"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

UDC 621.396.677

USSR

MARKOV, G. T. and KOVALENKO, A. N.

"Random Excitation of a Metallic Wedge"

Tr. Mosk. in-ta radiotekhn., elektron. i avtomatiki (Works of the Moscow Institute of Radio-Engineering, Electronics and Automation), 1972, vyp.55, pp 108-120 (from RZh-Radiotekhnika, No 11, Nov 72, Abstract No 11 B8)

Translation: Various representations are obtained for the solution of a problem associated with the excitation of an infinite, ideal, conducting wedge by means of the random distribution of electric and magnetic eddy currents: representation in the form of the sum of the geometrooptical and diffraction parts and a representation in the form of a series. An analysis is made as to the possibility of using these representations of the solution for the given problem. Original article: 10 bibliographic entries. V.C.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

USSR

UDC 537.226.33

BURDANINA, N. A., ZOLOTOTRUBOV, YU. S., KAMYSHEVA, L. N., ZHUKOV, O. K., and KOVALENKO, A. N., Voronezh State University imeni Leninskiy Komsomol

"Dielectric Losses in Triglycinesulfate Crystals Subjected to Various Effects"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, Vol 35, No 9, Sep 71, pp 1943-1946

Abstract: The influence of gamma and x-radiation has been studied previously as it concerns the ferroelectric properties of a triglycine sulfate crystal (TGS). Since the parameter most sensitive to radiation is the tangent of the angle of dielectric losses tan δ, it can be expected that even small radiation doses will significantly change both the value of tan δ and the function tan δ (T) for the TGS. In this work the authors study the effect of the amplitude of the measuring field on these same functions. They first study the influence of annealing on the dielectric properties and find that orientation polarization makes a significant contribution to the dielectric permeability of the TGS as a result of heat annealing. The next section is devoted to the influence of the amplitude of the measuring field on samples having different thickness, which is probably determined by the characteristics of the domain structure. Preliminary investigations confirm that the degree of

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

USSR

BURDANINA, N. A., Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, Vol 35, No 9, Sep 71, pp 1943-1946

unipolarity in the samples increases as their thickness decreases. The authors then look at the influence of irradiation on the dielectric properties and find that there is a decrease in the dielectric losses in the TGS crystal irradiated with comparatively small radiation doses. The article contains 4 illustrations and 9 bibliographic entries.

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2

Refractory Materials

UDC 669.01:666.76.001.5

USSR

KHARCHENKO, I. G., SAZHIN, V. A., STARUN, V. R., RADCHENKO, I. I., TANDURA, I. P., and KOVALENKO, A. N.

"Some Problems of Internal Heat Exchange During Roasting of Magnesian Refractories"

Dnepropetrovsk, Metallurgicheskaya i Gornorudnaya Promyshlennost', No 4, Jul-Aug 70, pp 49-51

Abstract: Experimental material on the effect of the heating rate of the heat-and mass-transfer processes on the thermophysical parameters of roasted refractories is summarized. The material, published for the first time in the Soviet literature, can be used as a basis for further studies for determination of effective methods of heat treatment of magnesian refractories.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

1/2 018 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--HEAT TREATMENT OF, SILICON, STEEL 5S52 SPRINGS -U-

AUTHOR-(02)-NIKOLAYEVA, V.V., KOVALENKO, A.S.

COUNTRY OF INFO--USSR

SOURCE--METALLOVEDENIE I TERM. OBRABOT. METALLOV, 1970, (3), 46

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--SILICON STEEL, ALLOY DESIGNATION, SPRING STEEL, METAL HEAT TREATMENT, THERMOMECHANICAL HEAT TREATMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/0916 STEP NO--UR/0129/70/000/003/0046/0046

CIRC ACCESSION NO--AP0133005

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

2/2 018 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0133005

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HEAT TREATMENT INTENDED TO IMPROVE THE GENERAL QUALITY OF SI STEEL 55S2 SPRINGS IS DESCRIBED. QUENCHING FROM THE TEMP. OF THERMOMECHANICAL TREATMENT INCREASED THE LIFE OF THE SPRINGS BY 30PERCENT. SUITABLE TEMPERING TEMP. LAY BETWEEN 480 AND 530DEGREESC, DEPENDING ON THE SIZE OF THE PARTS IN QUESTION, AND THE OPTIMUM HOLDING PERIOD AT THESE TEMP. WAS 28-38 MIN, RESULTING IN A HARDNESS OF SIMILAR TO 400 HB.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

Measuring, Testing, Calibrating

USSR

KOVALENKO, B. I., KUCHEROV, L. M., and PRONIN, B. N.

"Bench for Comprehensive Testing of Underwater Lifting and Lowering Device for Conducting Oceanographic and Ichthyologic Research"

USSR Authors' Certificate No 356502, Cl. G 01m 1/04, filed 10 Nov 70, published 23 Oct 72 (from Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 32, 1972, p 114)

Abstract: The bench contains a mock-up container with clamps, suspended on the arm of a vertical beam, a cargo winch and a loading winch with barrels and pull ropes. In order to make the bench tests approximate marine tests as much as possible, the barrel of the loading winch is supplied with a constant-torque friction clutch with a motor and is made in the form of a truncated cone, and the mock-up container is made with a center opening, through which is passed the pull rope of the cargo winch, which is connected by a quick-release coupling to the pull rope of the loading winch.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

1/2 044 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--THEORY OF THE SYNCHRONIZATION OF MODES IN SOLID STATE LASERS -U-

AUTHOR--KOVALENKO, E.S.

COUNTRY OF INFO--USSR

SOURCE--IZV. VUZ. FIZIKA, VOL. 13, NO. 1, 1970, P. 65-72

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--LASER SYNCHRONIZATION, SOLID STATE LASER, LASER MODULATION, LASER PULSE, MULTIMODE LASER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/0069 STEP NO--UR/0139/70/013/001/0065/0072

CIRC ACCESSION NO--AP0111263

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

2/2 044 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0111263

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ANALYSIS OF THE OPERATION OF SOLID STATE LASERS WITH EXTERNAL MODULATION DURING A STEADY STATE EMISSION. FUNDAMENTAL EQUATIONS FOR A LASER WITH TRAVELING WAVE ARE PRESENTED, ASSUMING THE SPECTRUM OF AXIAL MODES AS EQUIDISTANT. THE BASIC EQUATION IS SOLVED FOR SMALL OR LARGE NONLINEARITIES, AND THE SHAPE, DURATION AND AMPLITUDE OF THE PULSES ARE ESTABLISHED. FACILITY: TOMSKII INSTITUT RADIOELEKTRONIKI I ELEKTRONNOI TEKHNIKI, TOMSK, USSR.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

USSR

UDC: 681.335.5

VOLODCHENKO, G. S., KOVALENKO, G. A.

"Analysis of a Four-Square Precision Multiplier Device"

Pribory i Sistemy Avtomatiki. Resp. Mezhved. Nauchno-Tekhn. Sb. [Automation Devices and Systems. Republic Interdepartmental Scientific-Technical Collection], No 13, 1970, pp 75-81 (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 10, 1970, Abstract No 10B94, by T. D.)

Translation: A four-square precision multiplier device with high accuracy and sensitivity is described; it is made of semiconductor elements and allows the operation of multiplication of two independent signals to be performed. The device is based on the principle of multiplication of the two input voltages, according to which the relative duration of a pulse proportional to one input quantity is multiplied by its amplitude, proportional to the other input quantity. A practical circuit is presented, its operation is analyzed theoretically, and the analytic expression for the output characteristics is also analyzed. The device consists of a triangular current generator and pulse-width and pulse-amplitude modulators. The circuit can be used in the area of regulation of linear systems. Six illustrations; four biblio. refs.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

3

USSR UDC: 539.121.75

GRISHAYEV, I. A., YEFIMOV, V. P., KASILOV V. I., KOVALENKO, G. D., MOROKHOVSKIY, V. L., FISUN, A. N., SHRAMENKO, B. I., Physicotechnical Institute, Academy of Sciences of the Ukrainian SSR, Khar'kov

"Concerning Some Particulars of the Interaction of High-Energy Electrons and Positrons With Crystals"

Kiev, Ukrainskiy Fizicheskiy Zhurnal, Vol 16, No 9, Sep 71, pp 1548-1550

Abstract: The total yield of electron and positron bremsstrahlung is studied as a function of crystal orientation when the primary beam is nearly parallel to the crystal axis. The electron and positron beams were characterized by the following data: the energy at the maximum of the spectra was (1000±5) MeV; the width of the energy spectra in both instances was ~4 %; there was no more than 8% difference between the average currents of the electron and positron beams; the difference in angular divergences of the beams was no more than $5 \cdot 10^{-5}$ radian; the number of charged background particles did not exceed 0.01% of the number of electrons and positrons respectively. The experiment was done on the

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

USSR

GRISHAYEV, I. A. et al., Ukrainskiy Fizicheskiy Zhurnal, Vol 16, No 9, Sep 71, pp 1548-1550

accelerator at the Physicotechnical Institute of the Academy of Sciences of the UkrSSR. The background due to positron converter photons was 30% of the measured total photon yield and varied by 0.5% during the experiment. Silicon crystals 0.64 mm thick cut in plane (110) and niobium crystals 1 mm thick cut in plane (100) served as the specimens. The strongest distinguishing parameter on the curves plotted for bremsstrahlung yields as related to crystal orientation was the width of the minimum in the small-angle region, which was less for positrons than for electrons in both instances. Controlled experiments seem to indicate that this effect can be attributed to the sign of the charge. The authors thank V. M. Kobezskiy, V. I. Myakota, and V. I. Popenko for maintaining stable accelerator operation; V. I. Artemov for assisting with measurement of beam parameters; and Ye. A. Levikov for assisting with preparation of the crystals. One figure, bibliography of five titles.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

1/2 028 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--WIDEBAND PHASE SHIFTERS USING LC CIRCUITS -U-

AUTHOR--KOVALENKO, G.G.

