

USSR

UDC 538.561

KATYSHEV, Ye. G., PANASYUK, V. S., PANKRATOV, S. G., ROMANOVSKIY, V. F.,
SAMOSHENKOV, Yu. K., SOKOLOV, A. A., SPEKTOR, Ya. M., STEPANOV, B. M.

"Investigation of Electromagnetic Emission of a Modulated Electron Beam"

Leningrad, Zhurnal Tekhnicheskoy Fiziki, Vol 42, No 11, Nov 72, p 2446

Abstract: The paper gives a block diagram and the parameters of an installation for studying velocity-modulated emission of an electron beam, as well as the results of measurements. The beam energy was 33 keV, beam current in the pulse 0.25 a, pulse duration 4 us, pulse repetition rate 25 Hz, frequency of the modulating rf field 482 MHz, length of the emission region 55 cm, and pressure in the system 10^{-4} mm Hg. It was found that the emission power received by an antenna with effective area of 750 sq. cm at a distance of 2.5 m from the beam is 1 mw. The vector of intensity of the modulating electric field lies in a plane which passes through the axis of the beam. The ratio of emission intensity on the second harmonic to that on the first harmonic is approximately 5%.

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- 42 -

Acc. Nr:

AP0053360

Abstracting Service:

CHEMICAL ABST. 5-70

Ref. Code:

4R 0228

P

101497] Properties of hermetic sealants under hot and hot-humid climatic conditions. Pankratov, V. F.; Yakub, O. Yu.; Sadagashvili, G. R. (USSR). *Strait. Mater.* 1970, (1), 37-8 (Russ). Several polymeric sealants, e.g., nonhardening mastics UMS-50 and Secomastic (I) (British), Thiokol sealant, GS-1, Polyef, and porous Poroizol (II), Gernit P (III), and PRP-1 were tested in Tbilisi (dry climate) at -23 to +40° and in Batumi (humid climate) at -20 to +41° for 12 months. II and III deteriorated slightly in the hot-humid climate, the latter being the more stable of the 2. I, tested in Tbilisi and Batumi, formed a protective impermeable coating which inhibited its degradation. GS-1 retained adequate tensile strength and elongation at break, although its properties slightly deteriorated in Tbilisi.

CKJR J

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REEL/FRA
19830383

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1/2 024 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--INVESTIGATION OF PH AND RH SUB2 OF THE SKIN SURFACE IN PATIENTS,
WITH PSORIASIS AND ECZEMA -U-
AUTHOR--PANKRATOV, V.G. P
COUNTRY OF INFO--USSR
SOURCE--VESTNIK DERMATOLOGII I VENEROLOGII, 1970, NR 2, PP 20-25
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--SKIN DISEASE, LESION, HYDROGEN ION CONCENTRATION, TISSUE
REGENERATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1985/1853 STEP NO--UR/0206/70/000/002/0020/0025
CIRC ACCESSION NO--AP0101898
UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0101898

ABSTRACT/EXTRACT--(U) GP-0-- ABSTRACT. ELECTROMETRICAL DETERMINATIONS OF PH AND RH SUB2 OF THE SKIN SURFACE WAS CARRIED OUT DYNAMICALLY IN 19 SITES OF THE BODY IN 57 PATIENTS WITH CHRONIC ECZEMA AND 77 PATIENTS WITH PSORIASIS, AS WELL AS IN 102 HEALTHY SUBJECTS IN 23 SITES OF THE BODY. THE AGES OF ALL THE SUBJECTS UNDER STUDY WERE BETWEEN 21 AND 55 YEARS. PATIENTS WITH CHRONIC ECZEMA DURING THE PERIOD OF EXACERBATION SHOWED AN INCREASE IN PH AND RH SUB2 OF THE SKIN SURFACE BOTH IN FOCI OF LESIONS AND IN APPARENTLY NORMAL SKIN. IN PATIENTS WITH PSORIASIS IN THE PROGRESSIVE AND STATIONARY STAGES A HIGHLY SIGNIFICANT REDUCTION OF RH SUB2 (INCREASE IN THE RESTORATIVE CAPACITY OF THE SKIN) OF THE AFFECTED AND APPARENTLY NORMAL SKIN AND AN INCREASE OF PH ON THE SURFACE OF PSORIATIC PAPULES. THE PH OF THE APPARENTLY NORMAL SKIN IN THESE SUBJECTS WAS EITHER SLIGHTLY HIGHER THAN NORMAL OR WITHIN THE AGE LIMIT. IN THE COURSE OF TREATMENT A TREND FOR NORMALIZATION OF BOTH INDICES WAS OBSERVED BOTH IN PATIENTS WITH ECZEMA AND WITH PSORIASIS. THE PH AND RH SUB2 OF THE SKIN SURFACE REFLECT THE STATE OF METABOLIC PROCESSES OCCURING IN THE SKIN.

UNCLASSIFIED

PANKRATOV V M

Kuliyev, T. A., Konev, Ye. X., Parygin, V. N.	Electron-beam Light Modulator	Page 234
Musiel', Ye. R., Parygin, V. N., Solomatina, V. S., Baglikov, V. B.	Internal Modulation of a Gas Laser	239
Pankratov, V. M., Petrov, I. V., Ponomareva, I. P., Fomichev, N. N.	Wide Band Light Modulator Based on a Lithium Hexamolybdate Crystal with 90° Orientation	248
Mardich, L. N.	Phase Relations of the Synchronous Mode of Laser Emission with Modulated Dielectric Coefficient of the Resonator	253
Deryugin, I. A., Solomko, A. A.	Nonlinear Distortions in Microwave Modulators of Laser Emission	258
Kovalov, H. N., Mikolayev, I. V.	Utilization of Gallium Arsenide Crystals for Modulation of Radiation with a Wavelength of $\lambda = 10.6$ microns	262
Tron'ko, V. D.	Some Types of Faraday Modulators and Their Nonlinear Distortions	268
Ton'ko, V. D.	Method of Simultaneous Determination of the Frequency Characteristics of the Photoreceiver and Faraday Modulator	273
Mushchenko, B. P., Chernenko, Yu. L., Sidorov, Yu. D., Beforov, Ye. G.	Application of a Refraction acoustic Cell for Synchronization of the Pulse Laser Emission	278
Kitib, A. S., Madskin, N. P., Petrov, A. S., Vul'kov, G. I.	Wideband Light Detector	280
	Sensitivity and Inertia of a Photodiode Light Receiver with Parametric Amplifier	283
	High-Frequency and Low Inertia Photoreceiver Light Detector with Superhigh-Frequency Bias	293

36

TECHNICAL TRANSLATION

ASST | PSTC-HT-23-2015-72

29 Jul 72

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

RUSSIAN TITLE: PROBLEMY PEREDACHI INFORMATSII LAZERNYI IZLUCHENIYEM

AUTHOR: I. A. DERUGER, ET AL.

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

Translated for PSTC by ACS1

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11/11 Page -

USSR

UDC 669.725.4

IZHVANOV, L. A., ARTEM'YEV, V. I., and PANKRATOV, V. I.

"Preparation of Beryllium Iodide"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 5, Sep/Oct 71, pp 109-110

Abstract: Two methods were tested for the preparation of beryllium iodide: the classical method adopted for iodine refinement of zirconium, and a modification of this method with the evacuation of the vapors of iodine and undecomposed iodides, as well as the method of thermal dissociation of polymeric beryllium iodides. In experiments on the thermal dissociation of iodides on an incandescent tungsten filament, a deposit consisting of silicon with 2-5% Be was formed. The temperature of the beryllium turning was varied from room temperature to 700°, and the filament temperature was varied from 650 to 1300°. The following course of the principal process can be suggested: at the turning: $\text{Be} + \text{I}_2 \rightarrow \text{BeI}_2$; on the walls of the glass ampoule, first brought to vacuum, $2\text{BeI}_2 + \text{SiO}_2 \rightarrow 2\text{BeO} + \text{SiI}_4$; and at the filament: $\text{SiI}_4 \rightarrow \text{Si} + 2\text{I}_2$. Attempts to obtain beryllium in a metal apparatus by passing beryllium iodide vapor over an incandescent metal strip were also unsuccessful. The experiment with the filament revealed a gray crystalline deposit about 1 mm thick and weighing 0.1 g. Spectroanalysis showed that the deposit is beryllium contaminated with iron (up to 2%) and with traces of nickel and chromium. This

1/2

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IZHVANOV, L. A., et al, Izvestiya Akademii Nauk SSSR, Metally, No 5, Sep/Oct 71, pp 109-110

contamination of beryllium is probably a consequence both of the transport of impurities from the initial metal as well as the reaction of iodides with contaminated material, in spite of the container lining.

2/2

11

USSR

UDC 535.347.083

KEIMAKH, R. YA., PANKRATOV, V. M., GORELOV, L. V., AKSENOV, A. S., KRETOV, V.F.

"Automated Device for Measuring and Recording the Spectra of Optical Circular Dichroism"

Moscow, Izmeritel'naya Tekhnika, No 11, 1973, pp 23-24

Abstract: The first Soviet instrument for measuring and recording the spectra of optical circular dichroism is described. This instrument can be used to study the spatial structure of organic and inorganic compounds, materials of biological origin and others having the properties of optical activity. The spectral range of the instrument is 230-600 nm; the measurement ranges in units of optical density are $150 \cdot 10^{-4}$, $200 \cdot 10^{-4}$ and $300 \cdot 10^{-4}$ with a sensitivity no worse than one percent of the measurement range. The mathematical description of the operation of the device is presented along with its technical specifications and a brief explanation of its schematic diagram.

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USSR

UDC: 621.396.5

PANKRATOV, Ye. D., RAKOV, A. I.

"Using a Digital Computer to Process Data on Failures of Radio Relay Lines"

Tr. uchebn. in-tov svyazi. M-vo svyazi SSSR (Works of Academic Institutes of Communications. Ministry of Communications of the USSR), 1970, vyp. 51, pp 135-142 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5D394)

Translation: The paper deals with the problem of forming initial information for digital computer calculation of the reliability parameters of radio relay communications lines. Bibliography of five titles. Resumé.

