"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

USSR

UDC 669.295.046.43

STARSHENKO. V. I., VOLYNSKAYA, M. P., and LEBEDEV, G. N.

"Status of Analytic Testing of Purification of Titanium Tetrachloride"

Sb. tr. Vses. n.-i. i proyektn. in-t titana, [Collected works of All-Union Scientific-Research and Planning Institute for Titanium], 6, 1970, 54-61, (Translated from Referativnyy Zhurnal-Metallurgiya, No. 1, 1971, Abstract No.1 G180 by the authors).

Translation: Methods of analysis of $TiCl_4$ are systematized. The influence of impurities in $TiCl_4$ on the increasing hardness of Ti sponge is estimated on the basis of the limits of sensitivity for determination of the impurities. The analytic uncertainty factor in the composition of purified $TiCl_4$ exceeds the depth of purification. The impurities tested in purified $TiCl_4$ do not characterize the quality of purification, and the sensitivity of determination of the total content of O, N, C, S, and H does not correspond to the requirements for depth of purification of $TiCl_4$. The required depth of purification and limit of sensitivity of the determination of impurities is $1 \cdot 10^{-4}$% (by mass). 3 tables; 13 biblio. refs.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

USSR

UDC 547.558.1

VOLYNSKAYA, Ye. M., SHEVCHUK, M. I., and DOMBROVSKIY, A. V., Chernovits State University

"Monophosphonium Salts and Monophosphoranes Based on 4-4'diacetyldiphenyl and its Derivatives"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), Vyp 5, 1972, pp 986-992

Abstract: A study was made of syntheses based on 4-acetyl-4'-(α-bromacetyl) derivatives of the diphenyl, diphenylmethane, diphenylethane, diphenyl sulfide, and diphenylsulfoxide of monophosphonium salts and monophosphoranes which contain an acetyl radical whose carbonyl group is not connected with the P=C ylid bond. Five phosphonium salts were synthesized through the reaction of the above derivatives with triphenylphosphine and subsequent loss of HBr. The products had the general structure $H_2NCONHN{=}C(CH_3)C_6H_4XC_6H_4COCH{=}PPh_3$ where $X = CH_2$, CH_2CH_2, S, and SO_2. Physical data and elemental composition for the synthesized compounds are given in several tables along with preparations and IR and UV spectra.

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USSR

UDC 547.558.1:621

SHEVCHUK, M. I., VOLYNSKAYA, YE. M., and DOMBROVSKIY, A. V., Chernovtsy State University

"Synthesis and Investigation of the Reactivity of Mono- and Bis-β-ketophosphoranes Containing Polynuclear Noncondensed Aromatic Radicals"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 5, May 73, pp 1047-1053

Abstract: Mono- and bis-β-ketophosphoranes with polynuclear noncondensed aromatic radicals in the alkylidene portion of the molecule were obtained by dehydrobromination of mono- and bis-β-ketophosphonium salts. It has been shown that on chlorination, bromination and iodination these types of phosphoranes form respective α-halosubstituted β-ketophosphoranes. It has been established that these phosphoranes [$RC_6H_4COCH{=}PPh_3$] react with p-nitrobenzyl and cinnamic acid chlorides forming α-acylated addition products, and with acetyl chloride they form O-acylated phosphonium chlorides.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

USSR

UDC 547.241:231

SHEVCHUK, M. I., VOLYNSKAYA, Ye. M., and DOMBROVSKIY, A. V., Chernovtsy State University

"α-Nitrosation of Phosphonium Salts -- a New Method of Synthesizing Nitriles"

Leningrad, Zhurnal Obshchey Khimii, Sep 71, Vol 41, No 9, pp 1199-2004

Abstract: Earlier research indicates that hydrogen atoms at an ylid carbon atom in phosphonium salts and phosphoranes are capable of electrophilic substitution. The reaction of phosphonium salts with alkyl nitrites in the presence of hydrogen chloride results in the nitrosation of ylid carbon atoms to form α-nitrososubstituted phosphonium salts. Dehydrochlorination of α-nitrososubstituted salts yields nitriles and triphenylphosphine oxide. Dehydrochlorination of carbethoxy-α-nitrosomethyltriphenylphosphonium chloride yields carbethoxy-α-nitrosomethylenetriphenylphosphorane. The yields and other properties of the new 12 compounds are presented in tabular form.

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USSR

UDC: 547.558.1

SHEVCHUK, M. I., VOLYNSKAYA, Ye. M., and DOMBROVSKIY, A. V., Chernovtsy State University

"Acylalkylenyltriphenylphosphoranes"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 1, Jan 70, pp 48-57

Abstract: Stable crystalline (acylalkyl)triphenylphosphonium bromides (I) and title compounds (II) are derived from aliphatic alpha-bromoketones. Three I were prepared by heating bromoacetone, alpha-bromoethyl methyl or alpha-bromomethyl isobutyl ketones with triphenylphosphine in toluene. Treating I with sodium ethoxide in ethanol for twelve hours gave the corresponding compounds II. Alpha-halosenated acetyl- and trimethylacetylmethylenetriphenylphosphoranes were obtained by treating the corresponding II with iodobenzene dichloride, bromine, or iodine bromide. Alpha-iodinated II easily react with potassium thiocyanate to give alpha-thiocyanosubstituted II. The alpha-acylsubstituted analogs of the above halogenated phosphoranes were prepared by transacylation of II. Compounds II formed O-acyl(acetyl or benzoyl) triphenylphosphoniumalkene chlorides (III) with acetyl or benzoyl chlorides. The III salts are easily converted by sodium ethoxide to the corresponding original II phosphoranes in 100% yields. Acylphosphoranes II reacted on

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USSR

SHEVCHUK, M. I., et al, Zhurnal Obshchey Khimii, Vol 40, No 1, Jan 70, pp 48-57

heating with p-nitrobenzaldehyde and with phenylglyoxal to give α,β-unsaturated ketones. The acylphosphoranes described above exhibited characteristic IR and UV spectral bands.

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USSR UDC: 51

VOLYNSKIY, E. I., and KRASIN, L. A.

"Optimum Disposition of Managers on the Concluding Stages of Jobs"

Mekhaniz. i avtomatiz. upr. Nauch.-proizv. sb. (Mechanization and Automation of Control. Scientific Production Collection), 1973, No 2, pp 16-18 (from RZh-Matematika, No 9, Sep 73, abstract No 9V580 by Yu. Finkel'shteyn)

Translation: In the critical path method of planning scientific research, design, construction, erection, and repair work, in order to minimize the deadline for job completion it is frequently necessary on the final stage to use rational placement of workers with regard to their productivity differences on uncompleted sections of the project. Let there be n uncompleted sections which can be worked on simultaneously, and N managers for placement on these sections. The volumes of job completion by sections $\alpha_1, \alpha_2, \ldots, \alpha_n$ are given, as well as a matrix of interchangeability $\|\tau_{ij}\|$, $1 \leq j \leq N$, $1 \leq i \leq n$, where the elements τ_{ij} characterize the productivity of the j-th manager on the i-th section. If the subset of the numbers of managers, placed on the i-th section is designated by T_i, then the total productivity on section $g_i = \sum_{j \in T_i} \tau_{ij}$. The project can be finalized only when all jobs

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VOLYNSKIY, E. I., KRASIN, L. A., Mekhaniz. i avtomatiz. upr. Nauch.--proizv. sb., 1973, No 2, pp 16-18

α_i $(i=1, \ldots, n)$ have been completed, the time for finishing a job on section i being $t_i = \alpha_i / g_i$. It is required to so space the N managers (i. e. to break the set of numbers $R = \{1, 2, \ldots, N\}$ down into nonintersecting subsets $T_1, \ldots, T_n$) that $\max_{1<i<n} (\alpha_i / g_i)$ is minimized. An algorithm of branches and boundaries is constructed for the problem with regard to inherent idiosyncrasies.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

USSR

VOLYNSKIY, E. I. and KRASIN, L. A.

"Optimal Placement of Actuators During the Final Stage of Work"

Mekhaniz. i Avtomatiz. Upr. Nauch.-Proizv. Sb.[Mechanization and Automation of Control Scientific-Production Collection], 1973, No 2, pp 16-18 (Translated from Referativnyy Zhurnal Kibernetika, No 9, 1973, Abstract No 9V580).

Translation: With network planning of scientific research, planning, construction-installation or repair work, in order to minimize the time required to complete an object, it is frequently necessary in the final stage to arrange workers on the job intelligently considering their different productivities among the uncompleted sections of the project. Suppose there are n uncompleted sections, work on which can be conducted in parallel, for which N actuators must be placed. The volumes of completion of operations by sectors $\alpha_1, \alpha_2, \ldots, \alpha_n$ are fixed, as well as the matrix of interchangeability $||\tau_{ji}||$, $1 \leq j \leq N$, $1 \leq i \leq n$, where elements τ_{ji} characterize the productivity of the jth worker in the ith section. If the subset of actuator numbers assigned to the ith section is represented by T_i, the total productivity in the section

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USSR

Volynskiy, E. I. and Krasin, L. A., Mekhaniz. i Avtomatiz. Upr. Nauch.-Proizv. Sb., 1973, No 2, pp 16-18.

$$g_i = \sum_{j \in T_i} \tau_{ji}.$$

The object can be completed only when all operations α_i ($i = 1, 2, \ldots, n$) are completed, the time of completion of each operation in section i being $t_i = \alpha_i/g_i$. The problem is to arrange the N workers (i.e., to divide the set of numbers $R = \{1, 2, \ldots, N\}$ into nonintersecting subsets $T_1, \ldots, T_n$) so as to minimize $\max_{1 \le i \le n}(\alpha_i/g_i)$. Considering the specifics of the problem, an algorithm of branches and bounds is constructed for it.

Yu. Finkel'shteyn

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USSR UDC 669.295.054.79

ANTIPIN, L. N., DROZDENKO, V. A., KOYGUSHSKIY, N. N., OLESOV, Yu. G., USTINOV, V. S., ZAPADNYA, V. I., VOLYNSKIY, V. V., and KALUZHSKAYA, E. L.

"The Technology for Obtaining Powders by the Electrolysis Method for Liquid Metals With a Soluble Anode"

Moscow, Metallurgiya i Khimiya Titana (Institut Titana), Metallurgiya Publishing House, Vol 6, 1970, pp 85-89

Translation: A technological chart for producing powders of titanium and its alloys by the electrolysis method with a soluble anode is worked out. Opitmal technological conditions for obtaining powders by electrolysis are selected. The chart has been adopted for introduction. The titanium powders obtained do not differ, in impurity content, from the best grades of titanium sponge. The effect of electrolyte temperature on the qualities of the metal obtained and the chlorine content in it are studied. The metal obtained is undergoing testing by users. Two illustrations, two tables, and two bibliographic entries.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

USSR UDC 621.357.7:669.248:669.295

VOLYNSKIY, V. V. (Candidate of Technical Sciences), ZAKHAROVA, L. V., and AZAROVA, A. P.

"Titanium in Nickel Plating"

Moscow, Mashinostroitel', No 2, Feb 72, p 31

Abstract: Titanium is known to hold much promise for increased reliability and service life of plating equipment as well as to offer high anticorrosion and mechanical properties, making it possible to reduce the plating thickness to more than one half. The cost of titanium and steel vessels lined with polychlorovinyl is about the same but the service life of the former is 5-6 times greater. Cited are two cases involving the use of anodium titanium alloy baskets for nickel plating which resulted in savings of 17,600 and 22,000 rubles, respectively. Other cited cases involve titanium heaters for more accurate electrolyte temperature control, titanium heating coils, pumps and pipes in the chemical industry. The rate of recovery of capital investments for new titanium equipment was found to be high in all instances. (4 illustrations).