COUNTRY OF INFO--USSR

SOURCE--IZV. VUZ RADIOELEKTRONIKA (USSR), VOL. 13, NO. 1, P. 94-6, JAN. 1970

DATE PUBLISHED--------70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--PHASE SHIFTER, LC OSCILLATOR, FREQUENCY BAND, ELECTRONIC CIRCUIT, TRANSISTORIZED CIRCUIT, VACUUM TUBE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/1728 STEP NO--UR/0452/70/013/001/0094/0096

CIRC ACCESSION NO--AP0136969

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

2/2 028 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0136969

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE MOST IMPORTANT PROPERTY OF A PI-2 PHASE SHIFTER FOR A GIVEN FREQUENCY BAND IS THE EQUALITY OF THE TIME CONSTANTS OF THE INPUT AND OUTPUT CIRCUITS. USING TUBE AND TRANSISTOR CIRCUITS AS MODELS, DESIGN EXPRESSIONS ARE DERIVED ANALYTICALLY FOR THE 90DEGREES PHASE SHIFT IN TERMS OF THE TUBE OR THE TRANSISTOR PARAMETERS AND THE LC VALUES OF THE INPUT AND OUTPUT CIRCUITS.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

1/2 031 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--NEW CIS-DIETHYLENEDIAMINE COMPLEXES OF IRIDIUM,III -U-

AUTHOR-(03)-BARANOVSKIY, I.B., KOVALENKO, G.S., BABAYEVA, A.V.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(4), 954-7

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ETHYLENEDIAMINE, IRIDIUM COMPOUND, COMPLEX COMPOUND, PERCHLORATE, IR SPECTRUM, ELECTRIC CONDUCTIVITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1214 STEP NO--UR/0073/70/015/004/0954/0957

CIRC ACCESSION NO--AP0128632

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

2/2 031 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0129632

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. WHEN NAOH WAS ADDED TO YELLOW SOLN. OF CIS-(IR(EN) SUB2 CL SUB2)CL (I) THE SOLN. DECOLORIZED TO FORM (IR(EN) SUB2 (OH) SUB2)OH (ABSORBANCE MAX. AT 227 NM), WHICH FAILED TO SEP. BUT ON NEUTRALIZATION WITH HCLO SUB4, (CIS-(IR(EN) SUB2 (H SUB2 O) SUB2)(CLO SUB4) SUB3 (MAX. AT 262 NM) PPTD. ACID DISSOCN. CONSTS. OF THE DIAQUO COMPLEX WERE K SUB1 EQUALS 2.3 TIMES 10 PRIME NEGATIVE6 AND K SUB2 EQUALS 1.6 TIMES 10 PRIME NEGATIVE8. CIS-(IR(EN) SUB2 (H SUB2 O) SUB2) PRIME3 POSITIVE REACTED WITH CORESPONDING ACIDS OR THIOUREA (THIO) OR NA SUB2 SO SUB3 TO GIVE CIS-(IR(EN) SUB2 HCO SUB2)BR SUB2, CIS-(IR(EN) SUB2 (THIO) SUB2)(IRCL SUB6), CIS-(IR(EN) SUB2 (NASO SUB3) SUB2)CLO SUB4, AND CIS-(IR(EN) SUB2 (NO SUB2) SUB2)CLO SUB4. REACTION OF I WITH NA SUB2 SO SUB3 GAVE CIS-(IR(EN) SUB2 CLSO SUB3). IR SPECTRA AND ELEC. CONDS. OF THE COMPLEXES ARE GIVEN. FACILITY: INST. OBSHCH. NEORG. KHIM. IM. KURNAKOVA, MOSCOW, USSR.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

USSR

UDC: 519.2

BUSLENKO, N. P., KALASHNIKOV, V. V., KOVALENKO, I. N.

"Lectures on the Theory of Complex Systems"

Moscow, Lektsii po teorii slozhnykh sistem (cf. English above), "Sov. radio", 1973, 439 pp, ill. 2 r. 7 k. (from RZh-Kibernetika, No 5, May 73, abstract No 5V277 K [annotation])

Translation: The book attempts to give a unified viewpoint in presentation of problems of constructing mathematical models, quantitative and qualitative analysis of such models for a class of objects which generalizes the types of complex systems most extensively used in technology and the national economy.

The introductory chapters (1-3) discuss the idea of a complex system, its functional process, and also the functional characteristics and indices utilized in the design and operation of complex systems. Chapters 4-8 and 16 give an idea of present schemes of mathematical description of complex systems and their modeling. The remaining chapters of the book present some methods of quantitative and qualitative analysis of complex systems,

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

USSR

BUSLENKO, N. P. et al., Lektsii po teorii slozhnykh sistem, Moscow, "Sov. radio", 1973

investigate transient and steady-state conditions of operation of various structural types of systems, and also deal with questions of stability and estimates of their characteristics with respect to experimental data. The book is written for scientists, engineers, graduate students and upperclassmen working in the field of systems analysis and development of automated control systems.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

USSR UDC: 519.2

KOVALENKO, I. N.

"A Problem of Optimum Control of the Process of Reconstruction"

Kiev, Upravlyayemyye sluchayn. protsessy i sistemy--sbornik (Controllable Random Processes and Systems--collection of works), 1973, pp 176-187 (from RZh-Kibernetika, No 5, May 73, abstract No 5V99 by V. Prelov)

Translation: Let S be some set of controls s. In selecting a control $s \in S$, a certain process of random duration $\xi(s)$ occurs with positive mathematical expectation limited over the entire set S, and during this time random values $\eta_1(s), \ldots, \eta_m(s)$ of certain numerical characteristics are generated. Upon elapse of time $\xi(s)$ the process is repeated, i. e. some control $s' \in S$ is generated resulting in a process of random duration $\xi(s')$ and generation of characteristics $\eta_1(s'), \ldots, \eta_m(s')$. Assuming that the described process is repeated indefinitely, we get a sequence of controls $s_0, s_1, \ldots, s_n, \ldots$ The basic assumption is that for any n the random vector $(\xi(s_n), \eta(s_n))$ is independent of the set of random vectors $\{(\xi(s_i), \eta(s_i)), 0 \leq i \leq n-1\}$. Control processes are considered for which $\lim_{n \to \infty} t_n = \infty$ with probability 1, where

$$t_n = \sum_{i=0}^{n} \xi(s_i).$$

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

USSR

KOVALENKO, I. N., Upravlyayemyye sluchayn. protsessy i sistemy, 1973, pp 176-187

For some T, $t_{N_T} < T < t_{N_T+1}$, we introduce into consideration the integrated characteristics

$$\eta_j(T) = \sum_{i=0}^{N_T} \eta_j(s_i) + \theta_j \eta_j(s_{N_T}+1), \quad 1 < j < m,$$

where the θ_j are certain constants.

In this paper, the solution of the following problem is considered: to select a strategy $u = (s_0, s_1, \ldots, s_n, \ldots) \in S_0$ in such a way that the vector $(z_1(u), \ldots, z_{m-1}(u))$ is a member of some complex set Φ, and at the same time $z_m(u)$ is the minimum possible. Here S_0 is the set of strategies u for which there exist constants $z_j(u)$ such that for any $\varepsilon > 0$

$$P\left\{\left|\frac{1}{T}\eta_j(T) - z_j(u)\right| < \varepsilon\right\} \to 1 \quad \text{as} \quad T \to \infty.$$

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

USSR UDC 621.391.1:519.152

KOVALENKO, I. N.

"A Queueing System with a Servicing Rate Dependent on the Number of Requests in the System and Periodic Disconnection of Channels"

Moscow, Problemy Peredachi Informatsii, Vol 7, No 2, 1971, pp 106-111.

Abstract: A queueing system with losses is studied, in which groups of channels are periodically disconnected. Interrupted servicing of requests is completed after reconnection of the channel. The servicing rate of requests depends on the number of requests in the system. The intensities of losses resulting from overloading of the system and from concealed failures of the information transmission system are calculated.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

USSR

UDC: 632.95

SHCHEGLOV, Yu. V., KULIKOV, G. P., KOGAN, V. Sh., PROKOF'YEV, A. N., KOVALENKO, I. S.

"Dialkyl Phosphites -- Synergists of 2,4-Dichlorophenoxyacetic Acid Esters"

Tr. Ul'yanovsk. s.-kh. opytn. st. (Works of the Ul'yanovsk Experimental Agriculture Station), 1971, 5, pp 121-133 (from RZh-Khimiya, No 7, Apr 72, Abstract No 7H642)

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

USSR

KULIKOV, G. P., KOGAN, V. Sh., PROKOF'YEV, A. N., KOVALENKO, I. S.

"Effectiveness of Autumn-Spring Application of Mixture of 2,4-D Butylester and Dibutylphosphite in Control of Perennial Shoot Weeds"

Tr. Ul'yanovsk. S.-kh. Opytn. St. [Works of Ul'yanov Agricultural Experimental Station], No 5, 1971, pp 108-113 (Translated from Referativnyy Zhurnal, Khimiya, No 3, 1972, Abstract No 3 N664 by T. A. Belyayeva).

Translation: A combination of autumn (post-harvest) treatment with 2,4-D butylester and spraying during the phase of tillering successfully suppresses both shoot and annual weeds. Addition of 5% dibutylphosphite increases the effectiveness of the herbiside, allowing the rate of expenditure to be halved.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

USSR UDC 577.4

KOVALENKO, I. YA., ONIKIYENKO, V. V., TRUSHINA, L. I.

"Some Models and Methods of Forecasting Population and Man Power in the Labor and Personnel Subsystem"

V sb. Razrabotka avtomatizir. sistemy plan. raschetov v soyuz. resp. (Development of Automated Planning Calculation Systems in the Union Republics -- collection of works), Kiev, 1971, pp 125-137 (from RZh-Kibernetika, No 7, Jul 72, Abstract No 7V466)

No abstract

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

USSR

UDC 546.841.4 + 547.567.41

KOVALENKO, K. N., and KAZACHENKO, D. V., Rostov State University

"Thorium Dihydroxydimandelate"

Moscow, Zhurnal Neorganicheskoy Khimii, Vol 15, No 6, Jun 70, pp 1523-1526

Abstract: This study is a continuation of the work on thorium carboxylates; the results of physico-chemical and preparative investigations on the reaction of thorium nitrate with sodium mandelate in aqueous solution are reported. A series of solutions was prepared with constant concentration of thorium nitrate and varying molar ratio of thorium to sodium mandelate. The solutions were kept at 90°C in a thermostat for 24 hrs; in all cases precipitates were formed, which were separated from liquids. In the liquid phase, determinations were carried out on pH, thorium concentration, and electroconductivity. The curves of pH and electroconductivity are analogous to those obtained for the thorium nitrate-sodium salicylate system. From the examination of the thorium concentration it was shown that an exchange reaction took

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

USSR

KOVALENKO, K. N., et al, Zhurnal Neorganicheskoy Khimii, Vol 15, No 6, Jun 70, pp 1523-1526

place with the formation of basic thorium dimandelate. A compound $Th(OH)_2(C_6H_5CHOH \cdot COO)_2$ was isolated and was found to be soluble in methanol, ethanol, acetone, and dioxane. Its dipole moment was determined to be 2.8 D. Infrared spectra were taken in the range of 1000-1750 cm^{-1} (NaCl prism) and 2400-3500 cm^{-1} (LiF prism). Both the carbonyl and hydroxyl bands were absent in the product. The thermographic analysis showed that the compound begins to decompose at 205°C, with a maximum at 300°C. The density of thorium dihydroxydimandelate powder was found to be 2.12 g/cm^3 at 25°C.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

Molecular Physics

USSR

UDC: 539.219.3:669.01

ARKHAROV, V. I., Academician of the Academy of Sciences of the UkrSSR, BABOSYUK, A. L., BALAKAYEVA, N. O., BOGOSLOVS'KYY, V. M., [redacted] L. D., STAFEYEVA, N. M., Donetsk Physicotechnical Institute, AS UkrSSR

"Investigation of the Kinetics of Growth of Layers in Two-Phase Scales"

Kiev, Dopovidi Akademii Nauk Ukrains'koi URSR, Seriya A: Fizyko--Tekhnichni ta Matematychni Nauki, No 4, Apr 71, pp 341-344

Abstract: The authors investigate the kinetics of growth of layers of scale formed when Armco iron is oxidized at a temperature of 540°C and when cobalt is oxidized at 650°C. It is shown on the basis of experimental data that a layer of Fe_3O_4 forms when iron is oxidized in air, while the Fe_2O_3 layer on iron remains practically unchanged after a certain thickness is reached. In the case of cobalt, an increase is observed in the thickness of the Co_3O_4 layer, while the thickness of the CoO phase remains constant. These results are attributed to the imperfection of the oxides from which the scale is formed and to the collective participation of atoms in matter transfer.