1/1

1/2 010 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--PREPARATION OF DIHYDRIC PHENOLS BY CATALYTIC OXIDATION OF PHENOL IN
AQUEOUS SOLUTIONS -U-
AUTHOR-(04)-MAKALETS, B.I., IVANOVA, I.G., PANKRATOVA, K.G., KIRICHENKO,
G.S.
COUNTRY OF INFO--USSR

SOURCE--NEFTEPERERAB. NEFTEKHIM. MOSCOW 1970, (2), 23-5

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PHENOL, CATALYTIC OXIDATION, DISTILLATION, CHEMICAL SYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/0566

STEP NO--UR/0318/70/000/002/0023/0025

CIRC ACCESSION NO--AP0119484

UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119484

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CONTINUOUS CATALYTIC OXIDN. OF PHOH IN AQ. SOLN. YIELDED A MIXT. OF 1,2- (I) AND 1,4- C SUB6 H SUB4 (OH) SUB2 (II). THE OXIDATE WAS CONCD. WITH SIMULTANEOUS AZEOTROPIC DISTN. OF PHOH IN N, FOLLOWED BY EXTN. OF I AND II WITH ETOAC AND DIISOPROPYL ESTER AS SELECTIVE SOLVENTS. THE MAX. YIELD OF 70-5PERCENT I PLUS II WAS OBTAINED AT PH 3-5 AND 30 ATM WITH 5-15PERCENT PHOH SOLN. AND 0.01-0.03 MOLE PERCENT CUCL SUB2 AS CATALYST, BASED ON PHOH. II FORMATION WAS PREDOMINANT, THE CONVERSION OF PHOH BEING 20-5PERCENT.

FACILITY: NOVOKUIBYSHEVSK. FILIAL NISS, NOVOKUIBYSHEVSK, USSR.

UNCLASSIFIED

USSR

UDC 615.37:[576.851.49+576.851.551]:615.451.13].036.8

SHORSHER, S. B., SOLODOVNIKOV, Yu. L., PANKRATOVA, L. P., and TSURIKOVA, Z. F.,
Moscow Institute of Epidemiology and Microbiology, and Yaroslavskaia Oblast
Epidemiological Station

"A Study of Reactivity to Combined Typhoid and Tetanus Vaccinations"

Moscow, Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, No 2, 1973,
p 132

Abstract: Reactions of industrial workers to vaccination by Vi-antigen and Vi-monovaccine against typhus, and by these vaccines combined with tetanus toxoid were compared. Postvaccination reactions were not dependent on age or sex. Reactions to Vi-antigen combined with tetanus anatoxin were not more severe than those to Vi-monovaccine alone. Thus the combination can be recommended for practical use. Vimonovaccine combined with tetanus toxoid caused reactivity that exceeded permissible levels. Consequently further research must be carried out on this combination to decrease reactivity to it prior to its recommendation for use.

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Acc. Nr: **AP0036528**

Ref. Code: UR 0069

PRIMARY SOURCE: Kolloidnyy Zhurnal, 1970, Vol. 32, Nr 1,
pp 49-55

STUDY OF STRUCTURE FORMATION IN AQUEOUS CASEIN SOLUTIONS

Zholbolsvnova, A. S.; Izmaylova, V. H.; Pankratova, M. N.

Summary

Structures formation in aqueous alkaline casein solutions involves disordering of casein molecules, transition to the statistical coil conformation and further aggregation leading to the formation of a three-dimensional structure. The strength of this structure is mainly due to the hydrogen bonds and van-der-Waals (hydrophobic) bonds. According to the classification proposed by P. A. Rehbinder, the casein gels structure can be classified as a coagulation-condensation structure.

D. n

REEL / FRAME
19721376

1/2 028 UNCLASSIFIED PROCESSING DATE--27NOV70
 TITLE--A CONTACT PROBLEM FOR THE TORSION OF A TWO CAVITY HYPERBOLOID OF
 REVOLUTION -U-
 AUTHOR-(021)-BUZUN, T.N., PANKRATOVA, N.D. P
 COUNTRY OF INFO--USSR
 SOURCE--PRIKLADNAIA MEKHANIKA, VOL. 6, APR. 1970, P. 131-134
 DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, MATHEMATICAL SCIENCES, MECH., IND., CIVIL AND
 MARINE ENGR
 TOPIC TAGS--FREDHOLM EQUATION, SECOND ORDER EQUATION, BOUNDARY VALUE
 PROBLEM, INTEGRAL EQUATION, TORSIONAL VIBRATION, TORSION STRESS, BODY OF
 REVOLUTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAE--3002/0097

STEP NO--UR/0198/70/006/000/0131/0134

CIRC ACCESSION NO--AP0127723

UNCLASSIFIED

2/2 028

CIRC ACCESSION NO--AP0127723

UNCLASSIFIED

PROCESSING DATE--27NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DISCUSSION OF AN ELASTIC TWO CAVITY HYPERBOLOID OF REVOLUTION WHOSE STRESSED STATE IS CAUSED BY THE ROTATION OF A RIGID STAMP APPLIED TO THE SURFACE OF THE HYPERBOLOID FROM ITS APPEX TO A CERTAIN CROSS SECTION. BELOW THIS CROSS SECTION, THE SURFACE IS ASSUMED TO BE FREE OF STRESSES. A FREDHOLM INTEGRAL EQUATION OF THE SECOND KIND, EQUIVALENT TO THE BOUNDARY VALUE PROBLEM, IS OBTAINED WITH THE AID OF A METHOD OF STUDYING DUAL INTEGRAL EQUATIONS WITH KERNELS IN THE FORM OF ASSOCIATED LEGENDRE FUNCTIONS. THE TORSIONAL PROBLEM IS SOLVED NUMERICALLY. A RELATION BETWEEN THE TORSIONAL MOMENT AND THE ANGLE OF ROTATION OF THE STAMP IS OBTAINED, AND THE DISTRIBUTION OF THE TANGENTIAL STRESSES ARISING BELOW THE STAMP IS DETERMINED.

UNCLASSIFIED

Acc. Nr:

AP0038546

Abstracting Service:
CHEMICAL ABST. 4570

Ref. Code:

UR0079

* 79183a Reaction of diethyl- and diphenylcadmium with organic peroxides. Razuvayev, G. A.; Pankratova, V. N.; Muraev, V. A.; Bykova, I. V. (Gor'k. Gos. Univ. im. L. N. Tolstoy-skogo, Gorki, USSR). *Zh. Obshch. Khim.* 1969, 39(11), 1490-3 (Russ). Reaction of 0.9 g *tert*-BuOOH with 2.54 g Ph_2Cd in cyclohexane kept several hr in a sealed ampul gave some C_6H_6 , while treatment with H_2O liberated PhOH , *tert*-BuOH, unreacted peroxide and ionic Cd. With equimolar amts. of reactants the products were in the form of a solid which by anal. contained ionic Cd, some $\text{Cd}(\text{OOBu-tert})_2$ and *tert*-BuOOBu-*tert*; with 2 moles of the hydroperoxide and even larger excess of it the reaction gave a good yield of $\text{Cd}(\text{OOBu-tert})_2$ along with some 10-12% $\text{Cd}(\text{OBU-tert})_2$ which evidently formed from the peroxide by loss of O. Heating this peroxide at 100° 14 hr gave 94% $\text{Cd}(\text{OBU-tert})_2$ and 74% O. Et_2Cd and Bz_2O_2 in C_6H_6 gave mixed C_6H_6 and C_6H_5 , and after heating at 40° gave a ppt. which on hydrolysis gave C_6H_6 , ionic Cd, and BzOH , while the filtrate gave C_6H_6 , EtPh , and EtOBz . Ph_2Cd and Bz_2O_2 in C_6H_6 15 hr at 40° gave a ppt. of PhOBz and PhCdOBz ; hydrolysis gave C_6H_6 , ionic Cd, PhOH , BzOH . Thus Ph_2Cd and *tert*-BuOOH did not yield PhCdOOBu-tert since the latter was reduced to the alkoxy analog. Ph_2Cd and Bz_2O_2 yields PhOBz , PhCdOBz and $\text{Cd}(\text{OBz})_2$. The reactions with Bz_2O_2 probably involve intermediate complexes of the coordination type.

G. M. Kosolapoff

REEL/FRAME

19731720

88

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USSR

UDC 621.039.538:539.125.5

VASIL'YEV, G. A., VESELKIN, A. P., YEGOROV, Yu. A., ORLOV, Yu. V.,
PANKRAT'YEV, Yu. V., PISKUNOV, V. I.

"Space-Energy Distribution of Reactor Neutrons in Metal Hydrides"

V sb. Vopr. fiz. zashchity reaktorov (Problems in Reactor Safety Physics --
Collection of Works), No. 5, Moscow, Atomizdat, 1972, pp 91-105 (from
RZh-50. Yadernyye reaktory, No 5, May 72, Abstract No 5.50.58)

Translation: Current designs of the shielding of nuclear reactors include hydrogen-containing materials, the presence of which in the shield makes it possible to shorten the size of the shielding and reduce the contribution to the power of the dose from neutrons of intermediate energies. Various hydrogen-containing materials are used in the shield: water, polyethylene, paraffin, concretes with an increased concentration of hydrogen such as Serpentinite concrete, etc. Metal hydrides may also be included in such materials. Metal hydrides have a high nuclear density of hydrogen, in some cases exceeding the nuclear density of hydrogen water. In studying the passage of neutrons through metal hydrides, one can show the perturbing

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USSR

VASIL'YEV, G. A., et al, Vopr. fiz. zashchity reaktorov, No. 5, Moscow, Atomizdat, 1972, pp 91-105 2

effect of the metal nuclei on the form of the attenuation function or the form of the energy distribution of neutrons, and he can also show the role of the metal in the accumulation of moderating neutrons. The problem of the passage of neutrons through lithium, magnesium, titanium, and zirconium hydrides was investigated. The experiments were conducted on a water cooled - water moderated research reactor. 8 ill., 8 tables, 37 ref.