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

USSR UDC 669.71.472

ANTIPIN, L. N., VOLYNSKIY, V. V., MANSKIY, Ye. G., CHUB, V. Ya., and KLIMENYUK, V. A.

"The Anode Effect During Electrolysis of Oxyfljorotitanium Fusions"

Moscow, Metallurgiya i Khimiya Titana (Institut Titana), Metallurgiya Publishing House, Vol VI, 1970, pp 77-81

Translation: The reasons for the appearance of the anode effect during electrolysis of oxyfluorotitanium fusions on a carbon-graphite anode are investigated. It is demonstrated that the anode effect arises as a result of the formation of non-conducting oxides of the COF_2 type on the surface. The formation of such compounds is accompanied by a worsening in wettability and leads to passivation of the anode. Study of the critical density of current in the oxyfluorotitanium fusion was done on an automatic device for recording volt-ampere dependencies. It was demonstrated that the concentration of TiO_2 in the electrolyte exerts the primary influence on the size of critical current density. Experimental results are given which show the influence of TiO_2 concentration on the value of critical current density. Four illustrations and 14 bibliographic entries.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

USSR UDC 669.295.472

VOLYNSKIY, V. V., ANTIPIN, L. N., MANSKIY, Ye. G., and CHUB, V. Ya.

"The Interaction of Oxygen With the Carbon-Graphite Anode During Electrolysis of Fluorititanium Liquid Metals"

Moscow, Metallurgiya i Khimiya Titana (Institut Titana), Metallurgiya Publishing House, Vol 6, 1970, pp 89-93

Translation: Questions of the interaction of discharge oxygen with the carbongraphite anode during electrolysis of oxyfluorititanium liquid metals are considered. The effect of oxides on the electrochemical features of the anode is studied. A thermodynamic calculation is made which demonstrates the possibility of forming oxides of the C_xO type. Such compounds are the basic reason for the slow drop in inverse electromotive force when a polarizing current is switched off. Two illustrations and five bibliographic entries.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

USSR UDC 621.726.2

VOLYNSKIY, V. V., ANTIPIN, L. N., MANSKIY, Ye. G., DROZDENKO, V. A., and CHUB, V. Ya.

"An Investigation of the Cathode Process In Obtaining Titanium Powders of Increased Purity"

Moscow, Metallurgiya i Khimiya Titana (Institut Titana), Metallurgiya Publishing House, Vol 6, 1970, pp 81-85

Translation: The effect of the concentration of lower titanium compounds, cathode density of the current, and the material of the sub-layer on the course of the cathode process when obtaining titanium powders with a high degree of purity by the electrolyte method is studied. The mechanism of the electrode reaction with different content of trivalent titanium in the electrolyte is considered. The greatest effect on the purity of the titanium powder obtained is exerted by the concentration of $TiCl_2$ in the electrolyte. Technological conditions of electrolysis are selected which make it possible to obtain powder of the assigned granulometric composition with a 99.9% content of the primary metal. Four illustrations, one table, and ten bibliographic entries.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

USSR UDC 669.295.472

VOLYNSKIY, V. V. ANTIPIN, L. N., MANSKIY, Ye. G., and CHUB, B. Y.

"Interaction of Oxygen with Carbon-Graphite Anode During Electrolysis of Fluorotitanate Melts"

Sb. tr. Vses. n.-i. i proyektn. in-t titana [Collected works of All-Union Scientific-Research and Planning Institute for Titanium], 6, 1970, 89-93, (Translated from Referativnyy Zhurnal-Metallurgiya, No. 1, 1971, Abstract No. 1 G194 by the authors).

Translation: Problems of the interaction of discharged O with the carbon-graphite anode during electrolysis of oxyfluorotitanate melts are studied. The influence of oxides on the electrochemical characteristics of the anode are studied. Thermodynamic calculation shows the possibility of formation of C_xO type oxides. These compounds are the primary cause of slow decreases in the reverse electromotive force when the polarizing current is turned off. 2 figures; 5 biblio; refs.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

USSR

UDC: 624.131.43+539.21.084-492.3

VUL'F, A. R., BRATANCHUK, A. I., GORBANOV, A. S., VOLYNSKIY, V. V.

"Experimental Studies of the Interaction between Piles and Horizontally Moving Ground"

Sb. Nauchn. tr. Gos. proyektn. i n.-i. in-t Donetskiy PromstroyNIIproyekt (Collection of Scientific Works of the Donetsk PromstroyNIIproyekt State Scientific Research and Planning Institute), 1970, No 9, pp 170-174 (from RZh-Mekhanika, No 9, Sep 70, Abstract No 9V570)

Translation: This paper gives the results of experimental studies of the interaction between a piling and the soil into which it is driven, where the soil moves horizontally. A description is given of the construction of a stand which simulates the conditions of lateral pressure of the soil on a piling when the head is securely fastened in a grillage foundation. Expressions are derived for the contact stresses on the lateral surface of the piling at various depths, and deflections of the piling as functions of the soil pressure and the magnitude of its compression with respect to the length of the piling. A basis is given for application of the Winkler model to calculation

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USSR

VUL'F, A. R., et al., Sb. Nauchn. tr. Gos. proyektn. i n.-i. in-t Donetskiy PromstroyNIIproyekt, 1970, No 9, pp 170-174

of a piling in the case of lateral pressure, and studies are carried out in this connection on the change in the bed factor with depth where there is lateral pressure, using a special installation, and the corresponding relationship is found. Authors' abstract.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

USSR

UDC 621.762.2

ANTIPIN, L. N., DROZDENKO, V. A., KOYGUSHSKIY, N. N., OLESOV, YU. G., USTINOV, V. S., ZAPADNYA, V. I., VOLYNSKIY, V. V., and KALUSHSKAYA, E. L.

"Technology of Production of Powders by Electrolysis of Melts With Soluble Anode"

Sb. tr. Vses. n.-i. i proyektn. in-t titana [Collected Works of All-Union Scientific-Research and Planning Institute for Titanium], 6, 1970, pp. 85-89, (Translated from Referativnyy Zhurnal-Metallurgiya, No. 1, 1971, Abstract No.1 G456 by the authors).

Translation: A technological plan is developed for the production of Ti and titanium alloy powders by electrolysis with a soluble anode. The optimal technological mode is selected for electrolytic powder production. The plan has been accepted for use. The Ti powders produced are equal in impurity content to the best types of Ti sponge. The influence of electrolyte temperature on properties of the Ti produced and on content of Cl is studied. The Ti produced has passed consumers' tests. 2 figures; 2 tables.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

1/2 024 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--STRUCTURE OF CELLULOSE ACETATE SOLUTIONS IN SOLVENT PRECIPITATING AGENT MIXTURES -U-

AUTHOR-(04)-VOLYNSKIY, A.L., ORLOVA, T.M., BAKEYEV, N.F., KARGIN, V.A.

COUNTRY OF INFO--USSR

SOURCE--VYSOKOMOL. SOEDIN., SER. B 1970, 12(3), 202-4

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--CELLULOSE RESIN, ACETATE, SEDIMENTATION, ELECTRON MICROSCOPY, POLYMER STRUCTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0678 STEP NO--UR/0460/70/012/003/0202/0204

CIRC ACCESSION NO--AP0124350

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

2/2 024 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124350

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ELECTRON MICROSCOPY, DETN. OF SEDIMENTATION CONSTS., AND VISCOSITY OF CELLULOSE ACETATE SOLNS. IN DIOXANE CONTG. IS LESS THAN OR EQUAL TO 25PERCENT H SUB2 O OR LESS THAN OR EQUAL TO 15PERCENT DECALIN SHOWED THAT WHEN THE CONCN. OF THE PRECIPITANT APPROACHES THE POINT AT WHICH PHASE SEPN. TAKES PLACE, THE POLYMER MOLS. AGGREGATE, FORMING FIBRILLAR STRUCTURES. FACILITY: MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

1/2 014 UNCLASSIFIED PROCESSING DATE--11DEC70

TITLE--NITROVINYLATION OF CH ACIDS -U-

AUTHOR-(03)-VOLYNSKIY, V.E., PEREKALIN, V.V., SUPOVA, A.S.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(5), 938-41

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--NITRATION, BENZENE DERIVATIVE, CHLORINATED ORGANIC COMPOUND, AROMATIC NITRO COMPOUND, AROMATIC KETONE, ETHER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1326 STEP NO--UR/0366/70/006/005/0938/0941

CIRC ACCESSION NO--AP0135000

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

2/2 014 UNCLASSIFIED PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AP0135000

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REACTION OF PHCX:CHNO SUB2 (I) (X IS CL OR IODINE) WITH NACHRCO SUB2 ME (R IS CO SUB2 ME, OR CN), NA DIMEDONE DERIV., OR NACH(COR PRIME1) COR PRIME2 (R PRIME1 AND R PRIME2 GIVEN: ME, OET; ME, ME; PH, ME) GAVE MIXT. OF O SUB2 NCH SUB2 CPH:CRCO SUB2 ME, O SUB2 NCH: CPHCH(COR PRIME1) COR PRIME2, OR 5,5,DIMETHYL,2,(1,PHENYL,2,NITROETHYL),1,3,CYCLOHEXANEDIONE. THE REACTION OF I WITH MEOH GAVE PHC,(OME) SUB2 CH SUB2 NO SUB2. SIMILARLY, PHCI:CPHNO SUB2 REACTED WITH MEOH TO GIVE PHC (OME) SUB2 CHPHNO SUB2. FACILITY: LENINGRAD. GOS. PEDAGOG. INST. IM. GERTSENA, LENINGRAD, USSR.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

1/2 025 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--A TECHNIQUE FOR DETERMINING THE DYNAMICS AND RATE OF PORTAL CIRCULATION WITH THE AID OF A PLATINUM AND HYDROGEN ELECTRODE -U-

AUTHOR-(04)-VISHNEVSKIY, A.A., VOLYNSKIY, YU.D., DANILOV, M.V., BERDIKYAN, S.YA.

COUNTRY OF INFO--USSR

SOURCE--KHIRURGIYA, 1970, NR 4, PP 97-99

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BLOOD CIRCULATION, LIVER, VEIN, HYPERTENSION, PLATINUM ELECTRODE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1983/1219 STEP NO--UR/0531/70/000/004/0097/0099

CIRC ACCESSION NO--AP0054114

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

2/2 025 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0054114

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS PROPOSE A NEW METHOD OF STUDYING THE PORTAL CIRCULATION BY MEANS OF A CATHETER WITH A PLATINUM ELECTRODE INTRODUCED INTO THE HEPATIC VEIN. ASCORBIC ACID SOLUTION WHICH WAS INTRODUCED INTRASPLENICALLY. THE PLATINUM ELECTRODE RECORDS THE INDICATOR DILUTION CURVE IN THE HEPATIC VEIN. THE REFERRED OT TECHNIQUE ENABLES ACCURATE DETERMINATION OF THE RATE OF PORTAL HYPERTENSION AND THE CHARACTER OF INDICATOR EVACUATION FROM THE PORTAL CHANNEL, AS WELL AS HELPS TO ASSESS THE DEGREE OF CIRCULATION IMPAIRMENT THROUGH THE LIVER AND COLLATERAL CIRCULATION.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

USSR

UDC 621.372.855(088.8)

VOLYNTSEV, L. K., BOROVSKIY, YU. R., MAL'TSEV, A. YA.