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USSR K

KOVALENKO, L.I., ROZEN, A. A.

"Production of Thin Tungsten Foils for Nuclear Studies"

Moscow, Pribory i Tekhnika Eksperimenta, p 260

Abstract: A method is described for producing thin (1-5 μ) foils of W by thermal decomposition of WCl_6 on a molybdenum substrate in a vacuum. The method was developed for the production of foils of metal isotopes.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

1/2 011 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--PREPARATION AND ATTEMPTED SEPARATION OF EXO AND ENDO,1,3,DIMETHYLBICYCLO,2.2.1,HEPTANES -U-

AUTHOR-(04)-KOVALENKO, L.I., FURMAN, D.B., BELIKOVA, N.A., LIBERMAN, A.L.

COUNTRY OF INFO--USSR

SOURCE--NEFTEKHIMIYA 1970, 10(2), 161-4

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CYCLOALKANE HYDROCARBON, HEPTANE, KETONE, ALKYL RADICAL, ISOMER, THIOUREA, CHEMICAL SEPARATION, MOLECULAR STRUCTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/0906 STEP NO--UR/0204/70/010/002/0151/0164

CIRC ACCESSION NO--AP0134635

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

2/2 011 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0134635

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE COMPDS. WERE SYNTHESIZED FROM THE CORRESPONDING HEPTANONES BY TREATMENT WITH N SUB2 H SUB4 ,H SUB2 O, DIETHYLENE GLYCOL, KOH, REFLUXING THE MIXT., AND DISTG. THE HYDROCARBON AND H SUB2 O FORMED. A MIXT. OF EXO AND ENDO,2,METHYLBICYCLO(2.2.1) HEPTANE WAS METHYLENLATED. TO DECIDE WHETHER THE HIGHER OR LOWER BOILING COMPD. WAS EXO. THE LOW BOILING COMPDS. OBTAINED HAD THE EXO CONFIGURATION. THE STEREO ISOMERS WERE SEPD. BY FRONTAL METHOD WITH THIOUREA. FACILITY: KHIM. FAK., MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

1/2 009 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--PREPARATION OF VANADIUM ISOTOPE FOILS -U-

AUTHOR-(03)-KOVALENKO, L.I., ROZEN, A.A., RESHETOVA, L.N.

COUNTRY OF INFO--USSR

SOURCE--PRIB. TEKH. EKSP. 1970, 1, 239

DATE PUBLISHED--------70

SUBJECT AREAS--NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--METAL FOIL, VANADIUM ISOTOPE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/1885 STEP NO--UR/0120/70/000/001/0239/0239

CIRC ACCESSION NO--AP0108215

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

2/2 009 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0108215

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A METHOD IS DESCRIBED FOR PREPG. FOILS 1-3 MU THICK FROM SMALL AMTS. OF V SUB2 O $UB5. V SUB2 OF SUB5 WAS REDUCED BY THE CALCITHERMAL METHOD (G. A. MEERSON AND A. N. ZELIKMAN, 1955) WITH SUBSEQUENT IODIZING OF THE METAL TO VI SUB2. VAPORS OF VI SUB2 WERE DISINTEGRATED ON A BE SUBSTRATE HEATED TO SIMILAR TO 1250DEGREESK IN A 2.5 TIMES 10 PRIME NEGATIVE 5 TORR VACUUM TO FORM THE V FOILS. THE FOILS CONTAIN LESS GASEOUS IMPURITIES THAN THE V POWDER. FACILITY: FIZ.-TEKH. INST., KHARKOV, USSR.

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USSR UDC 5[illegible].124/[illegible]

MANAKOV, M. N., MAKAROV, M. G., KOVALENKO, L. V., YASHTUKOVA, Z. I., and SHVETS, N. A., Moscow Chemical-Technological Institute Imeni D. I. Mendeleyev

"Kinetics of the Reaction of Aromatic Aldehydes With Dialkylphosphinic Acids (Utilization of the Experiment Planning Method)"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 46, No. 3, Mar 72, p 804

Abstract: Reaction of dioctylphosphinic acid with benzaldehyde in presence of sodium ethoxide has the following kinetics:

$$W = A_0 \exp(-E/RT)\, c_k^{\alpha}\, c_d^{\beta}\, c_b^{\gamma}$$

where c_k^{α}, c_d^{β}, c_b^{γ} are the concentrations of the catalyst, the dioctylphosphinic acid and benzaldehyde respectively. The orthogonal [illegible] was used in [illegible]ing the kinetics of this reaction; the following results were obtained: $\ln A_0$ = 5.520 ± 0.[illegible]; α = 0.9[illegible] ± 0.0[illegible]; β = 0.8[illegible] ± 0.[illegible]; γ = [illegible] ± 0.[illegible]; and E = 9.66 ± 0.11 Kcal/mole.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

USSR UDC: 547.241'233.3.07

STREPIKHEYEV, Yu. A., SMIRNOVA, T. V., KOVALENKO, L. V., Moscow "Order of Lenin" Institute of Chemical Technology imeni D. I. Mendeleyev

"A Method of Producing Dialkylaminomethyldialkylphosphine Oxides"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obrazetsy, Tovarnyye Znaki, No 26, 1970, Soviet Patent No 275665, Class 12, Filed 6 Mar 69, p 23

Abstract: This Author's Certificate introduces: 1. A method of producing dialkylaminomethyldialkylphosphine oxides distinguished by the fact that dialkylphosphine oxide is interacted with tetraalkylmethylenediamine or α-dialkylamine substituted ether in the presence of heat with subsequent isolation of the goal product by conventional methods. 2. A modification of this method in which the process is carried out at 120-150°C. 3. A modification of method No 1 in which the process is carried out in an inert organic solvent.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

USSR UDC 669.183.2/.4.001.8

ROMENETS, V. A., YUZOV, O. V., KOVALENKO, I. V.

"Prospects for Improving Open-Hearth Steel Production"

Dnepropetrovsk, Metallurgicheskaya i gornorudnaya promyshlennost', No 2 (74), 1972, pp 9-12

Abstract: A study was made of the actual efficiency of open-hearth furnaces at the largest shops in the Soviet Union over the period of years from 1963 to 1970. The presented production indexes for the shops show that their steel output increased by 43.5 percent during this time. The reasons for this increase in production were analyzed. The analysis shows that under the existing operating conditions of open-hearth shops, the operation of the furnaces with oxygen scavenging is economically inefficient since it does not permit the required increase in output capacity of the furnaces. Mass withdrawal from operation of the furnaces with scavenging is impossible in practice since this would lead to a reduction in the steel production of the existing furnaces. However, open-hearth steel production can be improved by using the scrap-oxygen process in the open-hearth furnaces or by replacing the furnaces by continuous-action steelmaking units. The advantages of the new systems are discussed.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

Acc. Nr: AP0047314 Ref. Code: UR 0300

PRIMARY SOURCE: Ukrayns'kiy Biokhimichniy Zhurnal, 1970, Vol 42, Nr 1, pp 24-27

ON POSSIBILITY OF EXISTENCE IN ANIMAL TISSUES OF DIFFERENT CONFORMATION FORMS OF t-RNA DIFFERING BY ABILITY TO ACCEPT AMINO ACIDS

G. Kh. Matsuka, T. P. Baby, E. B. Skvirskaya, M. I. Kovalenko, V. I. Semenikhin

Institute of Biochemistry, Academy of Sciences, Ukrainian SSR, Kiev

Summary

The transfer RNA of the liver of fastened rabbits loose partially the ability to accept such amino acids as tyrosine, leucine, methionine and glycine. A momentary heating of t-RNA in the presence of magnesium ions favours to a considerable extent the reduction of the lost ability of t-RNA to accept the mentioned amino acids. The analogous results are obtained when studying t-RNA of the rat liver in the experiments with menthionine. It is possible to suppose that tyrosine, methionine, leucine and glycine t-RNA and, probably, other, during the fasting of animals, are available in the liver in a changed conformation form, to which a low biological activity is peculiar.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

1/2 028 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--FUNCTIONAL AND STRUCTURAL PECULIARITIES OF TRANSPORT RNA IN BIOSYNTHESIS OF PROTEIN WITH SOME PHYSIOLOGICAL STATES OF ANIMALS -U-

AUTHOR-(05)-MATSUKA, H.KH., BABIY, T.P., SKVIRSKA, YE.B., KOVALENKO, H.Y., ELSKA, A.V.