2/2

USSR

UDC 620.193.5

NIKITIN, V. I., KOMISSAROVA, I. P., and PANKRAT'YEVA, N. V., Academy of Civil Aviation; Central Scientific Research, Planning and Design Institute imeni I. I. Polzunov, Leningrad

"Experimental Verification of the Parametric Method of Calculating the Heat Resistance of Metals at Varying Temperature"

Kiev, Fiziko-Khimicheskaya Mekhanika Materialov, Vol 9, No 5, 1973, pp 71-75

Abstract: steel brands 20, Kh18N10T, and Kh25T were subjected to heat resistance tests in air under steplike changing temperature conditions, the interval of the latter being up to 150°. A graphic variant of the parametric method based on the use of an equivalent time nomogram and the parametric heat resistance diagram were used for the calculation of the characteristic of heat resistance, the mass loss of the metal. Tabulated experimental data of the mass loss of the first two steel brands at two-

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- 42 -

USSR

NIKITIN, V. I., et al., Fiziko-Khimicheskaya Mekhanika Materialov, Vol 9,
No 5, 1973, pp 71-75

-step and multistep temperature change are in good agreement with calculated data (maximum difference 22% and 24%, respectively). The correlation of calculated and experimental data for Kh25T steel shows a maximum difference of 15% at relatively complex multistep temperature change conditions. The investigations indicate the possibility of calculating with sufficient accuracy the heat resistance of metals at changing temperature by the parametric method. Three figures, three tables, three bibliographic references.

2/2

USSR

UDC: 621.396.6-181.5(088.8)

KAZARINOV, V. L., PANKSEN, Yu. A.

"A Device for Orienting Modular Elements With Rigid Leads"

USSR Author's Certificate No 277895, filed 26 Feb 69, published 12 Nov 70
(from RZh-Radiotekhnika, No 5, May 71, Abstract No 5V158 P)

Translation: This Author's Certificate introduces a device for orienting modular elements with rigid leads. The device contains a unit for moving the elements to be oriented, a contact head, and a measurement block. The productivity and operational reliability of the device are improved by fitting it with a rotating base on which contact heads are mounted in a circle. These contact heads are connected by controllable clutches (e. g. electro-magnetic clutches) to motors and indicators which show when the leads of the element being oriented coincide with the contacts of the heads.

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USSR

UDC: 621.396.6.002.72:621.757(088.8)

KAZARINOV, V. L., PANKSEN, Yu. A., TROSHINA, A. G.

"A Device for Spatial Orientation of Modular Elements With Rigid Leads"

USSR Author's Certificate No 283342, filed 26 Feb 69, published 7 Dec 70
(from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6V325 P)

Translation: This Author's Certificate introduces a device for spatial orientation of modular elements with stiff leads. The device contains a vibration hopper equipped with a spiral chute which has an opening in the wall for rejecting improperly oriented modular elements, and a specially shaped outlet chute for feeding properly oriented modular elements into the working positions. To improve precision in orienting modular elements with short stiff leads, strips are located inside the vibration hopper lengthwise of the outlet chute and further from the bottom of the chute than the height of a module board and closer than the total height of a modular element. In the bottom of the chute is a channel with a width equal to the minimum diameter of the circumscribed circle for the leads of a modular element and a depth greater than the length of the leads.

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1/2 033 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--OXIDATION OF BORON CARBIDE IN CHROMIC SULFURIC ACID -U-
AUTHOR--(02)-GOKHSHEYN, YA.P., PANKRATYEVA, S.V.
COUNTRY OF INFO--USSR
SOURCE--ZAVOD. LAB. 1970, 36(1), 13-17
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, MATERIALS
TOPIC TAGS--SULFURIC ACID, ORGANOBORON COMPOUND, OXIDATION, BORON CARBIDE,
CHROMIC ACID, ULTRASONIC EFFECT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3004/0909 STEP NO--UR/0032/70/036/001/0013/0017
CIRC ACCESSION NO--AP0131495
UNCLASSIFIED

2/2 033

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0131495

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

ABSTRACT. OXIDN. WAS STUDIED OF B CARBIDE (OF THE COMPN. 29.81PERCENT C, 65.35PERCENT B, 0.41PERCENT OF THE TOTAL B IN THE FORM OF B SUB2 O SUB3, AND SIMILAR TO 2.7PERCENT O, CORRESPONDING TO SIO SUB2, CAO, MGO, B SUB2 O SUB3, R SUB2 O SUB3, AND FE AND AL OXIDES), DISPERSED BY ULTRASOUND IN 62PERCENT H SUB2 SO SUB4 CONTG. CRO SUB3 AND K SUB2 CR SUB2 O SUB7. THE OXIDN. OF B CARBIDE WAS COMPLEX AND COULD NOT BE EXPLAINED BY A SIMPLE REACTION. IN THE BEGINNING, THE OXIDN. PROCEEDED SLOWLY; FIRST OF ALL FREE C IN B CARBIDE AND ONLY APPROXIMATELY EQUAL TO 2PERCENT OF BOUND C WAS OXIDIZED AND SOL. C COMPS. WERE FORMED. DERIVS. OF H SUB2 CO SUB3 AND MELLITIC ACID WERE SUGGESTED. AFTER SOME TIME CONTENTS OF B IN THE SOLN. SHARPLY INCREASED AND AFTER GREATER THAN 45-55 MIN, BESIDES B SUB2 O SUB3, ORGANOBORON COMPS. AND CARBONIC ACIDS ALSO WERE FORMED. FURTHERMORE, THIN OXIDN. LAYER CONTG. S ON THE B-CARBIDE SURFACE WAS FOUND, WITH THE RATIO S-O APPROXIMATELY EQUAL TO 1:0.87. FACILITY: INST. VYS. TEMP., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 681.327.66-416

AVGUST, V. I., ONISHCHENKO, A. P., and PANNIKOV, S. I., Khar'kov Poly-technical Institute

"A Device for Measuring the Coercive Force of Thin Magnetic Films"

USSR Author's Certificate, No 280668, Filed 3 Apr 69, Published 4 Dec 70
(from Referativnyy Zhurnal -- Avtomatika, Telemekhanika, i Vychislitel'naya Tekhnika, No 8, 1971, Abstract No 8B238 P)

Translation: A device for measuring the coercive force of thin magnetic films is proposed. It contains a source of a sinusoidal magnetic field which reverses the magnetization of a film, an amplifier for the voltage induced by the current which remagnetizes a film, null-balance devices, a flip-flop, and a measuring instrument. The device is distinguished by the fact that a differentiating circuit is connected in front of the voltage amplifier, while the output of the amplifier and the output of the power source are connected to the null-balance devices. The purpose of this is to increase the precision of the device's measurements. In order to automate the measurements, the outputs of the null-balance devices are connected to a circuit which forms a time interval between the output pulse of the null-balance devices in direct-current voltage. 2 illustrations.
1/1

USSR

UDC 621.892.8

PANOK, K. K., TRET'YAKOV, P. P., ZUSEVA, B. S., GRIGOR'YEV, P. F., KULIKOV, I. N., GLAVATI, O. L., GORDASH, Yu. T., RABINOVICH, I. L.

"New Aviation Oils with Dipole Type Additives"

Neftepererabotka i Neftkimiya. Resp. Mezhd. sb. [Oil Refining and Petrochemistry, Republic Interdepartmental Collection], No 5, 1971, pp 38-41, (Translated from Referativnyy Zhurnal Aviatsionnye i Raketnye Dvigateli, No 12, 1971, Abstract No 12.34.9, from the Resume).

Translation: The results of studies of the physical, chemical and operational properties of a new aviation oil containing a Dipole-type additive by laboratory methods, and the results of 50 hours tests of this oil in a Type EU-82T one-cylinder installation indicate that this oil is significantly superior to Type MS-20 oil without additives, presently used for piston aviation engines, and is equal to and in some respects superior to aeroshell oil W-100, a foreign type. 3 Tables; 3 Biblio. Refs.

1/1

- 77 -

1/2 017 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--A STUDY INTO THE CHARACTER OF THE CORNEAL HOMOTRANSPLANT TAKE MADE
WITH THE AID OF THE SEX CHROMATIN TEST -U-
AUTHOR--PANGRMOVA, N.V.
COUNTRY OF INFO--USSR
SOURCE--VESTNIK OFTAL'MOLOGII, 1970, NR 2, PP 14-19
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--CORNEA, CHROMATIN, HOMOTRANSPLANT, RABBIT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1986/0687

STEP NO--UR/0357/70/000/002/0014/0019

CIRC ACCESSION NO--AP0102671

UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0102671

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE QUESTION AS TO THE NATURE OF THE CORNEAL GRAFT A CONTROVERSIAL ONE. THE STUDY OF THE FATE OF A TRANSPLANTED DISK IS COMPLICATED BY DIFFICULTIES IN IDENTIFYING THE DONOR'S AND RECIPIENT'S. A BIOLOGICAL MARKER SEX CHROMATIN, INHERENT MAINLY IN FEMALE TISSUES, WAS EMPLOYED FOR THIS PURPOSE BACK IN 1960. TO LOOK INTO THE FATE OF THE CORNEAL HOMOTRANSPLANT THE AUTHOR UTILIZED SEX CHROMATIN IN EXPERIMENTS ON RABBITS. A TOTAL OF 75 PARTIAL FULL THICKNESS KERATOPLASTIES WERE PERFORMED. THE BASIC PREREQUISITE WAS OPPOSED SEX OF THE DONOR AND RECIPIENT, THIS ALLOWING THE DONOR'S AND RECIPIENTS TISSUE TO BE DIFFERENTIATED MORPHOLOGICALLY. IN THE COURSE OF STUDIES CONCLUSION WAS REACHED TO THE EFFECT THAT IN TRANSPARENT AND NEARLY TRANSPARENT HOMOLOGOUS GRAFTS (WITH THE FOLLOW UP LASTING UP TO 1 YEAR) THE STROMA RETAINS INDIVIDUALITY OF THE DONOR'S TISSUE, THIS TESTIFYING TO THE TRUE ADAPTATION. IN SEMI TRANSPARENT AND OPAQUE DISKS THERE IS IN PROGRESS A PROCESS OF SUBSTITUTION. EPITHELIUM IS REPLACED BY THE RECIPIENTS'S TISSUE. THE DONOR'S ENDOTHELIUM CAN REMAIN INTACT FOR AS LONG AS UP TO 1 YEAR (THE FOLLOW UP PERIOD). WITH FAVORABLE COURSE OF ADAPTATION THE DONOR'S TISSUE PARTICIPATES IN THE FORMATION OF THE BORDER LINE RING.