"Coaxial Matched Load"

USSR Author's Certificate No 275186, Filed 29 Jun 67, Published 14 Oct 70 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4B178P)

Translation: The proposed load consists of a high frequency connector, a housing, a resistance, a cap and a tuning assembly.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

Pharmacology and Toxicology

USSR

UDC 615.214.3

KHOLODOV, L. Ye., TASHUNSKIY, AL'TSHULER, R. A., MASHKOVSKIY, M. D., ROSHCHINA, L. F., SHERSHNEVA, S. I., LEYBEL'MAN, F. Ya., VOLZHINA, O. N., GOROIETSKIY, L. Sh., and PETROVA, N. A., All-Union Chemical and Pharmaceutical Institute imeni S. Ordzhonikidze, Moscow

"Sydnocarb, a New Central Nervous System Stimulant"

Moscow, Khimiko-Farmatsevticheskiy Zhurnal, No 1, 1973, pp 50-52

Abstract: The recently developed heterocyclic compound sydnocarb -- N-phenylcarbamoyl-3-(β-phenylisopropyl) sydnonomine, $C_{18}H_{18}N_4O_2$ -- produced marked motor excitation in mice, rats, dogs, and cats, increased the frequency and decreased the amplitude of electrical potentials, shortened the latent period of conditioned avoidance reflexes, and reduced the duration of the somnifacient action of hexobarbital. It did not depress monamine oxidase activity, affect arterial pressure, or cause morphological changes in the viscera or peripheral blood. Administered to persons with various neurological and mental diseases (average dose 10 to 25 mg) characterized by asthenic, adynamic, and apathic disorders, sydnocarb had a pronounced stimulatory effect (exceeding that of amphetamine) without inducing euphoria or motor excitement, tachycardia, elevated blood pressure, or other peripheral changes. No signs of physical or

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

USSR

6

KHOLODOV, L. Ye., Khimiko-Farmatsevticheskiy Zhurnal, No 1, 1973, pp 50-52

mental dependence were observed even in patients that received the drug more than 2 years. Sydnocarb has been authorized by the USSR Ministry of Health for use as a psychotropic agent.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

1/2 023 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--COMPUTER DESIGN OF ION EXCHANGE PROCESSES -U-

AUTHOR-(04)-VOLZHINSKIY, A.I., SMIRNOV, N.N., ROMANKOV, P.G., VIKTOROV, V.K.

COUNTRY OF INFO--USSR

SOURCE--TEOR. OSN. KHIM. TEKHNOL. 1970, 4(1), 118-22

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL REACTION KINETICS, MAGNESIUM, CALCIUM, ION EXCHANGE, SORPTION, COMPUTER APPLICATION, MODEL, ION EXCHANGE RESIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1987/1085 STEP NO--UR/0455/70/004/001/0118/0122

CIRC ACCESSION NO--AP0104483

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

2/2 023 UNCLASSIFIED

CIRC ACCESSION NO--AP0104483 PROCESSING DATE--18SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SORPTION KINETICS OF MG PRIME2 POSITIVE OR CA PRIME2 POSITIVE IONS BY A SINGLE BEAD OF CATION EXCHANGE RESIN WERE TREATED BY A. I. VOLZHINSKII (1969) AND THE BEHAVIOR OF A COLUMN OF RESIN ONLY ONE BEAD DEEP IS SIMILAR. THE TREATMENT IS EXTENDED TO CALC. THE ELUTION CURVE FOR A COLUMN PACKED WITH THE RESIN, BY NUMERICAL INTEGRATION OF THE EQUATION DOWN THE COLUMN. THE WAY IN WHICH A COMPUTER PROGRAM WAS WRITTEN TO PERFORM THE INTEGRATION, APPROX. BY ITERATIVE SUMMATION, IS SHOWN IN A FLOW DIAGRAM. COMPARISON WITH EXPT. SHOWS A SMALL DISCREPANCY AT HIGH LEVELS OF SORPTION OF MG AND CA, WHICH IS EXPLAINED BY INTERNAL RESISTANCE TO DIFFUSION; AN IMPROVED VERSION OF THE KINETIC EQUATION FOR THE ELEMENTARY LAYER OF RESIN IS SUGGESTED.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

41

		Page
Drikker, A. S., Krasovskiy, R. R.	Reception of a Fluctuating Optical Signal	144
Vaytsel', V. I.	Optimization of an Optical Heterodyning System	152
Shchelkunov, K. N.	Analysis of the Synchronization of an Optical Communication Channel with Time Division Multiplexing of the PCM Trunks	159
Litvinova, T. P., Lobkova, L. M.	Frequency-Space Correlation Function of the Amplitudes of Waves Propagated in a Locally Isotropic Turbulent Atmosphere	166
Lobkova, L. M., Chistyakov, A. B., Lobkov, M. M.	Effect of Amplitude and Phase Field Distribution at a Laser Output on the Spatial Coherence of the Laser Emission	174
Lobkova, L. M., Chistyakov, A. B., Lobkov, M. M.	Fast and Slow Fluctuations of the Angles of Arrival of Laser Emission	181
Kislitsin, N. V., Poddubnyy, V. V.	Statistical Description of Hermitian and Laguerre Photon Fluxes	189
Kislitsin, N. V., Poddubnyy, V. V., Pulemin, V. P.	Quantum Mechanical Description of Some Procedures of Nonparametric Statistics	194
Poddubnyy, V. V., Trivozhenko, B. Ye.	Potential Accuracy of Measuring the Angular Position of Photon Source	198
Yeliseyev, P. G., Ismailov, I., Fedorov, Yu. F., Kazarnovskaya, L. G.	Application of Semiconductor Lasers for Multichannel Optical Communications	202
Strizhevskiy, V. L., Karpenko, S. G., Bagayev, A. V.	Relation of the Distribution Functions of a Quasimonochromatic Signal and Its Amplitudes ..	205
Deryugin, I. A., Kuramov, V. N.	Optimization of Optical-Band Quantum Counting Systems	210
Adrianova, I. I., Brodovich, N. A., Volzhonskiy, V. B., Danilov, B. S., Nesterova, Z. V., Petrova, A. V., Popov, Yu. V., Rozanov, N. N.	Laser Emission Modulation	221

VOLZHONSKIY

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

TECHNICAL TRANSLATION

165

1167 | FSTC-HT-23-2015-72

29 Oct 72

ENGLISH TITLE: PROBLEMS OF LASER BEAM DATA TRANSMISSION PROCEEDINGS OF THE FIRST ALL-UNION CONFERENCE, KIEV, SEPTEMBER 1968

FOREIGN TITLE: PROBLEMY PEREDACHI INFORMATSII LAZERNYM IZLUCHENIYEM

AUTHOR: I. A. DERYUGIN, ET AL.

SOURCE: KIEV ORDER OF LENIN STATE UNIVERSITY IMENI T.G. SCHEVCHENKO

Translated for FSTC by ACSI

NOTICE

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- Title Page -

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

USSR

UDC 612.127+612.111+612.460

VOLZHSKAYA, A. M., and VOYTKEVICH, V. I., Laboratory of Experimental and Clinical Hematology, Institute of Physiology imeni I. P. Pavlov, Academy of Sciences of the USSR, Leningrad

"The Effect of Hyperoxia on the Erythropoietic Properties of the Plasma of Blood Flowing From a Kidney"

Leningrad, Fiziologicheskiy Zhurnal SSSR imeni I. M. Sechenov, Vol 57, No 11, 1971, pp 1,695-1,699

Abstract: In an attempt to study the role of the kidneys in erythropoiesis under the conditions of hyperoxia, rabbits were subjected to an environment containing 90 percent oxygen and 10 percent nitrogen at normal atmospheric pressure. It was discovered that the erythropoietic activity of the plasma of arterial blood from the kidneys of the rabbits decreased significantly after their exposure to hyperoxic conditions. The plasma of venous blood from the kidneys not only did not possess erythropoietic properties, but it even exhibited an inhibiting effect on the mitotic activity of the erythroblastic cells in bone marrow cultures. This data indicates that hyperoxia causes the kidneys to stop secreting erythropoietin and possibly to begin the formation of a substance to inhibit erythropoiesis. One of the cuases of these phenomena is obviously the

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

USSR

VOLZHSKAYA, A. M., and VOYTKEVICH, V. I., Fiziologicheskiy Zhurnal SSSR imeni I. M. Sechenov, Vol 57, No 11, 1971, pp 1,695-1,699

hemodynamic changes in the kidneys in the form of plethora that were discovered in the "hyperoxic" rabbits. The peripheral blood of the rabbits was also studied and an increase in the hemoglobin, erythrocytes, and the hematocrit was discovered. As the number of reticulocytes in the circulating blood and the percentage of normoblasts in the bone marrow did not change, this increase could not be attributed to the newly formed erythrocytes, cut was most likely connected with the hemodynamic changes.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

1/2 021 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--PLASMA ERYTHROPOETINS ON SOME EXPERIMENTAL RENAL DAMAGES -U-

AUTHOR--VOLZHSKAYA, A.M.

COUNTRY OF INFO--USSR

SOURCE--FIZIOLOGICHESKIY ZHURNAL SSSR IEMNI I. M. SECHENOVA, 1970, VOL 56, NR 5, PP 791-794

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--KIDNEY FUNCTION, BLOOD CIRCULATION, SURGERY, ERYTHROPOESIS, ERYTHROCYTOSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/1614 STEP NO--UR/0239/70/056/005/0791/0794

CIRC ACCESSION NO--AP0127105

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

2/2 021 UNCLASSIFIED

CIRC ACCESSION NO--AP0127105 PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EFFECT OF ACUTE RENAL ISCHEMIA ON THE PLASMA ERYTHROPOETIC PROPERTIES WAS STUDIED IN SOME EXPERIMENTAL RENAL DAMAGES (CLIPPING OF THE RENAL STEM, CONSTRICTION OF THE RENAL ARTERY, MONOSIDE HYDRONEPHORSIS). WITH THE MONOSIDE HYDRONEPHORISIS, INCREASE OF THE PLASMA ERYTHROPOETIC ACTIVITY AND THE ERYTHROCYTOSIS WERE NOTED IN THE EXPERIMENTAL ANIMALS. THIS INDICATES TO PARTICIPATION OF THE KIDNEYS IN FORMATION OF THE PLASMA ERYTHROPOETIC PROPERTIES, THUS BEING APPARENTLY A CAUSE OF THE ERYTHROCYTOSIS IN EXPERIMENTAL HYDRONEPHOROSIS. FACILITY: I.P. PAVLOV'S INSTITUTE OF PHYSIOLOGY ACAD. SCI. USSR, LENINGRAD.

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

USSR

UDC 612.111.3+612.111.11+612.273+612.460

VOYTKEVICH, V. I. and VOLZHSKAYA, A. M., Institute of Physiology imeni I. P. Pavlov, Academy of Sciences USSR

"The Possible Appearance of an Erythropoiesis Inhibitor in Blood from the Renal Vein During Hyperoxia"

Moscow, Doklady Akademii Nauk SSSR, Vol 191, No 3, 1970, pp 723-725

Abstract: Experiments on rabbits exposed for 40 hours to an atmosphere containing 90 percent oxygen revealed a decrease (almost total disappearance) of erythropoiesis in arterial blood from the left ventricle and in renal blood. The mitotic activity of erythroblasts in a bone marrow culture was depressed, apparently because of the formation of an inhibitor of erythropoiesis in the kidneys. At the same time, the hemoglobin content, erythrocyte count, and hematocrit value were well above normal, an indication of the lack of redistribution of the erythrocytes due to hyperoxia. However, 24 hours after the end of exposure, the erythropoietic factor and other hematological indices were the same as in the controls.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

1/2 028

UNCLASSIFIED

TITLE--POSSIBILITY OF THE OCCURRENCE OF AN ERYTHROPOIESIS INHIBITOR IN THE BLOOD FROM THE KIDNEY VEIN DURING HYPEROXIA -U-

PROCESSING DATE--30OCT70

AUTHOR-(02)-VOYTKEVICH, V.I., VOLZHSKAYA, A.M.