COUNTRY OF INFO--USSR

SOURCE--UKRAYNS'KIY BIOKHIMICHNIY ZHURNAL, 1970, VOL 42, NR 2, PP 217-226

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--RNA, PROTEIN SYNTHESIS, PHENYLALANINE, GLAND, HIBERNATION, LIVER, RABBIT, RAT, AMINO ACID, MANGANESE, CALCIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/1529 STEP NO--UR/0300/70/042/002/0217/0226

CIRC ACCESSION NO--AP0106293

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

2/2 028 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0106283

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TRANSPORT RNA MANIFEST FUNCTIONAL AND STRUCTURAL PECULIARITIES AT THE CORRESPONDING PHYSIOLOGICAL STATES OF AN ORGANISM WHEN CONSIDERABLE QUALITATIVE AND QUANTITATIVE CHANGES OCCUR IN PROTEIN BIOSYNTHESIS. THESE PECULIARITIES ARE MANIFESTED IN THE FOLLOWING. THE AMOUNT OF ISOACCEPTOR LEUCIN T-RNA CHANGES IN THE MAMMARY GLAND. ONE FRACTION OF LEUCIN T-RNA REMAINS ISTEAD OF TWO WITH TRANSITION FROM THE LACTATE STATE INTO THE INVOLUTION. BESIDES, THE QUANTITATIVE RATIOS OF SUCH RNA AS GLUTAMINIC AND PHENYL ALANINE IS CHANGED IN THE LACTIC GLAND WITH THE BEGINNING OF THE SYNTHESIS OF MILK PROTEINS. GOPHERS, BEING AT THE STATE OF HIBERNATION, THE AMOUND OF GLYZINE ISOACCEPTOR T-RNA OF LIVER DECREASES FROM THREE UP TO TWO IN COMPARISON WITH THE ANIMALS AT THE STATE OF VIGIL. IN RABBITS UNDER CONDITIONS OF STARVATION SUCH T-RNA AS PHENYL ALANINE, GLYCINE, METHIONINE, LYSINE, LEUCINE AND TYROSINE IS CONSIDERABLY LOWER THE ABILITY TO ACCEPTATE AMINO ACIDS. THE SAME IS SHOWN IN EXPERIMENTS WITH METHIONINE T-RNA OF RAT LIVER. THE RESULTS OBTAINED TESTIFYING IN FAVOUR OF THE FACT THAT DECREASE OF ACCEPTOR ACTIVITY OF T-RNA WITH STARVATION IS A RESULT OF POSSIBLE CONFORMATION CHANGES IN MOLECULE OF T-RNA. IT IS ESTABLISHED THAT THE LOST ACCEPTOR ABILITY OF T-RNA OF FASTENED RABBITS AND RATS IS ALMOST COMPLETELY RESTORED AFTER HEATING OF T-RNA IN THE PRESENCE OF MAGNESIUM IONS. BESIDES, TYROSINE T-RNA OF RABBIT LIVER RESTORES ITS ACCEPTOR PROPERTIES WITH HEATING OF T-RNA IN THE PRESENCE OF MANGANESE AND CALCIUM IONS.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

USSR UDC 577.155.3

KOVALENKO, N. A., KOZLOV, YE. A., GERASIMOVA, A. V., and MARDASHEV, S. R., Chair of Biochemistry, First Moscow Medical Institute imeni I. M. Sechenov, and Institute of Biological and Medical Chemistry, Academy of Medical Sciences USSR, Moscow

"Kinetic Characteristics of Clostridium Welchii SR-12 Glutaminase and the Effects of Some Ions of Its Activity"

Moscow, Biokhimiya, Vol 36, No 6, Nov/Dec 71, pp 1198-1203

Abstract: In the absence of ions, Cl. welchii SR-12 glutaminase exhibits a very low activity. Chlorides and other monovalent anions activate the enzyme and shift its optimum pH to lower values. A plot of reaction rate against substrate concentration yields an S-shped curve in the absence of monovalent anions and the Michaelis-Menten curve in their presence. The sigmoid shape of the above curve may be more or less pronounced, depending on Ph. The energy of activation is 16,960 cal/mole in the absence and 12,950 cal/mole in the presence of chlorides. In low concentrations, acetate, citrate, succinate, and other components of the tricarboxylic acid cycle activate the anzyme, but inhibit it when their concentration exceeds 10 mmoles/liter.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

1/2 015 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--USE OF CONVERSION GAS FOR REMOVAL OF METHANE HOMOLOGS FROM NATURAL GAS BY HYDROGENATION -U-

AUTHOR-(05)-BERSHTEYN, A.YA., KHRULEV, V.L., MESHENKO, N.T., KOVALENKO, N.A., VESELOV, V.V.

COUNTRY OF INFO--USSR

SOURCE--NEFT. GAZOV. PROM. 1970, (1), 45-6

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS, CHEMISTRY

TOPIC TAGS--METHANE, NATURAL GAS, HYDROGENATION, CARBON MONOXIDE, METAL CATALYST, NICKEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/1967 STEP NO--UR/0513/70/000/001/0045/0046

CIRC ACCESSION NO--AP0133811

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

2/2 015 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0133811

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A GAS MIXT. CONTG. 74.6PERCENT H AND 20PERCENT CO, OBTAINED BY CATALYTIC CONVERSION OF NATURAL GAS AT 900DEGREES, WAS USED FOR THE DESTRUCTIVE HYDROGENATION OF CH SUB4 HOMOLOGS IN NATURAL GAS. A MIXT. OF 1 PART OF THE GAS MIXT. AND 3.5-5.6 PARTS NATURAL GAS WAS PASSED OVER A REDUCED NI CATALYST AT 300DEGREES.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

Microbiology

UDC 577.155.2

USSR

KOVALENKO, N. A., KOZLOV, Yo. A., and GERASIMOVA, A. V., Institute of Biological and Medical Chemistry, Academy of Medical Sciences USSR, Moscow, and Chair of Biochemistry, 1st Moscow Medical Institute imeni I. M. Sechenov

"Changes in the Glutaminase Activity of Clostridium welchii SR-12 Under the Influence of Some Glutamine Analogs and Some Substances Reacting with Sulfhydryl Groups"

Moscow, Biokhimiya, Vol 35, No 4, Jul/Aug 70, pp 670-674

Abstract: Unlike other bacterial glutaminases, that of Cl. welchii has a high specificity with respect to the substrate. The effect of 2, analogs of the substrate (i.e., of L-glutamine) on the glutaminase activity of Cl. welchii SR-12 was studied. A strong inhibiting effect was produced only by the beta-benzyl ester of N-carbobenzoxy-D,L-aspartic acid, while L-glutamine, L-asparagine, L-aspartic acid, N^{α}-carbobenzoxy-D,L-asparagine, the gamma-methyl ester of N-carbobenzoxy-L-glutamic acid, p-nitrobenzoyl-L-glutamic acid, α-benzoyl-L-asparagine, and p-toluenosulfonyl-L-glutamic acid had a weak inhibiting effect. The effect of substances reacting with the SH group, i.e., of mercuric acetate (I), p-chloromercuribenzoate (II), and monoiodoacetic acid (III), on the glutaminase activity of Cl. welchii was also studied. I and II inhibited the activity of the

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

USSR

KOVALENKO, N. A., et al, Biokhimiya, Vol 35, No 4, Jul/Aug 70, pp 670-674

glutaminase almost completely, while III exerted no effect. L-Glutamic acid, the substance formed from L-glutamine by glutaminase, had only a weak inhibiting effect on the activity of the glutaminase, while glutaminases of E. coli, Saccharomyces ceravisiae, and Pseudomonas GGLB are strongly inhibited by this amino acid.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

1/2 011 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--MECHANISM OF ACTION AND THE EFFECTIVENESS OF INTRAVENOUS ADMINISTRATION OF TUBAZID, STREPTOMYCIN AND PARA AMINOSALICYLIC ACID IN

AUTHOR-(03)-PILIPCHUK, N.S., IVANYUTA, O.M., KOVALENKO, N.N.

COUNTRY OF INFO--USSR

SOURCE--PROBL TUBERK 48(1): 26-30. 1970

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--TUBERCULOSIS, ISONIAZID, AMINOSALICYLIC ACID, STREPTOMYCIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/0437 STEP NO--UR/0000/70/048/001/0026/0030

CIRC ACCESSION NO--AP0134205

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

2/2 011 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0134205

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFICACY OF I.V. INJECTION OF TUBAZID (ISONIAZID) STREPTOMYCIN AND PARA AMINOSALICYLIC ACID (PAS) IN TREATING PATIENTS WITH DEGENERATIVE FORMS OF PULMONARY TUBERCULOSIS AND ALSO THE CONCENTRATION OF THESE 3 BASIC TUBERCULOSTATIC AGENTS WITH THE I.V. AND USUAL ROUTES OF ADMINISTRATION WERE STUDIED. THE FORMER METHOD WAS EMPOLYED IN HANDLING 194 PATIENTS, 96 OF WHOM HAD FRESHLY IDENTIFIED DISEASE AND 98 OTHERS SUFFERED FROM A LONG STANDING DISEASE TREATED UNSUCCESSFULLY BY THE ROUTINE METHOD OF ANTIBACTERIAL THERAPY. IN PATIENTS WITH FRESHLY RECOGNIZED DISEASE THE TREATMENT RESULTED IN CLOSURE OF CATIVITES WITH CASEOUS DEGENERATION (86PERCENT) AND IN NEGATIVE BECILLOSCOPY (98PERCENT). CLOSURE OF CAVERNS WAS ACHIEVED IN 25PERCENT AND NEGATIVE BACILLOSCOPY IN 60PERCENT OF CASES WHO HAD BEEN UNSUCCESSFULLY TREATED BY THE ROUTINE METHOD FOR OVER 6 MO. CONCENTRATION OF TUBAZID, PAS AND STREPTOMYCIN IN THE BLOOD, INTACT AND AFFECTED AREAS OF A RESECTED LUNG, FOLLOWING I.V. INJECTION OF THESE DRUGS, IS 2-16 TIMES AS HIGH AS WITH THEIR ORDINARY ADMINISTRATION.

FACILITY: DEP. TUBERC., KIEV MED. INST., KIEV, USSR.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

USSR

UDC 517.948.32:513.88

KAKICHEV, V. A., and KOVALENKO, N. V., Rostov State University

"On the Theory of 2-Dimensional Integral Equations with Particular Integrals"

Kiev, Ukrainskiy Matematicheskiy Zhurnal, Vol 25, No 3, 1973, pp 302 - 312

Abstract: In the quantum theory of fields there are integral operators with Δ functions in the roots of the first and second terms. Typical physical situations leading to such operators are described by K. O. Friedrichs in "Perturbations of the Spectrum of Operators in Hilbert Space", Mir Press, Moscow, 1969. Integral equations of a related type are also encountered in the design of dams by the arc and cantilever method. There have been several previous investigations of equations of this type, referred to in the bibliography.

This article is concerned with an equation

$$T_{\lambda,\mu} \equiv \varphi - \lambda K_1 \varphi - \mu K_2 \varphi \equiv \varphi(x,y) - \lambda \int_a^b k_1(x,\xi)\varphi(\xi,y)\,d\xi - \mu \int_c^d k_2(y,\eta)\varphi(x,\eta) = f(x,y)$$

where λ and μ are numerical parameters; k_1, k_2, and f are given values; φ is the desired function of points in a region $D = \{(x,y): a \le x \le b,\ c \le y \le d\} \subset E_2$.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

Ukrainian SSR

KAKICHEV, V. A., et al., Kiev, Ukrainskiy Matematicheskiy Zhurnal, Vol 25, No 3, pp 302 - 312

The equation is studied for all possible values of λ and μ, assuming that all the given functions belong to C or L_2 and that the roots k_1 and k_2 are the sums of subfunctions, linearly independent over the corresponding interval.