UNCLASSIFIED

Acc. Nr.: AP0041186

Ref. Code: UR 9107

USSR

UDC: None

PANOV, A., Engineer

"Integrated Circuits"

Moscow, Radio, No. 1, 70, pp 32-34

Abstract: This article deals with integrated circuits, which has been brought into assembly-line production in the Soviet Union. The integrated circuit is defined as a device containing four silicon n-p-n planar transistors in a metallic polymer body with pin leads, providing stable operation in broad ranges of temperature, humidity, and mechanical action, and weighing 1.5 grams. Plan and profile views of the device are given together with some electrical specifications. Characteristic curves of the circuit transistors are also presented; it is asserted that the integrated

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circuit transistors have better stability in operation and superior temperature range than individual transistors of comparable function. An integrated circuit, type number LMM6.0 suitable for broadcast and amateur receivers, is described. This is an r-f amplifier, carefully matched to the receiver antenna to give a low noise figure in the 30 and 145 MHz frequency bands. A sample schematic showing how the LMM6.0 is used in a radio receiver indicates that it contains three transistor stages of resistance-coupled r-f amplification, a diode detector, a fourth transistor used as an audio preamplifier. The final transistor of the integrated circuit feeds into two conventional transistors connected as a push-pull output stage. A second schematic shows how two LMM6.0's may be connected as a high-fidelity audio preamplifier. Mounting instructions for the integrated circuit are also given.

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PAPOV A.A.

biophysics

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SECTION III
50: SUBJECTS ASSIGNED TO THIS FACILITY

PC5-89
June 71

DATE

Name: Institute of Biophysics, Pushchino
Description:
(U) During this quarterly reporting period, 13 new articles were located from the Institute of Biophysics at Pushchino. On the basis of these articles, it was possible to associate 19 new persons with the Institute. These persons are listed below together with the subjects and dates of the articles:

Baurmanov, O. K.	all biophysic's endocrine system	1970 (17)
Berezovskiy, G. H.	phospholipids	1970 (18)
Gaziyev, A. I.	DNA	1970 (19)
Ivannikova, A. G.	plant physiology	1970 (20)
Kiselev, Ye. Ye.	muscle physiology	1970 (21)
Kravchenko, N. A.	EPR spectra	1970 (22)
Naifanov, A. A.	radiation effects	1970 (23)
Pancv, A. A.	endocrine system	1970 (17)
Pasoyan, V. G.	EPR spectra	1970 (22)
Potofilov, V. I.	muscle physiology	1970 (21)
Ponfukova, G. B.	chromatography	1970 (24)
Rashin, V. D.	phospholipids	1970 (18)
Revin, A. F.	radiation effects	1970 (23)
Sukhoruchkina, L. V.	chromatography	1970 (24)
Tincher, K. S.	plant physiology	1969 (20)
Vasilov, Yu. Y.	radiation effects	1970 (23)
Zaikin, A. N.	hydrogen peroxide	1970 (25)
Zakrzhevskaya, D. T.	DNA	1970 (19)
Zuzin, A. M.	DNA	1970 (19)

USSR

UDC 616.8-02:612.766.2

PANOV, A. G., LOBZIN, V. S., and MIKHAYLENKO, A. A., Military-Medical Academy
imeni Kirov, Leningrad

"Neurological Manifestations of Prolonged Hypodynamia"

Moscow, Zhurnal Nevropatologii i Psikhatrii, No 4, 1973, pp 506-511

Abstract: Neurological and muscular reactions were studied in 22 healthy young persons during 70 to 100 days of continuous bedrest. The neurological disturbances developed in a definite sequence. The first 7 to 10 days were marked by adaptive reactions; the subjects complained of muscular pain, headache, hyperhidrosis, and mild insomnia. There was some dissociation between subjective and objective symptoms during the next 20 days. While the number of complaints diminished and sense of well-being improved, insomnia worsened, muscular hypotonia and hypotrophy progressed, and strength decreased. Symptoms of oral automatism and nystagmoid twitching of the eyeballs appeared. About the 8th week the initial neurological manifestations of hypodynamia intensified and some new ones developed, e.g., irascibility, anorexia, apathy, and aggressiveness. The diverse neurological reactions comprised three clinical syndromes: asthenoneurotic, peripheral nervous-muscular, and interhemisphere pyramidal asymmetry.

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Acc. Nr: **AA 0108165**

Ref. Code: *PANOV A.M.*
UR 0482

Abstracting Service:
Soviet Inventions Illustrated, Section I Chemical, Derwent, *1-70*

| 241658 EXPANDABLE DRUM, e.g. for the assembly of circular rubber sections such as those making up V-belts and other drive belts, consists of the ring (2) slipped on and fastened to the shaft (1) the ring supports the radially-movable internal sections (3) and the external sections (4), which form the working surfaces of the assembly drum. The discs (5) are fitted at the ends of the ring; discs have profiled cuts in the form of Archimedes spirals in their internal surfaces, with which the racks (6) intermesh. The racks are fastened to the external sections (4) and by the dowels (7) to the spokes (8) of the internal sections. On one of the external sections there is a projection (9) which engages with the braking assembly (10), which limits the rotation of sections (3 and 4). The groove (11) supports the pin (12) to which the supporting heel (13) is fastened; this heel slides in the groove (14) of the inclined support (15), which also limits the radial movement of the sections (3 and 4) relative

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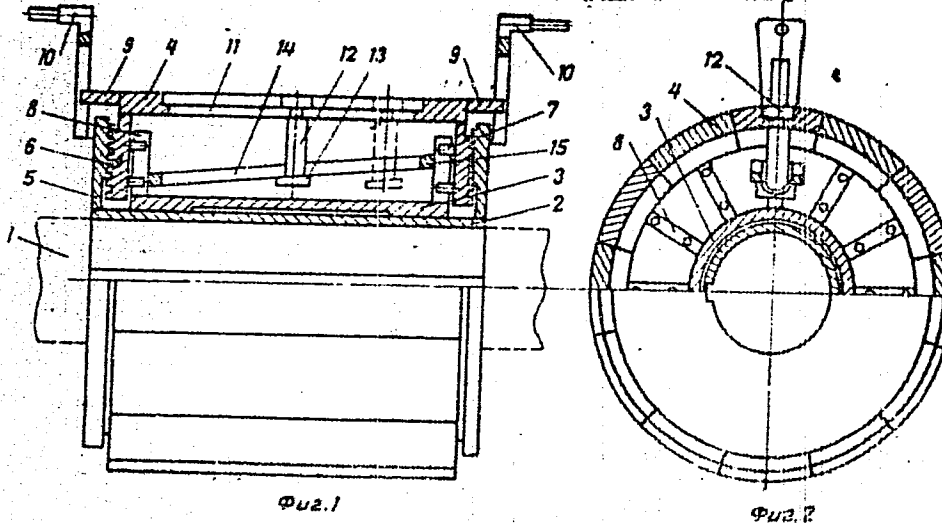
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to one another. The way in which the drum is set to a given value of expansion so that it maintains a predetermined diameter as it rotates is described briefly.

16.2.68. as 1219417/23-5, PANDV, A.M. (1.9.69)
Bul. 14/18.4.69. Class 39a^o Int. Cl. B 29h.1



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USSR

UDC 577.150.8:577.153.4:615.785.4

TONKOPIY, V. D., SAVATEYEV, N. V., BRESTKIN, A. P., and PANOY, A. N.,
Military Medical Academy Imeni S. M. Kirov, Institute of Evolutional
Physiology and Biochemistry Imeni I. M. Sechenov, Academy of Sciences
USSR, Leningrad

"Determination of Cholinesterase Activity in Tissues of Animals After the
Action of Reversible Inhibitors"

Moscow, Doklady Akademii Nauk SSSR, Vol 207, No 3, Nov 72, pp 736-738

Abstract: A new method was developed for the determination of cholinesterase
activity after introduction of reversible inhibitors, based on their ability
to retard cholinesterase activity with irreversible organophosphorus in-
hibitors [POI]. The inhibition of the enzyme -- j -- can be determined by
the rate of cholinesterase hydrolysis of acetylcholine after addition of POI
to the investigated tissue in absence of and after addition of the reversible
inhibitor. The formula for the cholinesterase inhibition is:

$$j, \% = 100 - \frac{\lg v_1/v_{t,i} \cdot 100}{\lg v_0/v_t}$$

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TONKOPIY, V. D., et al., Doklady Akademii Nauk SSSR, Vol 207, No 3, Nov 72, pp 736-738

where v_1 represents respective rates of enzyme hydrolysis; v_0 -- in absence of inhibitors, v_t -- after incubation with POI, v_i -- in presence of reversible inhibitor, and $v_{t,i}$ -- in presence of reversible inhibitor followed by incubation with POI. Animal experiments were carried out on the inhibition of cholinesterase in blood and brain. Considerable depression of cholinesterase activity was noted with armine as the irreversible inhibitor and galantamine as the reversible one, corresponding to clinical symptoms. The Hestrin and potentiometric titration methods showed no depression of enzyme activity.

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USSR

UDC: 621.396.6.049.75.002

MAR'IN, Yu. A., PANOV, A. N.

"Automated Inspection of Printed-Circuit Boards"

V sb. Obmen opytom v radioprom-sti (Experience Pooling in the Radio Industry—collection of works), vyp. 4, Moscow, 1972, pp 38-41 (from RZh--Radiotekhnika, No 8, Aug 72, Abstract No 8V327)

Translation: The paper deals with methods of checking printed-circuit boards. The methods are compared, and structural principles for designing automatic checking equipment are outlined. Resumé.

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PANOV, A. N.