COUNTRY OF INFO--USSR

SOURCE--AKADEMIIA NAUK SSSR, DOKLADY, VOL. 191, MAR. 21, 1970, P. 723-725

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ATMOSPHERE COMPOSITION, HYPEROXIA, KIDNEY FUNCTION, BLOOD CHEMISTRY, ERYTHROPOESIS, INHIBITION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/1023

STEP NO--UR/0020/70/191/000/0723/0725

CIRC ACCESSION NO--AT0121619

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

2/2 028 UNCLASSIFIED

CIRC ACCESSION NO--AT0121619 PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INVESTIGATION OF THE ERYTHROPOEITIC ACTIVITY OF THE KIDNEY BLOOD OF A GROUP OF 22 RABBITS KEPT FOR 40 HR IN A NITROGEN OXYGEN ATMOSPHERE CONTAINING 90PERCENT OXYGEN. A NEARLY COMPLETE ARREST OF ERYTHROPOEITIC ACTIVITY WAS OBSERVED IN THE ARTERIAL BLOOD OF THE RABBITS IMMEDIATELY AFTER EXPOSURE, WHILE THE BLOOD PLASMA FROM THE KIDNEY SHOWED NO SUCH EFFECTS. IT IS SUGGESTED THAT AN ERYTHROPOIESIS INHIBITOR FORMED IN THE KIDNEY BLOOD UNDER HYPEROXIA MAY BE RESPONSIBLE FOR THE ABSENCE OF ERYTHROPOIESIS DEPRESSION IN THIS BLOOD. FACILITY: AKADEMIIA NAUK SSSR, INSTITUT FIZIOLOGII, LENINGRAD, USSR.

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

Acc. Nr: AP0051925 Ref. Code: UR 0219

PRIMARY SOURCE: Byulleten' Eksperimental'noy Biologii i Meditsiny, 1970, Vol 69, Nr 2, pp 38-41

ERYTHROPOIETIC PROPERTIES OF THE PLASMA AND CHANGES OF THE BLOOD COMPOSITION IN EXPERIMENTAL HYDRONEPHROSIS

A. M. Volzhskaya

I. P. Pavlov Institute of Physiology of the Academy of Sciences of the USSR, Moscow

Influence exerted by unilateral experimental hydronephrosis on the erythropoietic properties of the plasma and the composition of the peripheral blood was studied. Note was taken of an increased erythropoietic activity of the plasma and development of erythrocytosis in experimental animals. These data bear proof to the participation of the kidneys in forming erythropoietic properties of the plasma, this, apparently, being responsible for the development of erythrocytosis in experimental hydronephrosis.

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19820408

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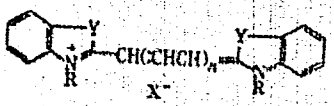
"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

Acc. Nr. AP0041900 Abstracting Service: CHEMICAL ABST. 4/70 Ref. Code UR0368

89619r Coloring of cyanine dyes and polarizability of groups in the heterocyclic residues. Spasokukotskii, N. S.; Vompe, A. F. (USSR). *Zh. Prikl. Spektrosk.* 1970, 12(1), 97-103 (Russ). Differences in color of π-isoelectronic cyanine dyes contg. heterocyclic rings are, in part, explained by different polarizabilities of atoms or functional groups in the heterocyclic ring which do not possess π-electrons and cannot take part in the conjugation with the rest of the mol. The validity of this conclusion is shown for a series of carbocyanine and oxanine dyes, e.g. I. The mol. refraction coeff., MR_D, is a measure of the polarizability of the group Y (Y = a group forming a part of the heterocyclic ring) and the higher the value of MR_D, the higher



(I)

the exptl. value of λ. Thus, the following values were found for I (R = Et, n = 1) (Y, MR_D, and λ in mμ given): O, 1.0, 484; NMe, 5.3, 490; CMe_2, 7.3, 548; S, 7.8, 559; CH:CH, 10.0, 603; Se, 10.8, 572.

C. Parkanyi

REEL/FRAME
19751785

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

USSR UDC: 519.217

VONKHEM, V. M.

"Optimum Stationary Control of a Linear System Under the Effect of Noise Dependent on the State"

V sb. Nelineyn. i optimal'n. sistemy (Nonlinear and Optimum Systems--collection of works), Moscow, "Nauka", 1971, pp 91-104 (from RZh-Kibernetika, No 7, Jul 71, Abstract No 7V107)

Translation: This paper deals with the problem of optimum control of a linear system subjected to the effect of noise with an intensity which depends on the state of the system (proportional to the state variable). This noise effect may be treated as random disturbance of the matrix of coefficients of the system. The control is sought from the condition of minimum mathematical expectation of the loss function, which is in square-law dependence on the vector of states and the vector of controls. The existence of optimum control is proved. Author's abstract.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

USSR

UDC [537.226+537.311.33]:538

VONSOVSKIY, S. V.

"Magnetism. Magnetic Properties of Dia-, Para-, Ferro-, Antiferro-, and Ferrimagnets"

Magnetizm. Magnitnyye svoystva dia-, para-, ferro-, antiferro-, i ferrimagnetikov (cf. English above), Moscow, "Nauka," 1971, 1031 pp, ill., 6 r. 73 k. (from RZh-Fizika, No 2, Feb 72, Abstract No 2YE1361K)

Translation: The purpose of the book is to set forth the current status of physical ideas about the magnetic properties of various solids. Part I presents basic information on the electrodynamics, thermodynamics, and statistical mechanics of magnetic media and gives a general classification of magnetic substances. Part II of the book deals with the physics of the magnetism of low-magnetic substances which do not possess an atomic magnetic order: i.e., dia- and paramagnets. The article deals with the diamagnetism of nonmetallic solids as well as magnetic properties of superconductors; the paramagnetism of atoms, molecules, and crystals; magnetic properties of low-magnetic metals and semiconductors; electron paramagnetic resonance (EPR) is considered, as well as galvano- and thermodynamic properties, magnetooptic phenomena, and methods for magnetic cooling of solids. Part III is devoted to a description

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

USSR

VONSOVSKIY, S. V., Magnetizm. Magnitnyye svoystva dia-, para-, ferro-, antiferro-, i ferrimagnetikov, Moscow, "Nauka," 1971, 1031 pp, ill., 6 r. 73 k. (from RZh-Fizika, No 2, Feb 72, Abstract No 2YE1361K)

of highly magnetic substances which possess an atomic magnetic order: i.e., ferro-, ferri-, and antiferromagnets. A qualitative description of ferro- and antiferromagnets is given here, as well as molecular field theory, quantum theory of ferro- and antiferromagnets -- d- and f-metals and alloys, the principal theses of the modern technical magnetization curve theory, problems of the magnetodynamics of ferromagnets, nonmagnetic properties of magnetically ordered substances. At the end of the book there is a description of nuclear effects in substances with an atomic magnetic order. Bibliography with 7,000 titles.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

1/2 043 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--FERROMAGNETIC SEMICONDUCTOR WITH EXCHANGE INTERACTION VIA CONDUCTION ELECTRONS -U-

AUTHOR-(03)-VONSOVSKIY, S.V., SAMOKHVALOV, A.A., BERDYSHEV, A.A.

COUNTRY OF INFO--USSR

SOURCE--HELV. PHYS. ACTA 1970, 43(1), 9-16

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--FERROMAGNETIC MATERIAL, SEMICONDUCTOR CONDUCTIVITY, MAGNETIZATION, CURIE POINT, PRESSURE EFFECT, FERROMAGNETIC RESONANCE, HALL EFFECT, MAGNETORESISTANCE, ELECTRON PARAMAGNETIC RESONANCE, CHARGE EXCHANGE, EUROPIUM COMPOUND, GADOLINIUM COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1139 STEP NO--SZ/0000/70/043/001/0009/0016

CIRC ACCESSION NO--AP0124794

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

2/2 043 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124794

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SINGLE CRYSTALS OF EU SUB0.01 O WERE INVESTIGATED BY MEASURING THE FOLLOWING PROPERTIES: THE MAGNETIZATION AT 177-300DEGREESK WITH FIELDS UP TO 16 KOE BY USE OF VIBRATING MAGNETOMETER, THE SHIFT IN THE CURIE TEMP. UNDER HYDROSTATIC PRESSURE UP TO 11 KILOBARS, PARAMAGNETIC AND FERROMAGNETIC RESONANCES AT 9.5 GHZ, ELEC. COND., HALL EFFECT, AND MAGNETORESISTANCE. THERE ARE INDICATIONS OF EXCHANGE INTERACTIONS VIA COND. ELECTRONS.

FACILITY: INST. METALLPHYS., SVERDLOVSK, USSR.

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

1/2 023 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--PARAMAGNETIC RELAXATION OF MACRORADICALS STABILIZED IN GAMMA IRRADIATED POLYCAPROLACTAM -U-

AUTHOR-(03)-VONSYATSKIY, V.A., TARANUKHA, O.M., LEBEDEV, YA.S.

COUNTRY OF INFO--USSR

SOURCE--TEOR. EKSP. KHIM. 1970, 6(2), 235-42

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, NUCLEAR SCIENCE AND TECHNOLOGY, PHYSICS

TOPIC TAGS--EPR SPECTRUM, FREE RADICAL, GAMMA RADIATION, POLYMER STRUCTURE, CAPROLACTAM, PARAMAGNETIC RELAXATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/0924 STEP NO--UR/0379/70/006/002/0235/0242

CIRC ACCESSION NO--AP0137952

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

2/2 023 UNCLASSIFIED

CIRC ACCESSION NO--AP0137952 PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PORTIS CASTNER MODEL (A. M. PORTIS, 1953; T. G. CASTNER, 1959) DOES NOT ALWAYS APPEAR ACCEPTABLE FOR THE DESCRIPTION OF SATN. OF EPR SIGNALS OF RADICALS STABILIZED IN THE POLYMER MATRIX IN THE IRRADN. PROCESS. USE OF THE CONCEPT OF CHAOTIC SPECTRAL DIFFUSION ELIMINATES THE DISCREPANCY BETWEEN EXPTL. RESULTS AND THE THEORETICAL MODEL. THE RATE OF SPECTRAL DIFFUSION APPEARS TO BE A PARAMETER WITH THE AID OF WHICH LOW FREQUENCY MOTION IN POLYMER CHAINS IN THE VICINITY OF RADICAL CENTERS MAY BE STUDIED. FACILITY: INST. KHIM. VYSOKOMOL. SOEDIN., KIEV, USSR.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

1/2 038 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--EFFECT OF RADIOACTIVE RADIATION ON ELECTRON PARAMAGNETIC CHARACTERISTICS OF MACRORADICALS IN GAMMA IRRADIATED POLYCAPROLACTAM -U-

AUTHOR-(03)-TARANUKHA, O.M., VONSYATSKIY, V.A., LEBEDEV, YA.S.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(4), 898-901

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--CAPROLACTAM, STRESS RELAXATION, POLYMER, GAMMA RADIATION, ACTIVATION ENERGY, PARAMAGNETISM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/2028 STEP NO--UR/0020/70/190/004/0898/0901

CIRC ACCESSION NO--AT0112983

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

2/2 038 UNCLASSIFIED PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AT0112983

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RELAXATION PROPERTIES OF MACRORADICALS IN POLYCAPROLACTAM (I) IRRADIATED WITH 6-250 MEGARADS OF GAMMA RAYS WERE STUDIED. SPECTRAL DIFFUSION MAY HAVE OCCURRED DUE TO RANDOM MOTION OF MACROMOL. CHAINS ABOUT THE SPIN CENTER AT 77DEGREESK, THE MOTION INTENSITY BEING PROPORTIONAL TO THE IRRADN. DOSE. THE ACTIVATION ENERGY OF SPECTRAL DIFFUSION WAS SIMILAR TO 0.9 KCAL-MOLE.