The structure of the general solution of the homogeneous equation is described. Necessary and sufficient conditions of solvability for the nonhomogeneous equation are given, and its Houseford normal solvability is demonstrated.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

USSR UDC 621.317.6(088.8)

KOVALENKO, N. V., ROSLYAKOV, M. M., SIZOV, V. P., TARASENKO, O. M., KONEV, L. N.

"Device for Measuring the Phase Characteristics of Antennas"

USSR Author's Certificate No 272401, Filed 12 Dec 68, Published 22 Sep 70 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4A314P)

Translation: A device is proposed for measuring the phase characteristics of antennas. It is based on using the modulation of the reflected field and comprises a generator, a receiver, a low frequency reference signal amplifier, two transmitting antennas, the investigated receiving antenna and an auxiliary receiving antenna. In order to improve the measurement accuracy, Π-modulators are included in the wave guide channels of the investigated and auxiliary antennas, and a mixer is connected to the timer outputs.

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USSR UDC: 621.317.32[illegible]

KOVALENKO, N. V., ROSLYAKOV, N. M., SIZOV, V. P., TARASENKO, G. [illegible], KONEV, L. N.

"A Device for Measuring the Phase Characteristics of Antennas"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 19, 1970, Author's Certificate No 272401, filed 12 Dec 68, p 50

Abstract: This author's certificate introduces a device for measuring the phase characteristics of antennas. The device is based on using the modulation of a reflected field, and consists of an oscillator, a receiver, an amplifier for the low frequency of the reference signal, two transmitting antennas, the receiving antenna to be studied, and an auxiliary receiving antenna. As a distinguishing feature of the patent, measurement precision is improved by connecting π-modulators in the waveguide channels of the antenna to be studied and the auxiliary antenna, and a mixer is connected to the timer outputs.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

Analysis and Testing

USSR UDC 543.7:669.046.52

ZHALYBINA, V. D., YAKOVLEV, P. YA., and KOVALENKO, O. A.

Khimicheskiy analiz metallurgicheskikh flyusov (Chemical Analysis of Metallurgical Fluxing Agents), Moscow, "Metallurgiya," 1973, 176 pp

Translation of Annotation: Practical suggestions are made as to methods for the chemical analysis of the major components and impurities in fluxes used in electric steel smelting and welding. These suggestions are very precise and in practice can be applied to the chemical and physical-chemical methods of determining 26 elements in fluxes; some of these methods were developed, improved, and made more precise by the authors.

This book is designed as a guide for personnel in chemical laboratories of factories, and scientific-technical and educational institutes for the metallurgical and related branches of industry. 8 illustrations, 6 tables, 43 references.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

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ZHALYBINA, V. D., et al., "Metallurgiya," 1973, 176 pp

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

USSR

ZHALYBINA, V. D., et al., "Metallurgiya," 1973, 176 pp

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

USSR

KOVALENKO, O. F.

"Variational Principles of the Mechanics for a Systems With One-Sided Bonds"

V sb. Issled. po stroit. konstruktsiyam (Studies on Structures -- Collection of Works), Tomsk, Tomsk University, 1972, pp 132-143 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3V9)

Translation: Conditions for the steady-state energy functionals are discussed for elastic systems with one-sided bonds. The boundary conditions in this case are described in the form of spaces. The Lagrange and Castillano conditions are formulated for systems with one-sided bonds with the aid of the notion of the edge extremum. 11 ref. Ye. M. Morozov.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

USSR

UDC 663.13.576.858.8

MOSKOVETS', S. M., KOVALENKO, O. G., and BOBYR, A. D., Institute of Microbiology and Virology, Academy of Sciences Ukrainian SSR

"Some Physical and Physico-Chemical Properties of Antiviral Products of Yeast Metabolism"

Kiev, Doklady Akademii Nauk Ukrainskoy SSR, No 2, Jan 71, pp 172-174

Abstract: Physical and physico-chemical properties of antiviral substances in the yeast extract and culture fluid of Candida tropicalis 3E and Candida arborea KAM-1 were studied by subjecting them to the action of various factors, followed by testing their inhibitory activity against potato X-virus and tobacco mosaic virus. Biological activity of the viruses was determined by infecting indicator plants Datura stramonium L. and Gomphrena globosa L. It was determined that the substances studied are thermally stable (they are not deactivated by heating to 100°C for 10-15 min), do not penetrate through a cellophane membrane in the process of dialysis, and are not precipitated during ultracentrifugation in the range 100,000 -- 200,00 for 204 hrs. In ethanol these substances precipitate partially out of dilute solutions. Attempts to isolate inhibitors from the biological mixture by means of paper chromatography in the system n-butanol:acetic acid:water

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

USSR

MOSKOVETS', S. M., et al., Dokaldy Akademii Nauk Ukrainskoy SSR, No 2, Jan 71, pp 172-174

(4:1:5) and in 80% aqueous ethanol showed that the most active antiviral fraction was found at the origin of the chromatographic strip or close to it.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

USSR

UDC 621.385.51:535.215.6

KOVALENKO, P.A., PANASYUK, L.M.

"Transverse Photoelectromotive Force At The Heterojunctions Si-A^2B^4"

Tr. po fiz. poluprovodnikov. Kishinëv Un-t (Works On Semiconductor Physics. Kishinëv University), 1971, Issue 3, pp 145-154 (from RZh:Elektronika i yeye primeneniye, No 6, June 1972, Abstract No 6B292)

Translation: An analysis is made of the dependence of the emf of open-circuit conditions and short circuit current on illumination, for heterojunctions formed by monocrystalline silicon and layers of compounds of tellurides of cadmium and zinc and sulfides and selenides of cadmium. The experimental results are compared with photoeffect theory of Kiting development for the case of a semiconductor--photoconductor. 4 ill. 2 tab. 8 ref. Author's abstract.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

1/2 023 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--USE OF SOLID ELECTRODES DURING THE POTENTIOMETRIC TITRATION OF CHLORIDES BY A MERCURIMETRIC METHOD -U-

AUTHOR-(03)-KIMSTACH, V.A., KOVALENKO, P.N., IVANOVA, Z.I.

COUNTRY OF INFO--USSR

SOURCE--ZH. ANAL. KHIM. 1970, 25(3), 588-90

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHLORIDE, METAL ELECTRODE, TANTALUM, TIN, LEAD, SILVER, TUNGSTEN, MOLYBDENUM, NICKEL, POTENTIOMETRIC TITRATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/0469 STEP NO--UR/0075/70/025/003/0588/0590

CIRC ACCESSION NO--AP0126221

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

2/2 023 UNCLASSIFIED

CIRC ACCESSION NO--AP0126221 PROCESSING DATE--20NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE USE OF AG, W, MO, CU, C, CD, NI, FE, PB, TA, AND SN ELECTRODES DURING THE POTENTIOMETRIC TITRN. OF CHLORIDES WITH HG(NO SUB3) SUB2 WAS STUDIED. THE W ELECTRODES GIVE THE LARGEST POTENTIAL JUMP AT THE EQUIVALENCE POINT. TITRN. IS ALSO POSSIBLE WITH AG, TA, AND C ELECTRODES. BIMETALLIC ELECTRODE PAIRS SUCH AS W-C, AG-TA, AG-C, C-TA, W-TA CAN ALSO BE USED FOR TITRN. THE MOST SUITABLE IS THE W-C PAIR. FACILITY: ROSTOV-ON-DON STATE UNIV., ROSTOV-ON-DON, USSR.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

1/2 013 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--OSCILLOPOLAROGRAPHIC DETERMINATION OF THE PRECIPITATION PH AND THE ACTIVITY PRODUCT OF PRASEODYMIUM AND EUROPIUM HYDROXIDES -U-

AUTHOR-(04)-BUCHENKO, L.I., KOVALENKO, P.N., TSYGANKOV, YE.M., YEVSTIFEYEV, M.M.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(2) 358-61

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ISOBAR, HYDROGEN ION CONCENTRATION, HYDROXIDE, EUROPIUM COMPOUND, PRASEODYMIUM COMPOUND, HYDROXIDE, POLAROGRAPHIC ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1983/0906 STEP NO--UR/0078/70/015/002/0358/0361

CIRC ACCESSION NO--AP0053830

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

2/2 013 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0053830

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FORMATION OF EU AND PB HYDROXIDES WAS CONFIRMED BY OSCILLOPOLAROGRAPHY. THE HYDROXIDES FORMED AT PH 5.6 AND 6, RESP. AND THEIR ISOBARIC POTENTIAL OF DISSOCN. IS 34 AND 31.5 KCAL-MOLE, RESP.

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

Hematology

USSR UDC 616-018.46-089.843

KOVALENKO, P. P., and RAKHMATULLAYEV, A. R., Rostov Medical Institute and ~~Uzbek Scientific~~ Institute of Hematology and Blood Transfusion

"Clinical Characteristics of Reactions to Autotransplantation of Frozen Bone Marrow"

Leningrad, Vestnik Khirurgii imeni I. I. Grekov, No 2, 1971, pp 114-116

Abstract: Side effects were observed in 11 or 50 patients who received autografts of frozen bone marrow after undergoing surgery and x-ray therapy for lung cancer. The bone marrow was frozen at -60°C in a medium containing about 15% glycerin. In four of the 11, the side effects were due to the fact that the frozen bone marrow after thawing was treated with a glucose-sucrose mixture but not centrifuged to remove the excess preservative. The reactions included headache, elevated temperature, chills, rapid pulse, ringing in the ears and in one case, numbness in the lower extremities, vertigo, and nausea. The post-transfusion reactions in the other seven patients that resulted from improper thawing of the bone marrow, which was admixed with hemolyzed RBC, consisted mainly of the appearance of fresh RBC and traces of albumin in the urine. In both groups the symptoms disappeared spontaneously or after appropriate treatment. The article concludes with mention of several procedures that can prevent the development of the above side effects.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

1/2 013 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--GLUEING COMPOSITION -U-

AUTHOR-(05)-SOROKINA, N.S., KOTOV, M.P., MARCHENKO, L.N., KOVALENKO, R.V., BAKHAREVA, L.T.

COUNTRY OF INFO--USSR

SOURCE--USSR 265,346
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--09MAR70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--GLUE, CHEMICAL PATENT, ADHESION STRENGTH, LEATHER, POLYAMIDE RESIN, ADIPIC ACID, HEXAMETHYLENE DIAMINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1460 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0128859

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

2/2 013 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AA0126859

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A GLUE WITH INCREASED ADHESION TOWARD MOISTENED LEATHER HAS THE FOLLOWING COMPN. (IN WT.PERCENT). POLYAMIDE RESIN 55-60, PLASTICIZER 1-6, STEARIC ACID 3.5-5.3 OR ADIPIC ACID 3.5-10.5, CONDENSATION PRODUCT OF HEXAMETHYLENEDIAMINE AND ADIPIC ACID 5-15, ROSIN 15-30, AND A STABILIZER 0.2-0.5. FACILITY: KIEV TECHNOLOGICAL INSTITUTE OF LIGHT INDUSTRY.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

1/2 019 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--THERMOPLASTIC ADHESIVES -U-

AUTHOR-(05)-SOROKINA, N.S., KOTOV, M.P., KOVALENKO, R.V., MARCHENKO, L.N., BAKHAREVA, L.T.