JPRS 58045
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JPRS 58045
23 January 1973

UDC 577.130.8:577.153.4:615.785.4

DETERMINING CHOLINESTERASE ACTIVITY IN ANIMALS' TISSUES
FOLLOWING THE ACTION OF REVERSIBLE INHIBITORS

Article by V. D. TOKKOPLY, R. V. GAVRILEVY, A. P. BRIGATSKIN, and A. N. PANOV, Academy of Military Medicine Institute S. M. Kirov, Institute of Evolutionary Physiology and Biochemistry Inst. I. M. Sechenov, Academy of Sciences USSR, Leningrad (presented by Academician Ye. M. Kreps, 27 February 1972); Moscow, Doklady Akademii Nauk SSSR, Russian, Vol 207, No 3, 1972, pp 736-738

Some reversible cholinesterase (ChE) inhibitors, including galanthamine, tacrine, and others, are found in wide use in ophthalmology and experimental studies. When studying the relationship between the anticholinesterase activity of reversible inhibitors (I) and their biological effect, it is extremely important to know the degree of enzyme inhibition (j) in various organs and tissues of the organism following injection of these inhibitors. The magnitude of j represents the relation of ChE concentration combined in the enzyme-inhibitor complex [EI] to the total enzyme concentration [E]₀, and in the case of a competitive type of inhibitor, is expressed in the formula:

$$j = \frac{[EI]}{[E]_0} = \frac{[I]}{K_i + [I]} \quad (1)$$

where [I] is the inhibitor concentration in the tissue studied, and K_i is the inhibitor constant.

It would seem that the simplest way to determine the magnitude of j would be by the reduction of ChE activity in the tissue sample in relation to the substrate — the acetylcholine (ACh), for example. If the concentration of the substrate [S] is relatively low and does not yet reduce the enzyme's catalytic effect (inhibition by an excess of substrate is characteristic of acetylcholinesterase), then the relation of V₀, the rate of enzymatic reaction before administration of I, to V_i, the rate of enzymatic

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UDC 615.355:577.153.9.014].015.45:
612.822:612.452.018

PANOV, A. N., Medical Military Academy imeni S. M. Kirov, Leningrad

"Norepinephrine Content in Albino Rats' Brain After Administration of Gd-7 and Gd-42 Cholinesterase Inhibitors"

Moscow, Farmakologiya i Toksikologiya, Vol 34, No 3, May-Jun 71, pp 275-277

Abstract: Cholinesterase inhibitors Gd-7 (O-ethyl S- β -ethylmercaptoethyl ester of methylphosphinic acid), capable of penetrating the central nervous system, and Gd-42 (the methylsulfomethylate of I) -- incapable of such penetration -- were used to study the influence of acetylcholine on the liberation of norepinephrine in the brain of albino rats. Both agents, at LD₄₀₋₅₀ doses, produced convulsive seizures and death of some animals. Norepinephrine levels in the brain of surviving animals, 1-1/2 hr after administration of the agent, did not differ from control group levels. Gd-42 caused a drop of norepinephrine at 3 and 24 hrs; on the 3rd day the levels returned to normal. Gd-7 caused a significant drop in norepinephrine level on the 3rd day. When sublethal doses of these agents were used, causing no convulsions, no differences were noted between the experimental 1/2

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PANOV, A. N., Farnakologiya i Toksikologiya, Vol 34, No 3, May-Jun 71, pp 275-277

and control group in respect to the levels of norepinephrine. It was concluded that it is not the brain cholinesterase inhibition but its inhibition in peripheral regions of the nervous system which is responsible for the lowering of norepinephrine levels, along with convulsive seizures leading to asphyxia.

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UDC 621.319.53:621.382.2.072.1:546.28:621.384.6

BAYANOV, B. F., IL'IN, A. V., PAKIN, V. N., PANOV, A. P., SUL'VESTROV, G. I.

"Generator of Current Pulses with an Amplitude of 10^6 and a Stability of $\pm 10^{-3}$ with a Repetition Frequency of 2 Hz"

Tr. Vses. soveshchaniya po uskoritelyam zaryazhen. chastits, 1968. T.1 (Works of an All-Union Conference on Charged Particle Accelerators, 1968. Vol 1), Moscow, 1970, pp 283-286 (from RZh--Elektronika i yeye primeneniye, No 8, August 1970, Abstract No 8A285)

Translation: This paper considers a generator created at the Institute of Nuclear Physics of the Siberian Branch of the Academy of Sciences, USSR, which at an inductive load of 0.1 microhenry guarantees a unipolar current pulse of sinusoidal form with a duration with respect to the starting point of 1.2 microsecond, the amplitude of which is equal to 10^6 a and the stability to plus or minus 0.1 percent. The generator involves stored capacitance which is charged via a controlled rectifier into the primary winding of a transformer. For regeneration of energy, a recharge of the capacitance is performed via a special recharge choke coil and recharge diodes. As a second variation of the commutator, a gas-discharge rectifier was developed, which is controlled with the help of a pulse of the magnetic field. There are two references. V. I.

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Beryllium

USSR

UDC 669.275*725

VASINA, YE. A., and PANOV, A. S., Moscow

"Interaction of Tungsten with Beryllium"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 1, Jan-Feb 74, pp 197-199

Abstract: The kinetics of W-Be interaction were studied over the 700-1200°C temperature interval using single-crystal tungsten and powder-metal beryllium. It was found that these two metals interact to form boundary layers comprised of W-Be compounds. At 700°C only one new phase was detected in the W-Be contact zone with a small growth rate. Between 800 and 1200°C, three W-Be compounds were formed: WBe_2 , adjacent to the tungsten, WBe_{22} , next to the beryllium, and an intermediate compound -- WBe_{12} . The growth rate of these layers was found to be a function of both time and temperature and an equation was empirically derived for the temperature relationship of phase growth rate. At 800-1200°C the WBe_{22} growth process occurs in a single kinetic stage while WBe_2 and WBe_{12} growth proceeds in two kinetic phases. Two figures, one table, 14 bibliographic references.
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USSR

UDC 669.285'725'296:669.275'725.296

PANOV, A. S., and RYSDINA, M. M., Moscow

"Kinetics of Solid-Phase Reactions in Systems Mo-Be-Zr and W-Be-Zr"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 1, Jan-Feb 1970, pp 202-205

Abstract: This paper is the continuation of an investigation of solid phase reactions in complex systems of the type Me_I -Be- Me_{II} . A study was made of the solid-phase interaction of tungsten and molybdenum with zirconium borrylide at 900-1500° C. It was assumed that, in the case of tungsten, at 900-1150° C the process of interaction is limited by the kinetic phase, and at 1200-1400° C by the diffusion phase. For molybdenum, the process is limited by the kinetic phase in the entire temperature interval 900-1400° C. The energy of activation of the process of growth of the WBe_2 layer on tungsten for the kinetic phase is 32.2 kcal/mol and for the diffusion phase -- 22.67 kcal/mol. The energy of activation of the process of growth of $MoBe_2$ on molybdenum for the kinetic phase is 27.7 kcal/mol. It is shown that in all cases the rate of layer growth depends on temperature and time.

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1/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--DIFFUSION OF PHOSPHORUS INTO VANADIUM AND ZIRCONIUM -U-
AUTHOR--(02)--VANDYSHEV, B.A., PANOV, A.S. P
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NUK SSSR, METAL. 1970, (2), 231-4
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--PHYSICAL-DIFFUSION, PHOSPHORUS, VANADIUM, ZIRCONIUM,
RADIO-METRIC ANALYSIS, ISOTOPE, REACTION MECHANISM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1998/1160 STEP NO--UR/0370/70/000/002/0231/0234
CIRC ACCESSION NO--AP0121719

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121719

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DIFFUSION MOBILITY OF P IN V AND ZR WAS STUDIED. THE DIFFUSION IN V WAS INVESTIGATED AT 1200-1450DEGREES AND THAT IN ZR AT 950-1200DEGREES. THE DIFFUSION CONSTS. WERE MEASURED WITH THE AID OF THE LAYER RADIOMETRIC ANAL., BY USING THE ISOTOPE PRIME32 P, CAPABLE OF BETA RADIATION WITH A MAX. SPECTRAL ENERGY OF 1.7 MEV. THE DIFFUSION OF P IN V IS PRINCIPALLY OF THE BULK DIFFUSION TYPE, WHEREAS IN THE CASE OF ZR, THE BOUNDARY DIFFUSION ALSO TAKES PLACE. AN INTERSTITIAL DIFFUSION MECHANISM OF P IN V IS PRESENTED.

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1/2 045 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--KINETICS OF SOLID PHASE REACTIONS IN MOLYBDENUM, BERYLLIUM AND
ZIRCONIUM AND TUNGSTEN, BERYLLIUM AND ZIRCONIUM SYSTEMS -U-
AUTHOR--PANOV, A.S., RYSINA, M.M. P
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, METAL. 1970, (1), 202-5
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--CHEMICAL REACTION KINETICS, MOLYBDENUM, BERYLLIUM, ZIRCONIUM,
TUNGSTEN, CRYSTAL LATTICE STRUCTURE, CRYSTALLIZATION, ACTIVATION ENERGY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1988/0536 STEP NO--UR/0370/70/000/001/0202/0205
CIRC ACCESSION NO--AP0105521

UNCLASSIFIED

2/2 045

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0105521

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INTERACTION OF W AND MO WITH THE INTERMETALLIC COMPD. ZRBE SUB13 WAS STUDIED AT 900-1500DEGREES ON SAMPLES 10 MM LONG AND 3 MM THICK. IN THE CONTACT ZONE A NEW PHASE WAS FORMED WITH A HCP. STRUCTURE WITH LATTICE PARAMETERS A EQUALS 4.43 PLUS OR MINUS 0.01 AND C EQUALS 7.31 PLUS OR MINUS 0.01 ANGSTROM FOR W AND A EQUALS 4.48 PLUS OR MINUS 0.01 AND C EQUALS 7.37 PLUS OR MINUS 0.01 ANGSTROM FOR MO. THE MICROHARDNESSES OF THE PHASES FORMED ON W AND MO WERE 2140-2290 AND 1680 KG-MM PRIME2 AT A LOAD OF 100 G. THESE RESULTS INDICATE COMPNS. OF WBE SUB2 AND MOBE SUB2. THESE PHASES GREW FROM THE SIDE OF THE HIGH MELTING METAL. THE INTERACTION TAKES PLACE IN THE FOLLOWING STAGES: DIFFUSION OF BE THROUGH ZRBE SUB13 AND ITS APPROACH TO THE CONTACT BOUNDARY; DISSOCN. OF ZR BERYLLIDE NEAR THE INTERFACE; FORMATION OF MO OR W BERYLLIDE BY THE REACTION M PLUS 2BE YIELDS MBE SUB2; DIFFUSION OF BE, W, AND MO THROUGH THE BERYLLIDE FORMED; AND DIFFUSION OF BE INTO W OR MO WITH THE FORMATION OF A SOLID SOLN. AT 1200-1500DEGREES THE GROWTH RATE OF THE WBE SUB2 LAYER IS LIMITED BY THE DIFFUSION RATE OF BE THROUGH WBE SUB2 AND PERHAPS BE OR ZR THROUGH ZRBE SUB13. AT LOW TEMPS. THE PROCESS IS KINETICALLY CONTROLLED. THE ACTIVATION ENERGIES WERE CALCD. TO BE 32.2 (KINETIC STAGE) AND 22.67 (DIFFUSION STAGE) KCAL-MOLE FOR WBE SUB2 AND 27.7 KCAL-MOLE (KINETIC STAGE) FOR MOBE SUB2.

