of Pesticides, Polymers, and Plastics, Kiev

"Sodium and Potassium Permeability of Muscle Fiber Membrane in Warm-Blooded Animals"

Kiev, Fiziologicheskiy Zhurnal, No 5, 1972, pp 654-660

Abstract: In acute experiments with rats, DDT (1/2 LD_{50}) altered both the electrolyte composition of the blood and the potassium-sodium ratio in striated muscle. It increased the content of potassium ions in the muscle fibers by 34.9% while reducing the content of sodium ions by 21.3%. Histochemical examination of muscle preparations revealed an increase in in ATP-ase activity. DDT apparently stimulates the transport of potassium and sodium ions in muscle cells. The authors hypothesize the existence of two separate channels to transport them across the membranes.

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USSR UDC 577.1:615.7/9

SOKUR, A. I.

"Hypokalemia Affecting Erythrocytes When White Rats are Intoxicated by Certain Pesticides (DDT, Sevine, Chlorophos)"

V sb. Gigiyena primeneniya, toksikol. pestitsidov i klinika otravl. (Pesticides -- Safety Measures in Using, Toxicology, and the Poison Clinic -- collection of works), vyp. 9, Kiev, 1971, pp 213-216 (from RZh-Biologicheskaya Khimiya, No 9, May 1972, Abstract No 9F2234)

Translation: In a sub-acute experiment, 1/20 LD_{50} of DDT, sevine or chlorophos was administered to rats daily for a period of 1 and 2 months. For the one- and two-month periods, these animals received a dose of the insecticides equal to 625 and 1250, 1050 and 2100, 1000 and 2000 mg/kg respectively. The content of K^+ in the erythrocytes in the poisoned animals was 24-27% lower than in the control animals, but there was no change in the concentration of Na^+. The hematocrit value, which was 44% at the beginning of the experiment, decreased by 10-14% after one and two months. Determination of the K^+ concentration in the erythrocytes and the hematocrit value can be used for determining whether or not people have been intoxicated by insecticides.

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USSR UDC: 547.26'118.07

NIFANT'YEV, E. Ye., BLAGOVESHCHENSKIY, V. S., SOKURENKO, A. N., and SKLYARSKIY, L. S.

"Method for Obtaining Functional-Replacing Dialkyl Phosphates"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No. 33, 1971, p 77

Abstract: In this method, hypophosphorous acid is combined with alcohol, carbon tetrachloride, and a base of the type of triethylamine, under heating at from 100-125° C. The process is done in a medium of an inert organic solvent like dioxane. Patent claimed by the M. V. Lomonosov State University.

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USSR UDC 669.35'5:539.4.014.11:629.1.037

VOL, A. YE., SOLDAKOVA, I. A., CHIZHIKOV, G. I.

"Determination of the Residual Stresses in Brass Propellers"

V sb Metallovedeniye (Physical Metallurgy -- collection of works), Sudostroyeniye Press, No 15, Leningrad, 1971, pp 163-168 (from RZh-Metallurgiya, No 4, Apr 72, Abstract No 4I663)

Translation: Basic results from determining the residual stresses in natural propellers made of LMtsZh55-3-1 brass are discussed. It was established that in the manufacture and repair of propellers, significant residual stresses can result from the application of certain technological operations. The presence of these stresses can lead to breaking of the propeller vanes during operation. The conclusion was drawn to the necessity for complete heat treatment of propellers made of LMtsZh55-3-1 brass even if they are not subjected to welding or surfacing during the production process. Four illustrations and a 2-entry bibliography.

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