FACILITY: INST. KHIM. VYSOKOMOL. SOEDIN., KIEV, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

1/2 007 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--DETERMINATION OF THE REACTIVITY OF PHENYL OCTANES WITH A LOOSE CHAIN AT ALKYLATION IN THE PRESENCE OF ALCL SUB3. 1 -U-

AUTHOR--VOORE, H.

COUNTRY OF INFO--USSR

SOURCE--IZVESTIYA AKADEMII NAUK ESTONSKOY SSR, KHIMIYA, GEOLOGIYA, 1970, VOL 19, NR 2, PP 104-108

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--OCTANE, BENZENE DERIVATIVE, ALKYLATION, ALUMINUM CHLORIDE, ETHYLBENZENE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1555

STEP NO--UR/0470/70/019/002/0104/0108

CIRC ACCESSION NO--AP0112549

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

2/2 007 UNCLASSIFIED

CIRC ACCESSION NO--AP0112549 PROCESSING DATE--02OCT70

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

ABSTRACT. WITH THE HELP OF THE SO CALLED CO ALKYLATION METHOD, A STUDY WAS MADE OF THE REACTIVITY OF ISOOCTYL BENZOL AT ITS ALKYLATION WITH ISOOCTENE IN THE PRESENCE OF ALCL SUB3. THE ALKYLATION OF ISOOCTYL BENZOL WAS EFFECTED IN TWO STAGES: FIRSTLY, IN A MIXTURE WITH BENZOL, AND SECONDLY, WITH ETHYL BENZOL. ALKYLATION PROCEEDED IN THE SOLUTION OF NITROBENZOL, THE YIELDS OF PRODUCTS BEING DETERMINED BY RECTIFICATION. THE REACTIVITY OF ETHYL BENZOL WAS STATED TO BE 2.60, AND REACTION SPEED OF ISOOCTYL BENZOL WITH ETHYL BENZOL BEING 0.227. THE REACTIVITY OF ISOOCTYL BENZOL WAS 0.59.

FACILITY: INSTITUT KHIMII, AKADEMII NAUK ESTONSKOY SSR.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

USSR UDC: None

YERMOLOV, I. N., VOPILKIN, A. Kh., and RYZHOV-NIKONOV, V. I.

"A Device for Ultrasonic Defectoscopy"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obrastsy, tovarnye znaki, No 4, 1973, p 98, No 363911

Abstract: The distinctive feature of this device for use in defect-locating equipment is a second oscillograph indicator with scanning proportional to the change in frequency of the pulse signal filling. This has the effect of improving the accuracy of determining the form and dimensions of the defects. No illustration of the circuit is given.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

USSR

UDC 621.039.5

VOPOR'YEVA, V. G., D'YACHENKO, P. P., KUZ'MINOV, B. L., SERGACHEVA, A. I., SMIRENKINA, L. L.

"Recommended Power Dependence following from Analysis of the Energy Balance during Fission"

Tr. trekhstoron. Sov.-Bel'g.-Gollandsk. simpoziuma po nekotorym probleman fiziki bystrykh reaktorov (Works of the Three-Way Soviet-Belgian-Dutch Symposium on some Problems of Fast Reactor Physics), 1970, Vol 1, Moscow, 1970, D-24, pp 1-8 (from RZh-Elektrotekhnika i energetika, No 7, Jul 71, Abstract No 7U137)

Translation: The dependence of the number of secondary fission neutrons $\bar{\nu}$ for Th^{232}, U^{235}, U^{238} formed under the effect of neutrons with an energy up to 6 megaelectron volts was established on the basis of analyzing a large number of experimental data. A formula is presented which establishes the energy dependence of $\bar{\nu}$. Experimental data on the fission energy of Np^{237}, U^{235}, Th^{232}, U^{238} under the effect of neutrons with an energy up to 6 megaelectron volts are presented. There are 2 illustrations and a 10-entry bibliography.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

USSR

UDC 519.281

VORCHANINOV, M. G.

"Method of Main Components"

Tr. Mosk. Energ. In-ta. [Works of Moscow Power Engineering Institute], No. 76, 1970, pp 35-44 (Translated from Referativnyy Zhurnal Kibernetika, No. 4, April, 1971, Abstract No. 4 221 by P. Gol'din).

Translation: The application of the method of main components and construction of the algorithm of the method on type M-22 computers is studied. In addition to the standard problems of determination of the direction of projection of the sampling cluster and the degree of scattering, the problems of determination of the coefficients of the empirical regression equation and the significance of the initial factors according to degree of influence on the output quantity are solved. This allows elimination of nonessential factors. The author limits himself to determination of the regression equation in the form of a polynomial of arbitrary form, but not over second power. The algorithm allows simplification of procedures for calculation of estimates of the regression coefficients (due to the noncorrelated nature of the new variables) and allows the estimates produced to be transferred to the initial factor space. The area of applicability of the method and algorithm is limited by the necessity of measuring all factors in the same units

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

USSR

UDC 519.281

VORCHANINOV, M. G., Tr. Mosk. Energ. In-ta., No. 76, 1970, pp 35-44.

(due to the non-invariance of the transform of the method with respect to the scale parameter). Algorithms for the method and a test example are presented.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

1/2 034 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--SYNTHESIS OF POLYCRYSTALLINE FORMATIONS OF CUBIC BORON NITRIDE -U

AUTHOR-(05)-VERESHCHAGIN, L.F., YAKOVLEV, YE.N., SLESAREV, V.N., VORFOLOMEYEVA, T.O., GLADKAYA, I.S.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(2), 345-6

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--BORON NITRIDE, CRYSTALLOGRAPHY, CHEMICAL SYNTHESIS, HIGH PRESSURE R AND D

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/1049 STEP NO--UR/0020/70/191/002/0345/0346

CIRC ACCESSION NO--AT0119916

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

2/2 034 UNCLASSIFIED

CIRC ACCESSION NO--AT0119916 PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SYNTHESIS OF STRONG POLYCRYST. FORMATIONS OF THE CUBIC BN AND OF POLYCRYSTALS OF A GIVEN SHAPE IS REPORTED.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

UNCLASSIFIED

TITLE--PHOSPHOROUS ACID ESTERS AS COLORLESS STABILIZERS OF LOW PRESSURE POLYETHYLENE -U-

PROCESSING DATE--30OCT70

AUTHOR-(05)-KIRPICHNIKOV, P.A., KOLYUBAKINA, N.S., MUKMENEVA, N.A., MUKMENEV, E.T., VORKUNOVA, E.I.

COUNTRY OF INFO--USSR

SOURCE--VYSOKOMOL. SOEDIN. SER. B 1970, 12(3), 189-92

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--ORGANIC PHOSPHORUS COMPOUND, CHEMICAL STABILIZER, HETEROCYCLIC BASE COMPOUND, POLYETHYLENE, ORGANIC SULFUR COMPOUND, ANTIOXIDANT ADDITIVE, SULFIDE, PHENOL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0669 STEP NO--UR/0460/70/012/003/0189/0192

CIRC ACCESSION NO--AP0124341

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

2/2 027 UNCLASSIFIED

CIRC ACCESSION NO--AP0124341 PROCESSING DATE--30OCT7

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ADDN. OF P CONTG. COMPDS., (RO)SUB3 P (R IS ET, BU, HEXYL, NONYL, PH, OR ISO BUC SUB6 H SUB4), I, II, OR III (R PRIME IS ISOOCTYL), TO LOW PRESSURE POLYETHYLENE (IV) ALS CONTG. ANTIOXIDANTS (BIS(5,METHYL, 3,TERT,BUTYL,2,HYDROXYPHENYL) SULFIDE, BIS(5,METHYL,3,TERT,BUTYL,2,HYDROXY) METHANE, OR 2,6 BIS(ALPHA METHYLBENZYL),4,METHYLPHENOL) INHIBITED COLOR FORMATION DURING HEATING IV IN AIR AT 190DEGREES OR 200DEGREES. THE P CONTG. COMPDS. REACTED WITH THE RESIDUAL TI CATALYSTS, PREVENTING THEIR COLOR REACTION WITH TH ANTIOXIDANTS. FACILITY: KAZAN. KHIM. TEKHNOL. INST. IM. KIROVA KAZAN, USSR.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

USSR

UDC 576.858.75.098.396.33.06

VORKUNOVA, G. K., SMIRONOV, YU. A., and BUKRINSKAYA, A. G., Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR, Moscow

"Infectious Activity of Newly Synthesized Paramyxovirus Ribonucleoprotein"

Moscow, Vorposy Virusologii, No 6, Nov/Dec 71, pp 707-713

Abstract: The infectious factors present in cytoplasmatic extracts of Ehrlich ascites carcinoma cells infected with Sendai virus were investigated on mice by radioactive (P^{32} and H^3-uridine) and fractionation methods. It was established that the toxicity is due to a newly synthesized viral ribonucleoprotein present in the cytoplasm of the host cells in the form of straight strands and having the buoyant density of 1.38 g/cm3. This modified ribonucleoportein is believed to represent a prefinal stage, after which the strands are arranged into spirals before they are incorporated into the virus. The infectious paramyxovirus ribonucleoprotein was found only in ascitic carcinoma cells.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

USSR

UDC 541.515:547.1'118

LEVIN, YA. A., IL'YASOV, A. V., GOL'DFARB, E. I., and VORKUNOVA, YE. I.,
Institute of Organic and Physical Chemistry Imeni A. Ye. Arbuzov, Acad. Sc.
USSR

"Proof of the Existence of Phosphoroanilic Radicals"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 7, Jul 72,
pp 1673-1674

Abstract: During the thermolysis of di-tertiary butyl peroxide in triphenylphosphite a negative polarization of phosphorus nuclei is observed in the intermediate product -- diphenyl-tert-butylphosphite and in triphenylphosphate. During the thermolysis of benzolazotriphenylmethane in trialkylphosphites a negatively polarized dialkylphenylphosphonate is formed. During the photolysis of CCl_3Br under a mercury lamp in triethyl- or tributylphosphites, concurrently with the negative polarization of phosphorus nuclei in dialkyltrichloromethylphosphonate and dialkylbromophosphate, a strong emission is observed in the starting phosphite. These facts are considered to be sufficient proof for the existence of a stable intermediate phosphoroanilic radical in the reactions cited.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

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USSR

VORKUYEV, B. L.

"The Problem of the Structure of Consumption in a Multibranch Dynamic Model"

Issled. po mat. Ekon. i Smezh. Vopr. [Studies in Mathematical Economics and Related Problems -- Collection of Works], Moscow University Press, 1971, pp 36-45, (Translated from Referativnyy Zhurnal, Kibernetika, No 3, 1972, Abstract No 3 V449).

NO ABSTRACT.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

USSR

UDC 539.3:534.1

VOROB'EV, YU. S., and GONTAROVSKIY, P. P.

"Application of Variation Method to Vibration Calculations of Moving Blades and Air Propellers"

Moscow, Dinamika i Prochnost' Mashin, Nauch.-Tekhn. Sb (Dynamics and Strength of Machines - Collection of Scientific-Technical Works), No 14, 1971, pp 37-43 (from Referativnyy Zhurnal-Aviatsionnyye i Raketnyye Dvigateli, No 2, Feb 72, Abstract No 2.34.22)

Translation: The improved accuracy relations, previously obtained by Yu. S. Vorob'ev, for the flexural-torsional-longitudinal oscillations of rotating bars are applied to the solution by the variation method of the natural frequency of individual moving blades and blades connected by ties in groups or in complete rings, with

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

USSR

VOROB'EV, YU. S. and GONTAROVSKIY, P. P., Dinamika i Prochnost' Mashin, Nauch.-Tekhn. Sb, No 14, 1971, pp 37-43

various number of nodes. The flutter critical speed of an air propeller is also determined. The effect of various factors on frequency, mode and relative stresses of moving blade is determined by means of computer calculations. It is shown that the Coriolis forces may increase or decrease the flutter critical speed depending on the bar geometry. 3 tables. 3 illustrations. 11 references.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

1/2 009 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--INVESTIGATION OF MOLTEN MAGNESIA PORTLAND CEMENT -U-

AUTHOR-(02)-VOROBEVA, M.A., DRAGOI, I.