Graphite

USSR

UDC (546.831+546.821):546.261

USHAKOV, B. F., ZAGRYAZKIN, V. N., PANOV, A. S.

"Interaction of Graphite with Titanium and Zirconium"

Moscow, Neorganicheskiy Materialy, Vol 8, No 11, Nov 72, pp 1,921-1,925.

Abstract: Specimens of remelted iodide titanium and zirconium 99.9 wt.% pure and spectrally pure graphite were tableted. Diffusion annealing was performed in a vacuum at 1,200-1,900°C. Metallographic and x-ray studies indicated that TiC and ZrC layers were formed on the Ti and Zr. The diffusion layers grow evenly on the Ti; the carbide front is smooth. The diffusion layer on the Zr is uneven. The mechanism of formation and growth of the carbide layers on the titanium and zirconium was studied in detail at 1,200-1,400°C. The reaction diffusion factors were determined. It was shown that at 1,200°C and below, the process of formation and growth of the carbide layers is determined by boundary reactions. At higher temperatures, the determining stage of the process is diffusion. Equations are produced for the temperature dependences of reaction diffusion coefficients of carbon in the carbides TiC and ZrC.

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1/2 022 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--ANALYSIS OF CONCENTRATED CONSTANT Y-CIRCULATOR -U-

AUTHOR--PANOV, A.YE. P

COUNTRY OF INFO--USSR

SOURCE--RADIOTEKHNIKA I ELEKTRONIKA (RADIO AND ELECTRONICS), 1970, NO 2,
PP 298-306

DATE PUBLISHED-----70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--CIRCUIT THEORY, FERRITE, ELECTRONIC CIRCUIT ELEMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/1861

STEP NO--UR/0109/70/000/002/0298/0306

CIRC ACCESSION NO--AP0130688

UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0130688

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE METHODS OF CIRCUIT THEORY ARE USED TO ANALYZE THE EFFECT OF ATTENUATION IN THE FERRITE ON THE BASIC CHARACTERISTICS OF THE CIRCULATOR. THE CASE IN WHICH THE CIRCULATOR IS USED AS A GATE IS EXAMINED. EXPERIMENTAL RESULTS ARE PRESENTED.

UNCLASSIFIED

USSR

UDC: 621.375.121:621.375.4

SVISTOV, N. K., PANOV, A. Ye.

"Experimental Study of Tunnel-Diode Microwave Amplifiers With Circulators Based on LC Elements"

Tr. Mosk. energ. in-ta (Works of the Moscow Power Engineering Institute), 1972, vyp. 110, pp 154-157 (from RZh-Radiotekhnika, No 8, Aug 72, Abstract No 8D19)

Translation: Pilot models of single-channel and five-channel amplifiers with ferrite Y-circulators on LC elements were experimentally studied on frequencies of 0.6-1.2 GHz. A conclusion is drawn concerning the possibility of developing a direct-amplification receiver with a single-stage tunnel-diode amplifier connected at the input and a regenerative tunnel diode detector with a voltage of 100 μ V at the detector output for an input signal power of $\sim 10^{-10}$ W and a noise factor of 4-6 dB. Bibliography of two titles. V. Ch.

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1/2 033

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--PECULIARITIES OF THE INTERPRETATION OF X RAY PHOTOGRAPHS OF

AUSTENITIC STEELS -U-

AUTHOR--(05)--DOLGIY, A.A., VOLKOV, A.S., STAROSTIN, A.P., MIKITAS, A.P.,

PANOV, A.YE.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, SVARCHNOYE PROIZVODSTVO, NO 3, 1970, PP 36-37

DATE PUBLISHED-----70

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

TOPIC TAGS--AUSTENITIC STEEL, BIBLIOGRAPHY, WELD DEFECT, X RAY TECHNIQUE,
RADIOGRAPHIC JOINT INSPECTION, RADIOGRAPHY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1999/1316

STEP NO--UR/0135/70/000/003/0036/0037

CIRC ACCESSION NO--AP0123275

UNCLASSIFIED

2/2 033

UNCLASSIFIED

PROCESSING DATE--30DCT70

CIRC ACCESSION NO--AP0123275

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IT HAS BEEN ESTABLISHED THAT APPARENT DARKENING OF THE FILM OBSERVED UPON X RAYING OF WELDS IN AUSTENITIC STEEL ARE FREQUENTLY A RESULT OF THE OVERHEATING OF THE WELD AND NOT THAT OF THE PRESENCE OF DEFECTS IN IT.

UNCLASSIFIED

USSR

UDC 6.74

DOLGOPOLOV, V. N., GONDAREV, V. P., PANOV, D. N., KOSTORNICHENKO, V. G., FEDOR-
ENKO, I. I.

"Generator of Normal Discrete Random Processes with a Given Correlation Func-
tion"

V sb. Regional'n. nauch.-tekh. seminar po stat. analizu, modelir. i avtomatiz.
kontrolya ob'yektov s konstruktivnoslozh. strukturoy (Regional Scientific and
Technical Seminar on Statistical Analysis, Simulation and Automation of the
Control of Objects with Structurally Complex Structure -- collection of works),
vyp. 3, Taganrog, 1971, pp 13-21 (from RZh-Kibernetika, No 7, Jul 72, Abstract
No 7V562)

No abstract

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Acc. Nr.

AT0045325

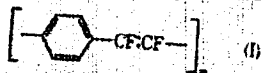
Abstracting Service:
CHEMICAL ABST.

P 5-70

Ref. Code

LR0020

90897m Synthesis of conjugated polymeric organofluorine compounds. Panov, E. M.; Rybakova, L. F.; Kocheshkov, K. A. (Fiz.-Khim. Inst. Im. Karpova, Moscow, USSR). *Dokl. Akad. Nauk SSSR* 1970, 190(1), 122-4 [Chem] (Russ). A mixt. of poly-[(1,2-difluorovinylene)-p-phenylenes] (I) was obtained in 85-90% yield by adding p-LiC₆H₄CF₂CFCl to an equiv. amt. of p-BrC₆H₄CF₂CFCl in ether at -75° under Ar or N. The I mixt. was a bright yellow powder, decompd. >320°, and had av. mol.



wt. 844 (d.p. ~7). I (n = 6) was obtained in 30-5% yield by dissolving mixed I in toluene and cooling. Addn. of Et₂O to the mother liq. yielded ~40% I (n = 4) (Ia). The mother liquor from this step was then poured into MeOH to ppt. ~15% I (n = 3) (Ib), m. 175°. The absence of Cl and Br (end groups) and the same elementary compn. for all I suggested a cyclic structure. Ib added 3 moles Br after 3 hr at 25° in CCl₄ to give 85% cyclotris[*p*-(1,2-difluoro-1,2-dibromoethylene)phenylene]. Cyclotetakis[*p*-(1,2-difluoro-1,2-dibromoethylene)phenylene] (62%) was similarly obtained at higher temp. after 3 hr from Ia. I were oxidized to terephthalic acid by Cr₂O₇ in 40% HOAc.

DBJR

REEL/FRAME
13780249

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1/2 010

UNCLASSIFIED

PROCESSING DATE--27NOV70

TITLE--IMPEDANCE STUDY OF POTASSIUM NITRATE SODIUM NITRATE, POTASSIUM
NITRATE POTASSIUM DICHROMATE POTASSIUM NITRATE THALLIUM CHLORIDE MELTS
AUTHOR--(03)-DELIMARSKIY, YU.K., PRISYAZHNYI, V.D., PANDV, E.V.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(6), 1663-6

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--BINARY FLUID SYSTEM, MOLTEN CHLORIDE, POTASSIUM NITRATE,
NITRITE, FUSED SALT, THALLIUM CHLORIDE, SOLUTION CONCENTRATION, ELECTRIC
CAPACITANCE, POTASSIUM CHROMATE, SODIUM NITRATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1392

STEP NO--UR/0078/70/015/006/1663/1666

CIRC ACCESSION NO--AP0135066

UNCLASSIFIED

2/2 010

CIRC ACCESSION NO--AP0135066
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--27NOV70

ABSTRACT. CAPACITANCE OF BINARY SYSTEMS OF
KNO SUB3 WITH NANO SUB3, K SUB2 CR SUB2 O SUB7, OR TLCL WAS MEASURED
AGAINST PT ELECTRODE IN AN A.C. AND DIAGRAMS OF CAPACITANCE VS. CONCEN.
ARE PRESENTED. THE DIAGRAMS LOOK ANALOGOUS TO THOSE OBTAINED BY USING
SURFACE TENSION DATA AND, AT LOW FREQUENCY A.C., DEPICTED THE PRESENCE
OF CHEM. REACTIONS IN THE SYSTEMS.
NEORG. KHIM., KIEV, USSR. FACILITY: INST. OBSSHCH.

UNCLASSIFIED

176 . 024

UNCLASSIFIED

PROCESSING DATE--23OCT70

TITLE--EFFECTIVENESS OF SCIENCE: THE INSTITUTE AND THE BRANCH -U-

AUTHOR--PANOV, N.