COUNTRY OF INFO--USSR

SOURCE--KOZH. OBUV. PROM. 1970, 12(2), 52-4

K

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--THERMOPLASTIC MATERIAL, ADHESIVE, FOOTGEAR, LEATHER, POLYESTER RESIN, POLYAMIDE COMPOUND/(U)KTILOL POLYESTER GLUE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1731 STEP NO--UR/0498/70/012/002/0052/0054

CIRC ACCESSION NO--AP0125352

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

UNCLASSIFIED PROCESSING DATE--20NOV70

2/2 019

CIRC ACCESSION NO--AP0125352

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FOOTWEAR INDUSTRY LEATHER GLUES, WITH VISCOSITIES OF 300-1500 P AND HARDENING TIMES OF 3-4 SEC, WERE PREPD. BY MODIFYING POLYMERS WITH LOW MOL. WT. COMPDS., E.G. BY THE ADDN. OF HEXAMETHYLENEDIADIPAMIDE TO POLYAMIDES. MODIFIED POLYESTER GLUES (KTILOLS) WERE ALSO PREPD.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

1/2 008 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--MUTAGENIC ACTIVITY OF SOME ALKYLATING AGENTS IN ASPERGILLUS NIDULANS -U-

AUTHOR-(02)-KOVALENKO, S.P., LAVRENCHUK, I.N.

COUNTRY OF INFO--USSR

SOURCE--MIKROBIOL. ZH. (KIEV) 1970, 32(1), 35-9

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ASPERGILLUS, MICROORGANISM, MUTAGEN, ALKYLATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605002/007 STEP NO--UR/0438/70/032/001/0035/0039

CIRC ACCESSION NO--AP0139409

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

2/2 008 UNCLASSIFIED PROCESSING DATE--[illegible]

CIRC ACCESSION NO--AP0139409

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INDUCTION OF MUTATION IN ARGININE REQUIRING STRAINS OF A. NIDULANS WAS INVESTIGATED USING ME METHANESULFONE (I), 1,4,BIS(DIAZOACETYL)BUTANE (II), 2,2 PRIME,DICHLORO,2 PRIME PRIME,METHOXYTRIETHYLAMINE (III), AND N,(5,METHYLTHENYL),2,2 PRIME,DIBROMODIETHYLAMINE (IV). THE MUTAGENS, CLASSIFIED ACCORDING TO THEIR ACTIVITY, WERE IV LARGER THAN III LARGER THAN I LARGER THAN II. FACILITY: INST. MIKROBIOL. VIRUSOL., KIEV, USSR.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

1/2 012 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--INFLUENCE OF AROMATIC RINGS AND THEIR SUBSTITUENTS ON THE MUTAGENIC ACTIVITY OF NITROGEN MUSTARDS -U-

AUTHOR-(04)-KOVALENKO, S.P., SHISHKIN, G.V., PANCHENKO, V.K., RAPP, L.B.

COUNTRY OF INFO--USSR

SOURCE--GENETIKA 1970, 6(2), 103-9

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--NITROGEN MUSTARD, MUTAGEN, ASPERGILLUS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/0597 STEP NO--UR/0473/70/006/002/0103/0109

CIRC ACCESSION NO--AP0122718

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

2/2 012 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0122715

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE MUTAGENIC ACTIVITY OF THE FOLLOWING N MUSTARD DERIVS. WAS TESTED BY THE REVERSE MUTATION METHOD IN AN ARGININE REQUIRING STRAIN OF ASPERGILLUS NIDULANS: RNICH SUB2 CH SUB2 X) SUB2 .HX (I) AND P,R PRIME C SUB6 H SUB4 NICH SUB2 CH SUB2 CL) SUB2. HCL (II), WHERE R EQUALS BENZYL, PH, OR 5,MEC SUB6 H SUB4, X EQUALS CL OR BR, R PRIME EQUALS ME, F, CL, BR, OR I. THE MUTAGENIC ACTIVITY OF THE COMPDS. WAS COMPARED WITH THAT OF ETHYLENIMINE (EI) AND TRICHLOROETHYLAMINE (TCE). THE MOST ACTIVE MUTAGEN OF THE I DERIVS. WAS BIS(2,BROMETHYL) BENZYLAMINE, FOLLOWED BY BIS(2,BROMOETHYL),5,METHYLPHENYLAMINE, BIS(2,CHLOROETHYL) BENZYLAMINE AND BIS(2,BROMOETHYL)PHENYLAMINE (IN DECREASING ORDER). ALL 4 WERE MORE ACTIVE THAN EI OR TCE; THE REMAINING 2 CL DERIVS. WERE MORE ACTIVE THAN TCE ONLY. SUBSTITUTION OF THE ME OF II BY HALOGENS DECREASED THE MUTAGENIC ACTIVITY IN DIRECT RELATION TO THE AT. WT. OF THE SUTSTITUENT.

FACILITY: DIV. MOL. BIOL. GENET., AKAD. SCI. UKR. SSR, KIEV, USSR.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

1/2 022 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--KINETIC ENERGIES AND MASS DISTRIBUTIONS OF FRAGMENTS OF CURIUM-244 SPONTANEOUS FISSION -U-

AUTHOR-(05)-ALKHAZOV, I.D., KOSTOCHKIN, O.I., KOVALENKO, S.S., MALKIN, L.Z., PETRZHAK, K.A.

COUNTRY OF INFO--USSR

SOURCE--YAD. FIZ. 1970, 11(3), 501-7

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--CURIUM, ENERGY SPECTRUM, PARTICLE DISTRIBUTION, FISSION PRODUCT, SEMICONDUCTOR DETECTOR, COINCIDENCE COUNTING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1991/1057 STEP NO--UR/0367/70/011/003/0501/0507

CIRC ACCESSION NO--AP0110747

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

2/2 022 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0110747

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A SURFACE BARRIER SI DETECTOR SYSTEM OF 4 TIMES 10 PRIME NEGATIVE7 SEC RESOLN. WAS CALIBRATED BY THE ALPHA LINE OF PRIME239 PU AND THERMAL N IRRADIATED PRIME235 U TO MEASURE THE FISSION DATA OF PRIME244 CM ELECTRODEPOSITED ON 80 MU G=CM PRIME2 ON AL; SMALLER THAN 1PERCENT OF THE FISSION EVENTS COINCIDED WITH ALPHA EMISSIONS. THE KINETIC ENERGY AVERAGED 188.6 PLUS OR MINUS 1.6 MEV; THAT OF THE LIGHT WT. FISSION PRODUCTS (AV. MOL. WT. 104.6 PLUS OR MINUS 1.0) 107.5 PLUS OR MINUS 1.2 MEV; THAT OF THE HEAVY FISSION PRODUCTS (AV. MOL. WT. 139.0 PLUS OR MINUS 1.4) 81.1 PLUS OR MINUS 1.0 MEV. THE STD. INCLINATIONS WERE 11.5 MEV AND 5.9 AMU. IN ADDN., STABLE MASSES OF 146, 140, 137, 136, AND 134 AMU WERE ASSOCD. WITH 162-9, 160-8, 196-209, 202-6, AND 208-16 MEV.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

1/2 019 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--NEUTRONS AND GAMMA QUANTA FROM THE TERNARY FISSION OF CALIFORNIUM 252 -U-

AUTHOR-(05)-ADAMOV, V.M., DRAPCHINSKIY, L.V., KOVALENKO, S.S., PETRZHAK, K.A., TYUTYUGIN, I.I.

COUNTRY OF INFO--USSR

SOURCE--YAD. FIZ. 1970, 11(5), 1001-5

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--NEUTRON, GAMMA QUANTUM, NUCLEAR FISSION, CALIFORNIUM ISOTOPE, EXCITATION ENERGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/0578 STEP NO--UR/0367/70/011/005/1001/1005

CIRC ACCESSION NO--AP0137663

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

UNCLASSIFIED PROCESSING DATE--27NOV70

2/2 019

CIRC ACCESSION NO--AP0137663

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FAST N AND GAMMA QUANTA ARE MEASURED FOR SPONTANEOUS FISSION OF PRIME252 CF WITH EMISSION OF LONG RANGE ALPHA PARTICLES, IN RELATION TO THEIR EMISSION FOR BINARY FISSION. FRAGMENTS WERE REGISTRATED WITH AN IONIZATION CHAMBER, ALPHA PARTICLES WITH A SURFACE BARRIER DETECTOR, N WITH A STILBENE CRYSTAL, AND GAMMA RAYS WITH A NAI(TL) CRYSTAL. THE N NO FOR THE TERNARY FISSION WAS 2.83 PLUS OR MINUS 0.07. THIS VALUE DIFFERS SLIGHTLY FROM THAT FOUND BY NARDI AND FRAENKEL (1968), 3.11 PLUS OR MINUS 0.06. THE NOS. AND SPECTRA OF THE GAMMA QUANTA ARE EQUAL IN BOTH BINARY AND TERNARY FISSION PROCESSES. THE N AND GAMMA QUANTA EMITTED WITH ENERGIES GREATER THAN 2 MEV DECREASE WITH RISE OF THE ALPHA PARTICLE ENERGY. IT IS ESTD. THAT THE FRAGMENT EXCITATION ENERGY IS 7 MEV AT THE INSTANT OF THE ALPHA PARTICLE EMISSION.

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USSR

UDC 681.2.083.8

RAKOV, A. I., KOVALENKO, V. A., REPIN, V. N.

"Automatic Monitoring Devices for Radio Relay Lines"

Tr. ucheb. in-tov svyazi. M-vo svyazi SSSR (Works of the Communications Training Institutes. USSR Communications Ministry), 1971, No 54, pp 32-38 (from RZH--Avtomatika, Telemekhanika i vychislitel'naya tekhnika, No 4, Apr 72, Abstract No 4A566).

Translation: A study was made of automatic monitoring devices for radio relay lines which increase the reliability and stability of the operation of these lines. There is 1 table and a 1-entry bibliography.

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K

UDC 621.385.632

USSR

KAZAKOV, G. T., KAZAKOVA, N. I., KOVALENKO, V. A.