COUNTRY OF INFO--USSR

SOURCE--EPITOANYAG 1970, 22(2), 74-80

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--MAGNESIUM OXIDE, CEMENT, ALUMINA

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0595 STEP NO--HU/0049/70/022/002/0074/0080

CIRC ACCESSION NO--AP0119513

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

2/2 009 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119513

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE POSSIBILITIES OF PRODUCING HIGH MAGNESIA PORTLAND CEMENT WAS EXAMD. BY MELTING 7 CLINKER SAMPLES OF DIFFERENT COMPN. CONTG. 10 AND 15PERCENT MGO, RESP. AS RAW MATERIALS PURE SIO SUB2, AL SUB2 O SUB3, FE SUB2 O SUB3, AND CACO SUB3 WERE USED. THE SAMPLES WERE BURNED IN A SPECIAL REVERBERATORY FURNACE WITH BUTANE H MIXTS. THE CLINKERS WERE GROUND WITH 5PERCENT GYPSUM AND BURNED IN AN AUTOCLAVE FOR 4 HR AND THEIR VOL. STABILITY WAS EXAMD. AT 8 ATM. THE STRENGTHS OF 1:3 CEMENT SAND MIXTS. WERE DETD. THE EXPTS. SHOWED THAT THE MECH. STRENGTHS OF MOLTEN CEMENTS WERE HIGHER THAN THOSE OF SAMPLES MADE IN THE USUAL WAY. THE STRENGTH OF THE CEMENTS DECREASES WITH INCREASING MGO CONTENT. FAST COOLING WITH H SUB2 O ENHANCES THE STRENGTH. BOTH VOL. STABILITY AND STRENGTH IMPROVE WITH INCREASING 3CAO.SIO SUB2 CONTENT. ALTERATIONS OF THE COMPN. OF THE ALUMINATE FERRITE PHASE INVOLVES SUBSTANTIAL CHANGES IN THE VOL. STABILITY OF THE CEMENTS AS IT INCREASES WITH INCREASING AL SUB2 O SUB3 CONTENT.

FACILITY: MENDELEJEV KEM.-TECHNOL. INTEZ., MOSCOW, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

USSR

UDC 612.1.092:615.391

VOROBEY, A. I., Department of Experimental Therapy, Institute of Physiology imeni O. O. Bogomolets, Academy of Sciences Ukrainian SSR, Kiev

"Dynamics of Circulatory Indices Following Acute Hemorrhage and After Transfusion of BK-8 Blood Substitute"

Kiev, Fiziologicheskiy Zhurnal, Vol 16, No 4, Jul/Aug 70, pp 544-547

Abstract: The effect of transfusion of protein BK-8 blood substitute on the circulatory system following acute hemorrhage was studied. Cats weighing 2.5 to 4.0 kg were bled under nembutal anesthesia until 60-65% of the total blood volume was removed. The lost blood was immediately replaced by transfusion of protein BK-8 blood substitute in a quantity equal to that of the blood withdrawn. Immediately after the transfusion was completed, the minute and stroke volumes of the heart increased to 174 and 192 percent, respectively, total peripheral resistance dropped to an average of 47%, and the time of blood flow and time of circulation were reduced. Within 1.5 hours after the transfusion, the minute and stroke volumes of the heart were restored to their normal prehemorrhagic condition, although total peripheral resistance remained at a low level, reaching only 65% of the initial level. The blood flow and blood circulation times increased considerably over their values prior to the hemorrhage.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

1/2 016 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--SALT SYSTEMS BASED ON LITHIUM CHLORIDE, RUBIDIUM CHLORIDE, CESIUM CHLORIDE, AND URANYL CHLORIDE -U-

AUTHOR-(03)-VOROBEY, M.P., SKIBA, O.V., BEVZ, A.S.

COUNTRY OF INFO--USSR

SOURCE--AT. ENERG. 1970, 28(2), 139

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--LITHIUM CHLORIDE, RUBIDIUM COMPOUND, EUTECTIC, ALKALI METAL, URANIUM COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/1574 STEP NO--UR/0089/70/028/002/0139/0139

CIRC ACCESSION NO--AP0120353

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

2/2 016 UNCLASSIFIED PROCESSING DATE--23OCT7

CIRC ACCESSION NO--AP0120353

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE LICL-YO SUB2 CL SUB2 SYSTEM I CHARACTERIZED BY THE FORMATION OF 2 COMPDS., LI SUB2 UO SUB2 CL SUB4 (M.P. 508DEGREES) AND LI(UO SUB2) SUB3 CL SUB7 (M.P. 525DEGREES); EUTECTIC MIXTS. CONTAIN 26 AND 42.5 MOLE PERCENT UO SUB2 CL SUB2, AND THE RESP. M.PS. ARE 466 AND 450DEGREES. MIXTS. WITH SMALLER THAN OR EQUAL TO 30 MOLE PERCENT UO SUB2 CL SUB2 CONTAIN SOME PENTAVALENT U FORMED IN THE EQUIL. DISSOCN. OF UO SUB2 CL SUB2 TO UO SUB2 CL AND CL SUB2. THE RBCL-UO SUB2 CL SUB2 SYSTEM IS CHARACTERIZED BY THE FORMATIC OF RB SUB2 UO SUB2 CL SUB4, RB(UO SUB2) SUB2 CL SUB5, AND RB SUB4 UO SUB2 CL SUB6, AND BY 3 EUTECTIC MIXTS. CONTG. 30, 38 AND 81.5-82.5 MOLE PERCENT UO SUB2 CL SUB2 AND M. 355, 340, AND 510DEGREES, RESP.; THE COMPDS. FORMED IN THE CSCL-UO SUB2 CL SUB2 SYSTEM ARE OF THE SAME TYPES AS THOSE FORMED IN THE RBCL-UO SUB2 CL SUB2 SYSTEM, WHILE THE EUTECTIC MIXTS. CONTAIN 30, 41.5 AND 82.5 MOLE PERCENT UO SUB2 CL SUB2 ANDM. 395 370, AND 516DEGREES, RESP. NO PENTAVALENT U IS FOUND IN THE SYSTEMS CONTG. RB OR CS; THIS IS ATTRIBUTED TO THE STABILIZING EFFECT OF THE INCREASE IN THE IONIC RADIUS OF THE ALKALI METAL.

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VOROBEY, V.A.

SO: JPRS 54740
20 DEC 71

UDC: 614.355(049.3)

MILITARY SOCIAL HYGIENE AND MODERN TIMES

[Article* by Professor I.V. Aleksanyan, V.A. Vorobey; Moscow, Sovetskoye Zdravookhraneniye, Russian, No 11, 1971, submitted 22 May 1971, pp 41-45]

Soviet public health is a well organized and comprehensive system of socioeconomic and medical measures directed toward the prevention and treatment of disease, to provide for optimum development of the growing generation, and create healthy working and living conditions. The scientific theoretical basis of public health is social hygiene, the science that deals with national health protection, with the social bases of medicine and public health.

The organic unity of social hygiene and Soviet public health organization ensues from the undividedness of theory and practice in our country. The main objective of social hygiene is to analyze the main patterns determining the correlation between health and public health care and social conditions, and to provide a Marxist-Leninist solution to the problem of correlation between social and biological elements. The results of such analysis predetermine the necessary theoretical bases for elaboration of a system of practical public health measures as a whole and in the different branches of public health in accordance with the achievements in science and practice.

An extremely important section of social hygiene is investigation of the different aspects of the problem related to the effect of wars on the health of the people, investigation of the means of reducing the adverse effect of wartime factors on the health of the people, and development of measures to increase the effectiveness of therapeutic and preventive care for all population groups in wartime.

The timeliness of development of this section of social hygiene is determined by the fact that aggressive imperialistic forces still exist and are active in the modern world. The criminal aggression of the USA against the nations of Indochina continues, blood is being shed in different parts of the

*With reference to the article by O.K. Gavrilov, "Formation and Tasks of the Social Hygiene of War," Sov.Zdravookhr., No 2, 1971.

public health

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

USSR

UDC 536.46 + 662.62

VOROBEY, V. V., Moscow

"Study of the Process of Combustion of Solid Fuel in a Combined Rocket Motor"

Fizika Goreniya i Vzryva, No 1, Mar 71, pp 40-45.

ABSTRACT: A flat, two dimensional model of flow in the channel of a combined rocket motor with combustion was studied. A mathematical expression was developed for the rate of combustion of the solid fuel component. The physical model of combustion in a combined rocket engine suggested, which analyzes the interaction of components in the flame zone as a homogeneous reaction of at least second order occurring in the gas phase, and mass transfer in a boundary layer in correspondence with the rules of turbulent motion, allow the production of a mathematical expression for the combustion rate of the solid component which considers effectively the factors of gas dynamics and kinetics of the process. The equation produced is analyzed in order to determine the characteristics of the dependences of fuel combustion rate on the basic parameters of the process. The limits of utilization of simplified expressions for combustion rate are defined. The equations produced agree well with the experimental data presented.

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USSR

UDC 621.357.8:669.71

SEVERDENKO, V. P., LABUNOV, V. A., VOROBEY, Z. F., and STEL'MAKH, V. T.

"Evaluation of Parameters for the Plasma Anodizing of Aluminum"

Dokl. AN BSSR (Proceedings of the Academy of Sciences Belorussia SSR), 16, No 11, 1972, pp 995-997 (from Referativnyy Zhurnal -- Khimiya, No 7, 1973, Abstract No 7L339 by Ye. I. Khrushcheva)

Translation: A study was made of the influence of the location of oxidizable areas -- relative to the plasma and the discharge current -- on the kinetics of the oxidation of Al films and their ultimate thickness. It was shown that in regimes of a fixed voltage of formation and also a fixed surface current an increase in the discharge current leads to an increased maximum thickness of the oxidized layer and the rate of its growth. This effect of the discharge current is explained by the fact that the wall film and the density of the negative ions increase as the discharge current increases. The wall film determines the size of the oxide film (that is, the final thickness), and the negative ion density determines the oxidation and probability of spreading of the developing oxide.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

USSR

UDC 620.198:537.533.35

SEVERDENKO, V. P., Academician of the Belorussian Academy of Sciences; LABUNOV, V. A.; VOROBEY, Z. F.; and STEL'MAKH, V. T., Minsk Radio Engineering Institute

"Selecting Parameters for Plasma Anodized Aluminum"

Minsk, Doklady Akademii Nauk BSSR, vol 16, No 11, 1972, pp 995-997

Abstract: This paper is based on an earlier article (V. P. Severdenko, et al, DAN BSSR, vol 16, No 8, 1972) in which it was shown that the process of plasma anodizing of aluminum is determined to a large extent by the oxygen pressure in the vacuum chamber. The purpose of the present paper is to investigate other factors affecting this process, such as the position of the oxidized specimen relative to the plasma and the discharge current, which affects the kinetics of the aluminum film oxidation and the final thickness of the film. The experimental apparatus used to make these determinations is the same as that used in the earlier article, and the experimental method is described. Curves are obtained for the formation current and oxide thickness as functions of time, for various values of discharge current, and for the formation voltage

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

USSR

SEVERDENKO, V. F., et al, Doklady Akademii Nauk SSSR, vol 16, No 11, 1972, pp 995-997

and oxide thickness as functions of the time. Comparison of the curves shows that with constant formation current density, an increase in the discharge current leads to an increase in the maximum oxide thickness and its growth rate.