P

COUNTRY OF INFO--USSR

SOURCE--PRAVDA, JAN. 15, P. 2

DATE PUBLISHED--15JAN70

SUBJECT AREAS--BEHAVIORAL AND SOCIAL SCIENCES

TOPIC TAGS--R AND D FACILITY FORMATION, HIGHER EDUCATION INSTITUTE R AND D, RESEARCH AND PRODUCTION INTERFACE, INDUSTRIAL R AND D, CONTRACT R AND D, R AND D ORGANIZATION STRUCTURE, AVIATION INSTITUTE, DESIGN BUREAU, R AND D CAPITAL INVESTMENT, R AND D COORDINATION, MINISTERIAL TECHNICAL COUNCIL, SALARY SCHEDULE, R AND D MANPOWER SUPPLY, R AND D MANAGEMENT, R

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/1071

STEP NO--UR/9012/70/000/000/0002/0002

CIRC ACCESSION NO--AN0121646

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--23OCT70

2/6 024

CIRC ACCESSION NO--AN0121646

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

INSTITUTE AND THE BRANCH.

PROVINCE PARTY COMMITTEE.

CONDENSED TEXT;)

INSTITUTE NOT LONG AGO.

THE PETROLEUM REFINING AND

LABORATORY AT THE INSTITUTE

PETROCHEMICAL ENTERPRISES;

THE WORK AND AMPLE LABORATORY

ALL APPEARANCES; THE MINISTRY

THE SCIENTISTS OF THE HIGHER

WILL QUICKLY BE RECOUPED.

UP IS ALREADY THE 28TH SUCH

ILLUSTRATION THAT THE NEW

SCIENCE AND INDUSTRY THAT

JUSTIFIED ITSELF.

MOST RESEARCH WAS, AS ARULE,

EPISODIC NATURE OF INDUSTRIAL

PROPER UTILIZATION OF SCIENTIFIC

HANDLED WAS FRUSTRATING.

HIGHER SCHOOL SCIENTIFIC

DILIGENT JOINT SEARCHING

LABORATORIES. INSTITUTE

PROVINCE PARTY ORGANIZATION.

ABSTRACT. EFFECTIVENESS OF SCIENCE: THE (BY N. PANOV, SECRETARY OF THE KUIBYSHEV INSTITUTE AND THE BRANCH. (BY N. PANOV, SECRETARY OF THE KUIBYSHEV PROVINCE PARTY COMMITTEE. PRAVDA, JAN. 15, P. 2. 1,400 WORDS. CONDENSED TEXT;) A LETTER ARRIVED AT THE KUIBYSHEV POLYTECHNIC INSTITUTE NOT LONG AGO. IT WAS AN OFFER FROM THE U.S.S.R. MINISTRY OF THE PETROLEUM REFINING AND PETROCHEMICAL INDUSTRY TO SET UP A BRANCH LABORATORY AT THE INSTITUTE TO DEVELOP NEW AND IMPROVED CATALYSTS FOR PETROCHEMICAL ENTERPRISES; THE MINISTRY OFFERED LARGE SUMS TO FINANCE THE WORK AND AMPLE LABORATORY SPACE WITH THE NECESSARY EQUIPMENT. TO ALL APPEARANCES; THE MINISTRY HAS A CONSIDERABLE INTEREST IN THE HELP OF THE SCIENTISTS OF THE HIGHER SCHOOL AND IS CONFIDENT ITS EXPENDITURES WILL QUICKLY BE RECOUPED. THE BRANCH LABORATORY THAT IS NOW BEING SET UP IS ALREADY THE 28TH SUCH IN KUIBYSHEV AND IS ONE MORE CONVINCING ILLUSTRATION THAT THE NEW TYPE OF RELATIONSHIP BETWEEN HIGHER SCHOOL SCIENCE AND INDUSTRY THAT CAME INTO BEING 10 YEARS AGO HAS FULLY JUSTIFIED ITSELF. THIS ACCEPTANCE DID NOT COME IMMEDIATELY. FORMERLY, MOST RESEARCH WAS, AS ARULE, DONE ON SHORT TERM ECONOMIC CONTRACTS. THE EPISODIC NATURE OF INDUSTRIAL TIES PRECLUDED LONG RANGE PLANNING AND A PROPER UTILIZATION OF SCIENTIFIC FORCES. THE TRIVIALITY OF THE PROBLEMS HANDLED WAS FRUSTRATING. OF COURSE, NEITHER PRODUCTION WORKERS NOR THE HIGHER SCHOOL SCIENTIFIC COLLECTIVES WERE SATISFIED WITH THE SITUATION. DILIGENT JOINT SEARCHING LED TO THE NOTION OF SETTING UP BRANCH LABORATORIES. INSTITUTE SCIENTISTS TOOK UP THE TASK WITH AID FROM THE PROVINCE PARTY ORGANIZATION.

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UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AN0121646

ABSTRACT/EXTRACT--TODAY THE BRANCH LABORATORIES OF THE KUIBYSHEV HIGHER SCHOOLS ARE FULLY FORMED SCIENTIFIC COLLECTIVES OF MANY YEARS' EXPERIENCE OF CLOSE CREATIVE TIES WITH INDUSTRY. MANY OF THEM PERFORM HUNDREDS OF THOUSANDS OF RUBLES' WORTH OF WORK FOR ENTERPRISES EVERY YEAR. THE OVERALL VOLUME OF RESEARCH AT THE HIGHER SCHOOLS, THANKS TO THE CREATION OF THE BRANCH LABORATORIES, HAS INCREASED FIVEFOLD. BUT THE MAIN THING IS THAT THE COLLECTIVES OF SCIENTISTS ARE NOW WORKING TO RESOLVE THE IMPORTANT AND BASIC PROBLEMS OF PRODUCTION. IT IS CHARACTERISTICS OF THE CREATIVE COLLECTIVES TODAY THAT THEY ARE NO LONGER CONTENT MERELY TO WORK OUT THIS OR THAT PROBLEM. THIS TENDENCY BECAME PARTICULARLY MANIFEST AFTER THE TRANSFER OF THE HIGHER SCHOOL LABORATORIES TO THE SYSTEM OF BRANCH MINISTRIES. FORMERLY, THE LABORATORY COLLECTIVES WERE CONFINED TO THEIR ECONOMIC REGION, WHETHER THEY SO DESIRED OR NOT. THIS NARROWED THE SUBJECTS OF THEIR RESEARCH AND DIMINISHED THE ECONOMIC EFFECTIVENESS OF THE INTRODUCTION OF THEIR RESULTS IN PRODUCTION. THE EMERGENCY OF THE LABORATORIES INTO THE WIDE SPACES OF WHOLE BRANCHES OF INDUSTRY OPENED UP NEW OPPORTUNITIES FOR THEM. THE MAJORITY OF MINISTRIES HAVE TAKEN AN ATTENTIVE ATTITUDE TOWARD OUR LABORATORIES, SEEING THEM QUITE CORRECTLY AS ONE OF THE IMPORTANT MEANS IN THE SUCCESSFUL STRUGGLE FOR FURTHER TECHNICAL PROGRESS IN THE BRANCHES. FOR EXAMPLE, THE ECONOMIC EFFECT OF IMPLEMENTING ONLY THAT PART OF THE WORK THAT HAS BEEN DONE RECENTLY BY THE LABORATORIES OF THE POLYTECHNIC INSTITUTE AMOUNTS TO 12,000,000 RUBLES. AT THE AVIATION INSTITUTE EVERY RESEARCH RUBLE YIELDS SIX RUBLE OF PROFIT.

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PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AN0121646

ABSTRACT/EXTRACT--BUT A NUMBER OF OUR MINISTRIES HAVE REFUSED ON INSUFFICIENT GROUNDS TO TAKE LABORATORIES OF PROVEN COMPETENCE "UNDER THEIR WING". THUS THE MINISTRY OF THE PETROLEUM EXTRACTING INDUSTRY ACTED WITH RESPECT TO AN EXPERIENCED COLLECTIVE THAT HAD TO ITS CREDIT A NUMBER OF ACHIEVEMENTS IN THE CREATION OF INSTRUMENTS AND DATA PROCESSING AND COMPUTER EQUIPMENT FOR THE AUTOMATION OF DRILLING AND FOR THE ANALYSIS OF TECHNICAL AND ECONOMIC INDICES OF ENTERPRISES IN THE PETROLEUM EXTRACTING INDUSTRY. PETROLEUM INDUSTRY WORKERS SORELY NEED SUCH APPARATUS AND IMPLEMENTS. MANY INSTITUTES OF THE BRANCH ARE CONCERNED SPECIFICALLY WITH DEVISING SYSTEMS OF AUTOMATION. BUT NO COLLECTIVE HAS CREATED INSTRUMENTS AND OTHER MEANS OF AUTOMATION. ISN'T THIS A CASE WHERE IT WOULD BE CORRECT TO EMPLOY THE SERVICES OF BRANCH LABORATORIES WORKING IN THE HIGHER SCHOOLS LOCATED IN THE COUNTRY'S OIL CENTERS? WHEN TALK TURNS TO THE BRANCH LABORATORIES, SOME COMRADES INCLUDING SCIENTISTS WHO VALUE THIS TYPE OF RELATIONSHIP BETWEEN SCIENCE AND INDUSTRY, FREQUENTLY UNDERLINE WITH SKEPTICISM THEIR BELIEF THAT THE PROBLEMS THAT SUCH LABORATORIES ARE SET UP FOR ARE USUALLY WORKED OUT IN A FEW YEARS. THIS IS HARD TO SEE. THE MORE THAN 10 YEARS' EXPERIENCE ACCUMULATED BY OUR BRANCH LABORATORIES MAKES PERFECTLY CLEAR THAT THERE IS ABSOLUTELY NO DANGER OF "RUNNING OUT OF SUBJECT MATTER". RATHER, THE STORMY DEVELOPMENT OF INDUSTRY POSES TASKS OF EVER GREATER COMPLEXITY AND INTEREST.