"Some Results of Electrical Simulation of a Traveling-Wave Tube"

V sb. Vopr. elektron. tekhnika (Problems of Electronics Technology--Collection of Works), Saratov, 1970, pp 138-145 (from RZh--Elektronika i yeye primeneniye, No 7, July 1970, Abstract No 7A134)

Translation: A simplification of the equation for a TWT is considered and it is shown that an approximate representation of the present phase of the electrons in the form of a linear initial phase makes it possible to construct an electric model of a TWT. Such models are useful during development of these devices for a quick estimate of the effect of various procedures on the output parameters. 2 ill. 6 ref. O. Sh.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

Coatings

USSR UDC

ROYKH, I. L., KOVALENKO, V. B., KOLTUNOVA, L. N., Odessa Technological Institute imeni Lomonosov

"Method of Measuring Porosity of Vacuum Aluminum Coatings"

Zavodskaya Laboratoriya, No 3, 1971, pp 314-315.

ABSTRACT: A microscope method was used to perform quantitative determination of the porosity and to investigate the distribution of pores by sizes for aluminum coatings of various thicknesses. Vacuum aluminum coatings separated from the base in 25% HNO_3 were studied in transmitted light. A formula is presented for the relationship between thickness of an aluminum coating and its porosity. Porosity is strongly dependent on thickness, decreasing exponentially with increasing coating thickness.

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JPRS 57208
6 73

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XIII-A. EFFECT OF THE SUBSTRATE ORIENTATION ON THE GROWTH AND PROPERTIES OF EPITAXIAL LAYERS

[Article by S. A. Grushkov, F. P. Kesamanly, V. F. Kovalenko, I. Ye. Maronchuk, B. P. Mamenko, V. I. Orel, A. M. Turayskiy, Svetlovodsk; Novosibirsk, III Simposium po Protsessam Rosta i Sinteza Poluprovodnikovykh Kristallov i Plenok, Russian, 12-15 June 1972, p 187]

The epitaxial layers of solid solutions of $Al_xGa_{1-x}As$, $Ga_xP_xAs_{1-x}$ were grown from a solution in a gallium melt in a hydrogen flux on gallium arsenide plates with an orientation of 100, 111B, 111A and on the 100 planes disoriented to 111B by 3° and 10°.

The effect of the orientation plane on the growth rate, morphology, electrical parameters and photoluminescence intensity was investigated. The layers most improved with respect to morphology were obtained on singular planes. The distribution of the composition in the $Al_xGa_{1-x}As$ layers with respect to thickness is observed as a function of the substrate orientation plane. The most uniform layers were obtained for growth on substrates oriented in the 111B plane. In pure layers of $Al_xGa_{1-x}As$ with a concentration of less than $5 \cdot 10^{15}$ cm^{-3}, a deep level is observed (for example, for x = 0.3 the activation energy of the level K = 0.12 electron volts). On the basis of the layers of solid solutions of $Al_xGa_{1-x}As$, GaP_xAs_{1-x} obtained, like diodes were manufactured with a brightness to 1,000 nt for a current of 10 milliamps.

KOVALENKO, V.F

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

USSR UDC 621.383.292.8

AYNBUND, M. R., KOVALENKO, V. G., KOLOSOV, Yu. A., POLENOV, B. V.

"Multiplier With Continuous Dynode for Registration of Charged Particles"

Elektron. tekhnika. Nauchno-tekhn. sb. Elektronnoluch. i fotoelektr. pribory (Electronic Technology. Scientific-Technical Collection. Electron Beam and Photoelectric Devices), 1970, Issue 4(18), pp 47-51 (from RZh--Elektronika i yeye primeneniye, No 5, May 1971, Abstract No 5A193)

Translation: The principal parameters and characteristics are presented of channel electron multipliers of tubular type (spiral and curved) with an input window 1.5-mm in diameter, and of the slotted type with an input window 2 x 6 mm^2, studied in a counting regime of signal registration. Summary.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

USSR

UDC 542.91:547.1'118

ARBUZOV, B. A., MUSLINKIN, A. A., VIZEL', A. O., KOVALINKO, V. I., VYRINA, N. N., and KAPUSTINA, N. M., Institute of Organic and Physical Chemistry imeni A. Ye. Arbuzov, Academy of Sciences USSR

"Phospholene Glycolacrylates and Some of Their α-Substituted Analogs"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 8, Aug 73, pp 1828-1833

Abstract: Experimental results are reported on the synthesis of new acrylic derivatives containing organophosphoric heteroring -- phospholeneglycolacrylates and some of their α-substituted analogs. These products were obtained by reacting 1-chloro-1-oxophospholenes with glycolmonoacrylate and α-substituted acrylates in inert organic solvents, in presence of triethylamine as an acceptor of HCl. Several synthetic routes have been proposed for the synthesis of phospholeneglycol-α-fluoroacrylates.

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USSR

UDC: 621.384.633.6

YESIN, S. K., KOVALENKO, V. I., and MARKAR'YAN, A. A.

"Modernization of the Local Orbit Perturbation System for Uniform Extraction of Particles"

Moscow, Pribory i Tekhnika Eksperimenta, No 4, 1973, pp 20-22

Abstract: The subject of this paper is the method of local orbital perturbation, now being used in the Yerevan synchrotron for obtaining gamma beams. A beam of slowed gamma quanta is obtained by moving the beam of accelerated electrons to an interior target in the rectilinear synchrotron gap. The local orbit perturbation is accomplished by applying a pulse of semi-sinusoidal shape, formed by thyristor resonant circuits, through a set of auxiliary coil windings of the ring electromagnet. A diagram of the pulse-forming circuit and the method used for its power supply from the resonant circuit of the accelerator is given. An explanation is given of uniform as well as slow extraction of particles for the purpose of improving efficiency in the use of the synchrotron. Photographs of the semi-sinusoidal pulse and of the gamma beam pulse are produced. The authors thank M. M. Vilkov and N. A. Zapol'skiy for their help

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USSR UDC: 621.384.633.6

YESIN, S. K., et al, Pribory i Tekhnika Eksperimenta, No 4, 1973, pp 20-22

in assembling and installing the orbital perturbation system, and to G. V. Badalyan, K. A. Sadoyan, and V. L. Serov for their comments and discussions.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

1/2 037 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--DIETHYLPHOSPHONACETALS OF POLY VINYL ALCOHOL -U-

AUTHOR-(05)-LEVIN, YA.A., GAZIZOVA, L.KH., YAGFAROVA, T.A., KOVALENKO, V.I., TEYTELBAUM, B.YA.

COUNTRY OF INFO--USSR

SOURCE--VVSOKOMOL. SOEDIN., SER. A 1970, 12(3), 574-9

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--ACETAL, ORGANIC PHOSPHORUS COMPOUND, POLYVINYL ALCOHOL, POLYMER, ELASTIC DEFORMATION, POLYMER CROSSLINKING, ESTERIFICATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/1208 STEP NO--UR/0459/70/012/003/0574/0579

CIRC ACCESSION NO--AP0116673

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

2/2 037 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0116673

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. POLY(VINYL ALC.) (I) WAS ACETALATED WITH (ETO) SUB2 P (O)CH SUB2 CHO IN THE PRESENCE OF CF SUB3 CO SUB2 H AND H SUB2 O AT 60DEGREES TO GIVE A WHITE, RUBBERLIKE POLYMER (CONTG. LESS THAN OR EQUAL TO 8PERCENT P) IN 85-100PERCENT YIELD. IR SPECTRA AND THERMOMECH. TESTS SHOWED THAT THE POLYACETALS (II) (CONTG. 10PERCENT ACETALS GROUPS) WERE MORE SUSCEPTIBLE TO ELASTIC DEFORMATIONS THAN I, PRESUMABLY DUE TO DECREASED MOL. INTERACTION. INCREASED RIGIDITY, OBSD. IN II (CONTG. GREATER THAN 20PERCENT ACETAL GROUPS) HEATED TO 150-200DEGREES, WAS ATTRIBUTED TO CROSSLINKING OCCURRING DURING TRANSESTERIFICATION OF P(OET) SUB2 GROUPS WITH ADJACENT OH GROUPS. FACILITY: INST. ORG. FIZ. KHIM. IM. ARBUZOVA, KAZAN, USSR.

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USSR

UDC: 532.526

KOVALENKO, V. M., SHULEMOVICH, V. M., Institute of Theoretical and Applied Mechanics, Siberian Department of the Academy of Sciences of the USSR, Novosibirsk

"Turbulent Boundary Layer on a Circular Cylinder"

Novosibirsk, Izvestiya Sibirskogo Otdeleniya Akademii Nauk SSSR, Seriya Tekhnicheskikh Nauk, No 13(208), Issue 3, Oct 72, pp 8-16

Abstract: Formulas are derived for determining the principal characteristics of a compressed turbulent boundary layer on a circular cylinder in a supersonic flow: area of displacement, area of loss of momentum, form parameter, thickness of the boundary layer, and also the localized and average coefficients of friction drag. Curves are given showing these characteristics as functions of the basic flow parameters. A comparison with the case of a plate in an identical supersonic flow shows that the thickness of the boundary layer is less for a cylinder, while friction drag increases, and the form parameter changes little. The influence of the transverse curvature of the surface increases with an increase in the Mach number and temperature factor, and with a decrease in Reynolds number.

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KOVALENKO, V. M., SHULEMOVICH, V. M., Izv. SO AN SSSR, Ser. Tekhn. Nauk, No 13(208), Issue 3, Oct 72, pp 8-16

Curves for the ratio of average coefficients of friction drag for a cylinder and a plate in the same supersonic flow show that the theory of calculation of this ratio needs improvement. Comparison of the theoretical results with experimental data shows satisfactory agreement in general. V. M. Kovalenko thanks A. A. Boldyrev, Yu. P. Sergeyev and Yu. G. Shvalev who helped with boundary-layer experiments.

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USSR UDC: 532.582.82+533.601.314

BYCHKOV, N. M., DUBROVSKIY, B. L., KOVALENKO, V. M., Institute of Theoretical and Applied Mechanics, Siberian Department of the Academy of Sciences, Novosibirsk

"Experimental Investigation of the Magnus Effect on a Finned Body of Revolution of Large Elongation at a Mach Number of M = 4"

Novosibirsk, Izvestiya Sibirskogo Otdeleniya Akademii Nauk SSSR, Seriya Tekhnicheskikh Nauk, No 13(208), Issue 3, Oct 72, pp 24-28

Abstract: When a rotating missile or rocket flies at an angle of attack, aerodynamic forces arise which are directed along the normal to the plane of the attack angle, i. e. the so-called Magnus effect appears. This lateral force deflects the missile from its intended direction, so that the size of the Magnus force and the point of application must be known to calculate the missile trajectory. In this paper the authors determine the Magnus force experimentally on an installation developed for holding the model in a wind tunnel in the proper position, rotating it at the required angular velocity, and measuring the lateral force and yaw moment. The results showed that the Magnus force is positive at low angles of attack.