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USSR

UDC 669.295.31

KARYAZIN, I. A., REZNICHENKO, V. A., KHALIMOV, F. B., VOROBEYCHIK, A. I., MENYAYLOVA, G. A., KIPRICH, N. A., and GORDEUCHIK, R. A., Moscow

"Oxidation of High-Titanium Slag on Heating in Atmospheres of Air and Water Vapors"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 2, Mar-Apr 73, pp 37-43

Abstract: An experimental study was made of the oxidation of high-titanium slag of various fractional compositions and containing 10-12% FeO on heating up to 1000°C in air and in water vapor atmospheres. The oxidation dependences of titanium slag on the type of the oxidizing medium (oxygen of air, water vapor) and the temperature and size of slag comminution are discussed by reference to diagrams. The oxidation rate of slag in air was found to be considerably higher (twice as high at 700°C) than in water vapors. Under conditions of complete oxidation at temperatures from 300 to 1000°C, the highest oxidation degree is attained at 700°C, yielding in both oxidizing media products of similar chemical composition. On heating up to 700°C, the oxidation process of slag proceeds in two stages; the first is determined by a selective oxidation of titanium of lower valencies (below 400°C), and the second stage begins at temperatures over 500°C and depends on intensive oxidation of bivalent iron. Three figures, one table, ten bibliographic references.

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Titanium

USSR

UDC 669.295.31

REZNICHENKO, V. A., MENYAYLOVA, G. A., KARYAZIN, I. A., KHALIMOV, F. B., VOROBEYCHIK, A. I., and KIPRICH, N. A., Moscow

"Phase Transformations in the Process of Oxidation of High-Titanium Slag"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 5, 1973, pp 48-54

Abstract: The crystallo-optical method was used in a study of the processes taking place in the oxidation of a solid solution of anosovite, the principal phase of high-titanium slags. During the oxidation of high-titanium slags, crystallo-chemical transformations occur, during heating, in the anosovite lattice: below 400°C, oxidation reactions take place in titanium of lowest valencies in Ti^{4+} with TiO_2-separation in form of an independent phase; above 500°C, Fe^{2+} oxidizes to Fe^{3+} and the products of the reaction form with a part of free rutile a solid solution on the base of pseudobrookite ($Fe_2O_3 \cdot TiO_2$) lattice. The phase transformations in the case of maximum oxidation of anosovite by the oxygen of air and water vapors at 700°C and higher temperatures show a similar character: the reactions take place topochemically with the final formation of rutile and the solid solution on the base of pseudobrookite lattice. Three figures, three tables, 19 bibliographic references.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

USSR

UDC 669.295:549.6

REZNICHENKO, V.A., MENYAYLOVA, G.A., KARYAZIN, I.A., and VOROBEYCHIK, A.I.

"Effect of Titanium Dioxide on Structure and Technological-Chemical Properties of High-Titanium Slags"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 5, Sep/Oct 71, pp 49-54

Abstract: The degree of exposure of slags in sulfuric acid was studied by mixing 100-gram specimens of slag in sulfuric acid (89%) in a 1:1.9 ratio. Decomposition occurred with continuous heating (in the 190-210° range) and with stirring. After decomposition, the melt was exposed for 2 hours at 20°, then cooled and leached with water (6 hours at 75-80°). High-titanium slag obtained in the smelting of Irshinskiye ilmenite concentrates in ore-heating electric furnaces were investigated. Mineralogical studies of specimens of high-titanium slags showed that the principal dominant phase is anosovite. Data showed that the presence in slag of excess titanium dioxide crystallizing as rutile strongly affects the degree of exposure of high-titanium slags in sulfuric acid. It was found that high-titanium slag can be used in making pigment titanium dioxide by the sulfuric acid method if the anosovite present is stoichiometric in composition, and if excess titanium dioxide is maintained in a small amount or is completely absent. In smelting titanium slags for the pigment industry, slag with constant chemical composition must be sought for,

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REZNICHENKO, V. A., et al, Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 5, Sep/Oct 71, pp 49-54

where the principal components of the slag (TiO_2, Ti_2O_3, TiO, FeO, MgO, and Al_2O_3) must be entirely present as part of the anosovite without permitting crystallization of rutile.

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29

		Page
Fomchenkov, V. M., Shadrikov, O. A.	Application of the TsTS-19 Piezoceramic for Ultrasonic Scanning of a Laser Beam	402
Vanetsian, R. A., Lebedeva, L. N., Samylkin, N. I.	Rotation of the Lobes of the Reflection Pattern of Coherent Light on Rotation of the Reflecting Surfaces	408
Arsen'yan, T. I.	Study of the Statistical Properties of Variations of the Laser Field Intensity on Propagation on a Ground Route	412
Arsen'yan, T. I., Semenov, A. A.	Analysis of Random Variations of the Laser Field Intensity in the High-Frequency Part of the Spectrum During Propagation in the Troposphere	420
Gusev, V. G., Vorobeychikov	Study of the Passage of Phase Modulated and Amplitude Modulated Optical Band Signals Through the Atmosphere	425
Milyutin, Ye. P., Lobkova, L. M., Litvinova, T. P., Chistyakov, A. B.	Experimental Study of Laser Beam Propagation in the Atmosphere	429
Lobkova, L. M.	Power Fluctuations of Laser Radiation Caused by a Turbulent Atmosphere	435
Vlasov, G. I., Levin, I. M.	Laser Beam Videoinformation Transmission Range in an Aqueous Medium	443
Genin, V. N., Kabanov, M. V.	Spatial and Time Characteristics of Atmospheric Noise in the Visible Range of the Spectrum ...	447
Vaytsel, V. I., Khmelevtsov, S. S.	Holographic Recording Through Random Media ...	453
Senkevich, B. V., Lysakov, Ye. I., Osipov, Yu. N.	Frequency Stabilization of Laser Emission by the Active Method with the Application of an Auxiliary Heterodyne	460
Yegorov, Yu. P., Petrov, A. S.	Experimental Measurement of the Natural Radiation Line Width of a Gas Laser with Coupled Types of Oscillations	464
Sagatov, E. A., Nazarov, A. U.	Correlation Analysis of the Coherence of Laser Emission	471
Sagatov, E. A., Nazarov, A. U.	Laser Noise During Operation of an Optical Quantum Amplifier	478

VOROBEYCHIKOV

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

TECHNICAL TRANSLATION

FSTC-HT-23-2015-72

29 Nov 72

ENGLISH TITLE: PROBLEMS OF LASER BEAM DATA TRANSMISSION PROCEEDINGS OF THE FIRST ALL-UNION CONFERENCE, KIEV, SEPTEMBER 1968

FOREIGN TITLE: PROBLEMY PEREDACHI INFORMATSII LAZERNYM IZLUCHENIYEM

AUTHOR: I. A. DERYUGIN, ET AL.

SOURCE: KIEV ORDER OF LENIN STATE UNIVERSITY IMENI T.G. SCHEVCHENKO

Translated for FSTC by ACSI

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- Title Page -

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

USSR

UDC 538.56.01+621.38.029.64

VOROBEYCHIKOV, E. S., KIREYEV, A. M., KORCHAGIN, YU. A., POYZNER, B. N.

"Non-Autonomic Operation of a Reflex Klystron"

Kiev, Izvestiya VUZ -- Radioelektronika, Vol 13, No 8, 1970, pp 923-933

Abstract: The object of this paper is to demonstrate the merit of proving that multifrequency uhf oscillators are possible, comparing them with lasers, and explaining the characteristics of their non-autonomic operation. The authors begin by considering a device consisting of a reflex klystron connected to a waveguide line, and obtain the equations for the amplitudes and frequencies of the oscillations produced by the device. Since the equations they derive are of the same form as those of the gas laser, there is a definite analogy between multifrequency oscillation systems in the optical and uhf ranges. A table is presented listing the comparative aspects of the klystron and the helium-neon laser. The non-autonomous operation of the klystron is investigated by generalizing the known results of laser analysis, and an experiment for checking the findings of this investigation is described. The results of the experiment agree closely with the results obtained from theory.

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USSR

UDC 538.56.01:621.38.029.64

VOROBEYCHIKOV, E. S., KORCHAGIN, Yu. A., POYZNER, B. N.

"The Behavior of a Multifrequency Klystron Generator Under the Action of a Small Superhigh-Frequency Signal"

Izvestiya Vysshykh Uchebnykh Zavedeniy Fizika, No 6, 1970, pp 44-48

Abstract: A study is made of the operation of a multifrequency generator: namely, a reflex klystron, coupled to a wave-guide line. Its behavior is described by a system of second-order equations for voltages, the right-hand part of which is determined by induced current which is a nonlinear function of the sum of voltages of many frequencies at the electronic gap. The solution of these equations results in equations which coincide in structure with the equations of a gas laser. The conclusions concerning the spectrum transformation of a multifrequency klystron under the action of an external signal are qualitatively confirmed by experiment.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

USSR

UDC 535.215.12:621.372:41

VOROBEYCHIKOV, E. S., DUNAYEVSKIY, G. Kh., Siberian Physicotechnical Institute imeni V. D. Kuznetsov, Tomsk University

"Illuminated Semiconductor in Open Resonator"

Tomsk, Izvestiya Vysshikh Uchebnykh Zavedeniy -- Fizika, No 2, 1970, pp 135-136

Abstract: One of the most acceptable optical and IR receiver circuits in terms of inertia and sensitivity is a circuit using a photoresistor with superhigh-frequency bias. The article suggests that an open-type resonator be used for the creation of such a receiver in the millimeter pumping range. The most convenient resonators are those containing concave mirrors. A description is given of changes observed experimentally in the power reflected from a resonator formed by a concave and a plane mirror in which an illuminated semiconductor sample has been placed.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

USSR

UDC 616.981.452-084.47

AGAFONOV, V. I., BABKIN, Ye. I., VDOVIN, D. G., VOROBEYCHIKOV, V. M., VOROB'YEV, A. A., GANLESHKO, Kh. P., GAPOCHKO, K. G., GEFEN, N. Ye., YEVSTIGNEYEV, V. I., YEMEL'YANOVA, O. V., ZEMSKOV, Ye. M., IMAMALIYEV, O. G., KAMALOV, I. I., KVIRIKADZE, V. V., KUTYREV, P. A., MISNIKOV, O. P., PUSHKAREV, V. P., and ROZDESTVENSKIY, D. A., Military Medical Academy imeni S. M. Kirov, Leningrad

"A Comparative Efficiency Characteristic of Different Immunization Methods Against Plague Infection"

Moscow, Zhurnal Mikrobiologii Epidemiologii i Immunobiologii, No 11, 1972, pp 106-112

Abstract: Analysis of the available literature data led to the conclusion that oral, aerogenic, and jet immunization methods are the most efficient compared with subcutaneous and skin methods. The average number of patients inoculated against plague infection was 517, 817 (419), and 937 per hr for jet injectors, aerogenic method liquid and dry vaccine, and oral method (tablets), respectively, compared with only 43 and 28 for the subcutaneous and skin methods, respectively.

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USSR

UDC 621.396.6.019.3

VOROBEVA, T. M., IYUDU, K. A.

"Optimization of Electronic Circuits with Respect to Parametric Stability by the Method of Nonlinear Transformations"

Metody razrab. radioelektron. apparatury. Materialy Seminara. Sb. 2 (Methods of Developing Radioelectronic Equipment. Materials of the Seminar. Collection 2), Moscow, 1970, pp 39-42 (from RZh-Radiotekhnika, No 8, Aug 70, Abstract No 8A182)

Translation: The necessary condition of the extremum of the given function characterizing the investigated circuit when imposing certain restrictions on the parameters has been derived. As an example, let us consider the RC-circuit with a component resistor. The bibliography has two entries.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

1/2 018 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--REACTION OF CUPRIC CHLORIDE WITH SODIUM, POTASSIUM, AND URANYL CHLORIDES IN THE SODIUM CHLORIDE CUPRIC CHLORIDE, POTASSIUM CHLORIDE

AUTHOR-(02)-VOROBEY, M.P., SKIBA, O.V.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(5), 1414-17

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PHASE DIAGRAM, MOLTEN CHLORIDE, SODIUM CHLORIDE, CUPRIC CHLORIDE, BINARY FLUID SYSTEM, POTASSIUM CHLORIDE, URANIUM COMPOUND, CHEMICAL REACTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1409 STEP NO--UR/0078/70/015/005/1414/1417

CIRC ACCESSION NO--AP0135083

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2/2 018 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0135083

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PHASE DIAGRAMS OF THE NACL CUCL SUB2, KCL CUCL SUB2, AND UO SUB2 CL SUB2 SYSTEMS ARE PRESENTED. THE CONGRUENTLY MELTING COMPD. KCUCL SUB3 FORMS IN THE KCL CUCL SUB2 SYSTEM. BECAUSE OF THE REACTION CUCL SUB2(L) FORMS AND IS FORMED FROM CUCL(L) PLUS ONE HALF CL SUB2(G), THESE SYSTEMS IN CLOSED CONTAINERS MUST BE CONSIDERED AS POLYTHERMAL SECTIONS OF THE TERNARY SYSTEMS CONTG. LESS THAN OR EQUAL 20PERCENT CUCL.

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1/2 045 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--ILLUMINATED SEMICONDUCTOR IN OPEN RESONATOR -U-

AUTHOR-(02)-VOROBEYCHIKOV, E.S., DUNAYEVSKIY, G.KH.

COUNTRY OF INFO--USSR

SOURCE--TOMSK, IZVESTIYA VYSSHIKH UCHEBNYKH ZAVEDENIY, FIZIKA, NO 2, 1970, PP 135-136

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS, ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--OPEN RESONATOR, OPTIC MIRROR, IR RECEIVER, PHOTO RESISTOR, OPTIC PUMPING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1446 STEP NO--UR/0139/70/000/002/0135/0136

CIRC ACCESSION NO--AP0125080

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

2/2 045 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0125080

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ONE OF THE MOST ACCEPTABLE OPTICAL AND IR RECEIVER CIRCUITS IN TERMS OF INERTIA AND SENSITIVITY IS A CIRCUIT USING A PHOTORESISTOR WITH SUPERHIGH FREQUENCY BIAS. THE ARTICLE SUGGESTS THAT AN OPEN TYPE RESONATOR BE USED FOR THE CREATION OF SUCH A RECEIVER IN THE MILLIMETER PUMPING RANGE. THE MOST CONVENIENT RESONATORS ARE THOSE CONTAINING CONCAVE MIRRORS. A DESCRIPTION IS GIVEN OF CHANGES OBSERVED EXPERIMENTALLY IN THE POWER REFLECTED FROM A RESONATOR FORMED BY A CONCAVE AND A PLANE MIRROR IN WHICH AN ILLUMINATED SEMICONDUCTOR SAMPLE HAS BEEN PLACED. FACILITY: SIBERIAN PHYSICOTECHNICAL INSTITUTE IMENI V. D. KUZNETSOV, TOMSK UNIVERSITY.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

1/2 008 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--HETEROCYCLIC ALPHA AMINO NITRILES AND THEIR PROPERTIES. SYNTHESIS AND REACTIONS OF 3,CYANO,E,TERT,AMINOQUINUCLIDINES -U-

AUTHOR-(03)-MIKHLINA, YE.YE., VOROBEEVA, V.YA., RUBTSOV, M.V.

COUNTRY OF INFO--USSR

SOURCE--KHIM. GETEROTSIKL. SOEDIN. 1970, (1), 74-7

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--CHEMICAL SYNTHESIS, HETEROCYCLIC NITROGEN COMPOUND, NITRILE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1983/1365 STEP NO--UR/0409/70/000/001/0074/0077

CIRC ACCESSION NO--AP0054239

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2/2 008 UNCLASSIFIED

CIRC ACCESSION NO--AP0054239 PROCESSING DATE--16OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A MIXT OF 30 G 3,QUINUELIDONE CYANOHYDRIN (I), 40 ML PIPERIDIEN AND 300 ML C SUB6 H SUB6 WAS HEATED IN A DEAN STARK APP. TO GIVE 28.3 G II ((R PRIME1 R PRIME2 EQUALS) (CH SUB2)SUB5) (IIA), B SUB1 140-20EGREES, ALSO OBTAINED IN 93.3PERCENT YIELD WHEN 3 G I WAS KEPT 15 DAYS AT 20DEGREES WITH 20 ML PIPERIDINE AND 45 ML MEOH. FORMULA SHOWN ON MICROFICH. FACILITY: VSES., NAUCH.-ISSLED. KHIM.-FARM. INST. IM. ORDZHONIKIDZE, MOSCOW. USSR.

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USSR UDC: 621.372.5

VOROBIYENKO, P. P.

"A Filter Link Based on Combination of a Gyrator and Distributed RC-Circuits"

V sb. Vopr. elektrosvyazi (Problems of Electrical Communications--collection of works), Kiev, "Tekhnika", 1970, pp 21-26 (from RZh-Radiotekhnika, No 11, Nov 70, Abstract No 11A141)

Translation: One of the possibilities of constructing filters based on RC networks with distributed parameters is to use a combination of a gyrator with uniform RC circuits with distributed parameters. Such a combination is considered by the author as applied to low-frequency filters; in the given instance, one of the RC circuits is a null circuit. A formula is derived for calculating the transmission factor of the filter link. The results of an experimental check on the computation are given. Three illustrations, bibliography of seven titles. N. S.

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USSR

UDC 621.382.1

VOROBKALO, F. M., GLINCHUK, K. D., PROKHOROVICH, A. V.

"Electroluminescence of GaAs-Alloy Diodes"

Kiev, Poluprovodnikovaya tekhnika i mikroelektronika, No 5, 1971, pp 7-11

Abstract: The study of the electroluminescent properties of GaAs-alloy diodes is continued [F. M. Vorobkalo, et al., Poluprovodnikov tekhnika i mikroelektronika, No 4, Naukova dumka Press, Kiev, 1970]. The processes of photoluminescence and electroluminescence of GaAs are studied, and the radiation of the homogeneous (initial GaAs) and inhomogeneous (p-n-junction) systems is compared. Both the n and p-regions and the space charge layer make a defined contribution to the recombination radiation of the GaAs-alloy diodes. During the process of creation of the p-n-junction the initial properties of the GaAs do not change. The dependence of the intensity of the electroluminescence on the temperature and injection current is determined both by the initial properties of the GaAs and the properties of the p-n junction.

The intensity of electroluminescence of diodes made of the same sample of GaAs can differ by tens and even hundreds of times. At the same time, the intensity of the photoluminescence in these samples differs by appreciably less — approximately 2-3 times. This indicates that significant scattering of the

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203530004-2

USSR

VOROBKALO, F. M., et al., Poluprovodnikovaya tekhnika i mikroelektronika, No 5, 1971, pp 7-11

magnitudes of the quantum yield of the electroluminescence of GaAs alloy diodes is connected with insufficient reproducibility of construction of the diodes (the p-n junctions) and not the properties of the initial material (with respect to photoluminescence properties it is more homogeneous). The fact that in the majority of diodes made of n-GaAs, the variation in intensity of the electroluminescence with temperature was appreciably weaker than the intensity of photoluminescence indicates that with a drop in temperature the proportion of the injection electron-hole current decreases, just as discovered previously [F. M. Vorobkalo, et al., UFZh, No 13, 1810, 1968; FTP, No 3, 150, 1969].

2/2

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TITLE--KINETICS OF THE PHOTOCONDUCTIVITY OF GALLIUM ARSENIDE -U-

AUTHOR-(03)-VOROBKALO, F.M., GLINCHUK, K.O., LITOVCHENKO, N.M.

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ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RELAXATION KINETICS OF THE PHOTOCOND. OF N AND P-GAAS, AT A PULSE DURATION OF 10 PRIME MEGATIVE6 SEC, WERE INVESTIGATED TO DET. PARAMETERS OF THE CENTERS CONTROLLING THE RECOMBINATION PROCESSES; STEADY PHOTOCOND. WAS STUDIED BY THE PHOTOCOND. MODULATION METHOD AND THE RESULTS WERE COMPARED WITH THE KINETIC DATA. THE REGULARITIES OBSD. WERE CONNECTED WTIH THE PROCESSES TAKING PLACE WITHIN THE CRYSTAL AND NOT ON ITS SURFACE. SHARPLY MONOPOLAR PHOTOCOND. OBSD. IS CONTROLLED BY A SYSTEM OF RAPID AND SLOW LEVELS. FOR 2 OF THEM (SLOW), THE CAPTURE CROSS SECTIONS FOR THE MAIN CHARGE CARRIERS (ELECTRONS IN N-GAAS AND VACANCIES IN P-GAAS), THE FRACTION OF CARRIERS RECOMBINING THROUGH EACH CENTER, IONIZATION ENERGIES OF THE CENTERS, AND CONCN. OF THE RECOMBINATION. CANALS DETG. THE PHOTOCOND. WERE DETD. THE MECHANISM OF ENERGY EMISSION DURING THE RECOMBINATION OF THE CARRIERS ON THE CENTERS IS NONRADIATIVE (SMALLER THAN OR EQUAL TO 0.01PERCENT CARRIERS RECOMBINE WITH A PHOTON EMISSION). THE RECOMBINATION CENTERS ARE VERY HEAT RESISTANT. FACILITY: INST. POLUPROV., KIEV, USSR.

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BLAZHKEVICH, B. I., VOROBKEVICH, A. Yu., MIKHAYLOVA, Ye. D.

"Use of Logical Algebra Together with the Method of Directed Graphs for Synthesis of Tripolar Subcircuits"

Teor. Elektrotekhnika. Resp. Mezhved. Nauchno-tekhn. Sb. [Theory of Electronics, Republic Interdepartmental Scientific and Technical Collection], No 10, 1970, pp 56-68, (Translated from Referativnyy Zhurnal, Kibernetika, No 6, 1971, Abstract No 6 V437).

NO ABSTRACT.

1/1

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UDC 681.335

BLAZHKEVICH, B. I., VOROBKEVICH, V. Yu., MASLOV, V. S., SOLOMCHAK, V. P., and YATSUN, I. A.

"Analogous-Code Measuring Transformer"

V Sb. "Konf. po Avtomatiz. Nauch. Issled. na Osnove Primeneniya EVM, 1972" [In the Collection "Conference on Automation of Scientific Investigations on the Basis of the Application of Electronic Computers, 1972"], Novosibirks, 1972, pp 84-90 (from Referativnyy Zhurnal, No 10, Oct 72. 32. Metrologiya i Izmeritel'naya Tekhnika. Single Issue. Abstract No 10.32.119)

Translation: An analogous-code measuring transformer of tracking action with an input impedance $\geqslant 10^9$ ohm is discussed. The transformer is designated for remote measuring the slowly changing component of the output voltage of the statical transducer of the electric field intensity in the ± 640 mv range with an error not exceeding 0.025%, at an transmission channel error up to 1%. One illustration, nine bibliographical references.

1/1

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