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BUCHKOV, N. M. et al., Izv. SO AN SSSR, Ser. Tekhn. Nauk, No 13(208), Issue 3, Oct 72, pp 24-28

As the angle increases, the Magnus effect abruptly changes sign and increases considerably in magnitude. At the same time, the point of application of the force shifts toward the nose section. In these experiments, the change in the direction of action of the force took place at anlges of attack of 6-7°. The absolute values of the Magnus forces and moments increase linearly as a function of the angular rotation of the model.

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USSR

UDC 533.601.312.532.526

IVANOV, V. YA., and KOVALENKO, V. M., Institute of Theoretical and Applied Mechanics, Siberian Department, USSR Academy of Sciences, Novosibirsk

"Effect of a Weak Viscous Interaction on Wing Profile Drag"

Novosibirsk, Izvestiya Sibirskogo Otdeleniya Akademii Nauk SSSR, Seriya Tekhnickeskikh Nauk; Issue 1, No 3, 1973, pp 45-51

Abstract: As a result of decelerating action of the wall, lines of flow in the boundary layer are drawn away from the flow-around surface, leading to alteration of pressure distribution on the surface (the boundary layer, determined by external flow, exerts a counteraction on the flow, the so-called viscous interaction effect). It is of great practical interest to estimate the effect of this interaction on a particular wing profile; also, the effect of position of the transition zone, and its extent, on components of supplemental profile drag.

Calculations showed that in the case of a mixed boundary layer, there exist ranges of basic flow parameters in which the interaction may have no effect at all on the wave drag or the total wing profile drag; while in other cases, these may be reduced. The maximum of such reduction is found in the case where the transition point is close to the median of the profile, and its magnitude depends on the flow parameters. Extent of the transition region has practically no effect on supplemental wave drag within the region.

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IVANOV, V. YA., and KOVALENKO, V. M., Izvestiya Sibirskogo Otdeleniya Akademii Nauk SSSR, Seriya Tekhnicheskikh Nauk; Issue 1, No 3, 1973, pp 45-51

It is concluded that supplemental wing profile drag resulting from viscous interaction, as far as important practical cases are concerned, is an important factor which must be considered in design. Graphs illustrating the calculations are included in the paper.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

USSR UDC 532.526

KOVALENKO, V. M., and SHULEMOVICH, V. M., Institute of Theoretical and Applied Mechanics, Siberian Department, USSR Academy of Sciences, Novosibirsk

"A Turbulent Boundary Layer on a Long, Thin Filament"

Novosibirsk, Izvestiya Sibirskogo Otdeleniya Akademii Nauk SSSR, Seriya Tekhnicheskikh Nauk, Issue 1, No 3, 1973, pp 56-67

Abstract: The effect of transverse surface curvature on the characteristics of a turbulent boundary layer has been dealt with in a number of studies; the present research consisted of experimental investigation of the characteristics and structure of a boundary layer on extended flow-around circular cylinders with elongation up to 2,500. The observations were made with use of the ITPM T-324 low-turbulence wind tunnel.

In the studied range of Reynolds numbers $Re = (6-15) \cdot 10^6$, with elongations $\lambda = 1{,}020-2{,}500$, the boundary layer in the case of longitudinal flow-around of a circular cylinder was found to be purely turbulent, and quite different from the corresponding boundary layer of a smooth plate. Its thickness, for example, is less by a factor of 2 or more, the velocity profiles are fuller, and the value of the form parameter H is 16% lower, while the value of

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USSR

KOVALENKO, V. M., and SHULEMOVICH, V. M., Izvestiya Sibirskogo Otdeleniya Akademii Nauk SSSR, Seriya Tekhnicheskikh Nauk, Issue 1, No 3, 1973, pp 56-67

friction drag is 53-69% higher, than in the case of the plate. Turbulence intensity distribution is qualitatively different as well, this being explained by the altered character of turbulence energy generation across the thickness of the boundary region.

Values of the form pareter of the boundary layer, thickness of the layer, and mean friction drag, as obtained experimentally for very large elongations of the cylinder ($\lambda \leq 2,500$) are in close agreement with results obtained by other investigators.

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USSR

UDC 532.526:533.601.313

KOVALENKO, V. M., NESTEROVICH, N. I., SHULEMOVICH, V. N.

"Experimental Study of the Turbulent Boundary Layer on a Much Elongated Solid of Revolution in a Supersonic Flow"

Izvestiya sibirskogo otdeleniya Akademii Nauk SSSR, Seriya tekhnicheskikh nauk, No 8 (203), vyp. 2, Jun 1972, pp 41-46

Abstract: An experimental Study was performed to check the calculation techniques used to determine the characteristics of the boundary layer on an elongated solid of revolution in a supersonic flow. A model of the M-100 meteorological rocket without fins was used. It is a long hollow cylinder with ogive nose and shaft. The diameter of the cylindrical part was 25 mm with a total geometric elongation of $\lambda = 40$. Along the upper and lower generatrices of the cylindrical section there were 7 holes 0.6 mm in diameter to measure the static pressure P_w and 7 chromel-copel thermocouples to measure the surface temperature of the model T_w. The tests in a wind tunnel revealed that the wall law obtained for a turbulent boundary layer on a plate remains valid for the boundary layer on a cylinder at supersonic gas flow velocities to $M = 6$. With great elongation of the cylinder when the thickness of the boundary layer becomes commensurate

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USSR

KOVALENKO, V. M., et al., Izvestiya sibirskogo otdeleniya Akademii Nauk SSSR, Seriya tekhnicheskikh nauk, No 8 (203), vyp. 2, Jun 1971, pp 41-46

with the radius, the basic characteristics of the boundary layer differ noticeably from the corresponding characteristics on a plate. In particular, when $\lambda = 30-40$ the coefficients of friction, displacement area and momentum loss increased by 10-15%. The shape parameter H does not differ from the calculated value for a plate. The experimental data on the effect of the transverse curvature on the integral characteristics of the turbulent boundary layer and on the friction drag agree with those calculated by the semiempirical methods used previously [A. S. Ginevskiy, et al., Izv. AN SSSR, otd. mekhaniki i mashinostroyeniya, No 1, 1963; V. M. Kovalenko, Tr. TsAGI, No 1084, 1967].

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

USSR UDC 533.601.312

KOVALENKO, V. M., KOSORYGIN, V. S., SHUMSKIY, V. V.

"Experimental Study of Bottom Pressure in Highly Elongated Circular Cylinders"

Izvestiya sibirskogo otdeleniya Akademii Nauk SSSR, Seriya tekhnicheskikh nauk, No 8 (203), vyp. 2, Jun 1972, pp 67-70

Abstract: An experimental study of bottom pressure was made on 3 models of solids of rotation of moderate and very great elongation. The models were a combination of a cylinder and an ogive with a needle. The cylindrical section had elongation λ_c = 10.3 (model 1) and 32.8 (models 2 and 3). Model 3 differed from model 2 by the presence of an inverted tail cone. The experiments were performed in a supersonic wind tunnel with dimensions of the operating section of 0.6 × 0.6 m^2 at M = 3 and 4 and $Re_{1M} = 36 \cdot 10^6$ and $54 \cdot 10^6$ respectively. Experimental values of the bottom drag and the relation between the bottom pressure and dimensionless thickness of the boundary layer are plotted. An increase in elongation of the cylindrical section λ_c from 10.3 to λ_c = 32.8 leads to a decrease in the bottom drag for M = 3 and 4 of 12 and 6% respectively, that is, with an increase in the M number of the incoming flow the effect of the elongation becomes less significant. This result agrees qualitatively with the theoretical concepts of the nature of bottom pressure and is a confirmation [illegible]

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KOVALENKO, V. M., et al., Izvestiya sibirskogo otdeleniya Akademii Nauk SSSR, Seriya tekhnicheskikh nauk, No 8 (203), vyp. 2, Jun 1972, pp 67-70

the graphs showing the effect of the dimensionless thickness of the boundary layer on the bottom pressure for different M numbers. The presence of the tail cone (model 3) decreases the absolute value of the bottom pressure coefficient by approximately 5%.

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USSR UDC: 531.38

ISHTULOV, A. G., KOVALENKO, V. M., KOSORYGIN, V. S., CHERNOV, A. T., and SHUMSKIY, V. V.

"Aerodynamic Characteristics of Long Bodies of Revolution in the 0.2-6.0 Mach Number Range"

Novosibirsk, Izvestiya Sibirskogo Otdeleniya Akademii Nauk SSSR--Seriya Tekhnicheskikh Nauk, No 3, 1972, pp 16-22

Abstract: The authors assert that they know of no earlier work in the experimental confirmation of results derived from the aerodynamic theory of long bodies of revolution. The fundamental point of interest in the experiments described in this paper is the effect of the body's extended length on the nature of the variation in the lift force factor and on the magnitude of the pressure center coefficient. In general, the method of the experiments was to use models of moderate length and extrapolate the results to much longer bodies. Eight such models were used, varying in the shape of the nose part and in the length of the cylindrical shaft. Drawings and scale photographs of the nose portions are shown, and a table of test results for Mach numbers of 0.2-6.0 is reproduced. Members of the Institute of Theoretical and Applied Mechanics in Novosibirsk, the authors conclude with the note that the question

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

USSR UDC: 531.38

ISHTULOV, A. G., et al, Izvestiya Sibirskogo Otdeleniya Akademii Nauk SSSR--Seriya Tekhnicheskikh Nauk, No 3, 1972, pp 16-22

of the existence of eddies for small attack angles of such bodies requires further research.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201520012-6

USSR UDC: 532.526.4+533.011.5

KOVALENKO, V. M., Institute of Theoretical and Applied Mechanics, Novosibirsk

"An Experimental Study of Friction and Heat Transfer on a Long Cylinder With Ogival Nose at Mach Numbers $M_\infty = 3.51$ and 6.96"

Novosibirsk, Izvestiya Sibirskogo Otdeleniya Akademii Nauk SSSR, Seriya Tekhnicheskikh Nauk, vyp. 3, No 13(193), Oct 71, pp 22-27

Abstract: Experiments were conducted to determine the integral characteristics of the turbulent boundary layer, friction drag and heat transfer at high supersonic velocities on a long cylinder with ogival nose. Experimental values are tabulated for the area of displacement θ_1, the area of momentum loss θ_2, and the form factor for the boundary layer $H = \theta_1/\theta_2$. The parameters θ_1 and θ_2 reduced to the cross sectional area of the body of revolution are analogs of the displacement thickness and the thickness of loss of momentum for a plate. The values of H for a comparatively long cylinder agree with the calculation for a plate. The experimental data for the average coefficient of friction drag for a cylinder agree satisfactorily with the theory for $M_\infty = 6.96$, while the experimental values for $M_\infty = 3.51$ are somewhat higher than the theoretical values.

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