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PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AN0121646

ABSTRACT/EXTRACT--IT IS IMPORTANT ONLY THAT THE COLLECTIVES PROPERLY SELECT A SCIENTIFIC LINE OF ENDEAVOR AND HAVE A CORRECT KNOWLEDGE OF THE DIFFICULTIES, IMMEDIATE TASKS AND DEVELOPMENTAL PROSPECTS OF THE BRANCH IN QUESTION. IT IS HARDLY COINCIDENTAL THAT THE MINISTRIES, WHILE FINANCING CONCRETE RESEARCH OF IMPORTANCE TO THE BRANCH, HAVE BEEN INCREASINGLY WILLING TO SUPPORT THE SCIENTISTS' CHOICE OF PROBLEMS, LEAVING THE SELECTION OF SUBJECTS TO THE HIGHER SCHOOLS THEMSELVES. THE INTRODUCTION OF RESEARCH RESULTS IN INDUSTRY IS OF THE GREATEST SIGNIFICANCE IN ANY SCIENTIFIC INSTITUTION'S ACTIVITIES. HOWEVER, THERE ARE STILL MANY SHORTCOMINGS AND LOOSE ENDS IN THIS MATTER. AS A RULE, A HIGHER SCHOOL IS CAPABLE OF ENSURING BY ITS OWN EFFORTS THE INTRODUCTION OF RESEARCH RESULTS AT ONE OR TWO CUSTOMER ENTERPRISES. UNFORTUNATELY, SOMETIMES THINGS STOP AT THIS POINT. MINISTRIES DO NOT ALWAYS ENSURE THAT INNOVATIONS ARE INTRODUCED AT ALL INTERESTED BRANCH ENTERPRISES. WHAT IS THE WAY OUT OF THIS? THE COORDINATING ROLE OF THE MINISTRIES MUST BE INTENSIFIED. IN OUR VIEW, IT WOULD BE USEFUL TO INCLUDE HIGHER SCHOOL REPRESENTATIVES ON THE STAFFS OF THE MINISTRIES' SCIENTIFIC AND TECHNICAL COUNCILS FROM THOSE SCHOOLS WITH WHICH THE BRANCH'S ENTERPRISES MAINTAIN THE CLOSEST CREATIVE CONTACTS. IN THE SECOND PLACE, THERE MUST BE A STEPPING UP OF THE ACTIVITY OF THE MINISTRIES' TECHNICAL SERVICES IN RENDERING ASSISTANCE TO THE BRANCH LABORATORIES AND A STRENGTHENING OF THE TIES OF THE HIGHER SCHOOLS WITH THE SPECIAL DESIGN BUREAUS THAT THE MINISTRY HAS AT ITS DISPOSAL.

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6/6 024

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AN0121646

ABSTRACT/EXTRACT--A MECHANISM MUST BE DEvised THAT WOULD ALLOW THE RESULTS OF SCIENTIFIC RESEARCH TO BE ASSIMILATED MORE QUICKLY. THE HIGHER SCHOOLS HAVE EXPERIENCED CONSIDERABLE DIFFICULTIES IN OBTAINING CADRES OF SCIENTIFIC WORKERS AND ENGINEERS FOR THE BRANCH LABORATORIES BECAUSE SIMILAR LABOR IS PAID AT CONSIDERABLY HIGHER RATES IN RESEARCH INSTITUTES. IS THIS JUSTIFIED? THE QUALITY OF ENGINEERS' TRAINING IN OUR HIGHER SCHOOLS HAS IMPROVED SIGNIFICANTLY AS A RESULT OF INVOLVING DEPARTMENTAL SCIENTIFIC PERSONNEL AND STUDENTS IN THE ACTIVITIES OF THE BRANCH LABORATORIES. FACILITY: KUIBYSHEV PROVINCE PARTY COMMITTEE.

UNCLASSIFIED

Acc. Nr:

AP0047177

Ref. Code: UR 0246

PRIMARY SOURCE: Zhurnal Nevropatologii i Psikhatrii, 1970,
Vol 70, Nr 2, pp 261-264

EEG ANALYSIS OF EXPERIMENTAL PSYCHOSIS BROUGHT
ON BY DITRAN

P. A. Panov

The paper concerns data on the influence of ditran on the background activity of the EEG in different brain structures. It was demonstrated that the relieving effect of ditran on the mean evoked potentials of the visual area of the brain during an expressed slow bioelectrical activity precedes a decrease of the amplitude of evoked responses. Disorders of the character of adaptation of visual evoked potentials, the incongruous amounts of responses to the intensity of stimuli, an increase of variability and an absence of correlations between the analyzers — are important links in the development of experimental psychosis.

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REEL/FRAME
19790672

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USSR

UDC 621.385.623.4

PANOV, P.V., KORNEYEV, V.N.

"Investigation Of Self-Contained Focusing Lens For Klystrons With A Ribbon Electron Stream"

Elektron. tekhnika. Nauchno-tekhn. sb. Elektron SVCh (Electronics Technology. Scientific-Technical Collection. Microwave Electronics), 1970, No 6, pp 60-67 (from RZh--Elektronika i yeye primeneniye, No 10, October 1970, Abstract No 10A148)

Translation: The results are presented of an investigation of a self-contained focusing lens for klystrons with a ribbon electron stream. The investigation was conducted by the method of modeling in an electrolytic bath. With the help of the aberration parameter which is introduced, the optimum form and dimensions of the electrodes of the lens are evaluated. The results of the experimental investigation are presented. Summary.

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USSR

UDC 51:530.115

PANOV, S. A., TSARFIN, L. V.

"Economics-Mathematics Methods in the Solution of Problems of Planning of Shipping of Goods By Hourly Schedules"

Nekotor. Vopr. Issled. Transp. Potokov, [Some Problems of the Study of Transportation Flows--Collection of Works], No. 2, Moscow, 1970, pp 54-64, (Translated from Referativnyy Zhurnal Kibernetika, No 5, 1971, Abstract No. 5V592, from the Introduction).

Translation: The specific problem of optimization of the transport process in truck transport arising in connection with the new technology of housing construction is studied. One specific feature of the problem is that each consumer indicates in his order not only the name and volume of products required, but the delivery time during the day. The problem is stated, various mathematical models are analyzed, and the advantages and disadvantages of each are described from the standpoint of statement and possibility of solution.

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USSR

UDC 621.372.061:538.56

TAFI, V. A., GORELIK, V. Yu., PANOV, T. P.

"Circuit with Two Variable Parameters"

Tr. Mosk. in-ta inzh. zh.-d. transp. (Works of Moscow Institute of Railroad Transportation Engineers), 1970, vyp. 330, pp 43-47 (from RZh-Radiotekhnika, No 8, Aug 70, Abstract No 8A178)

Translation: This article contains an investigation of the problems of studying the stability of a linear electric circuit with periodically varying capacitance and inductance. The characteristic equation of the system is derived the roots of which determine the stability of the system. The bibliography has one entry.

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USSR

P
UDC 621.372.061:538.56

TAFT, V. A., KARAULOV, A. N., PANOV, T. Ts.

"Two-Loop Circuit with Variable Capacitances and Inductances"

Tr. Mosk. in-ta inzh. zh.-d. transp. (Works of Moscow Institute of Railroad Transportation Engineers), 1970, vyp. 330, pp 57-66 (from RZh-Radiotekhnika, No 8, Aug 70, Abstract No 8A176)

Translation: This article contains an investigation of the problems of studying a two-loop electric circuit with four variable parameters. The system of equations of the circuit is reduced to canonical form. Expressions are obtained for variable parameters in the form of finite Fourier series. An expression is presented for defining the system (characteristic equation) in finite form. There is one illustration and a two-entry bibliography.

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- 40 -

USSR

UDC: 621.317.765.8

GLADKIKH, G. A., PANCV, V. G., PAKHONOV, I. P., and CHICHIK, P. D.

"Infra-Low Noise Frequency Generator"

Moscow, Pribery i Tekhnika Eksperimenta, No. 3, 1971, pp 124-125

Abstract: The instrument described in this paper is designed for tuning measurement devices by producing electrical noise in the frequency range of 0-1 kHz. Known in spectrometry as the method of heterodyning to zero, the basis principle of the instrument is to shift the noise spectrum into the infra-low frequency range. As shown by the accompanying block diagram, the instrument consists of a noise source feeding through a matching stage to a band-pass amplifier, and thence to a multiplier, where it is mixed with the output of a heterodyning oscillator. The beat frequencies are then put through a low-pass filter. The noise source is a silicon stabilatron of the DS14V type connected in series with a KP111 silicon transistor, and the heterodyning oscillator uses 1T403V transistors, its tuned circuit being resonant to 35 kHz. A circuit diagram of the noise generator is given.

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USSR

UDC 621.65/.68.621.3.078

SMEL'NITSKIY, S. G., Candidate of Technical Sciences, BULKIN, A. Ye., Candidate of Technical Sciences, PANOV, V. I., Candidate of Technical Sciences, Gusarov, O. P., Engineer, and TYUGAYEV, V. A., Engineer, Moscow Power Engineering Institute, Heat and Electric Power Plant-22, Moscow Regional Administration of Power System Management

"Electric Automatic Control and Protection System of OVPT-500-Type Turbopump Feeder Unit"

Moscow, Teploenergetika, No 6, Jun 73, pp 33-36

Abstract: A new electric system of automatic control and protection with complete elimination of hydraulic members was installed on the turbopump feeder unit No1, OVPT-500 type, of the Heat and Electric Power Plant-22 of Moscow Regional Administration of Power System Management. The system is mainly based on typical automation means used in technological processes in electric power plants. The working of the system is discussed by reference to its functional circuit, the diagram of control mechanism, and the power supply diagram of electromagnets of friction drives. The described system considerably simplified the operating conditions of the turbopump feeder unit, in particular its remote control. Five figures, four bibliographic references.

1/1

Semiconductors and Transistors

USSR

UDC 621.315.592

GERASIMENKO, N. N., DVURECHENSKIY, A. V., ~~PANOV, V. I.~~, and SMIRNOV, L. S.

"Threshold Energy of the Formation of Radiation Defects in Semiconductors"

Leningrad, Fizika i tekhnika poluprovodnikov, Vol 5, No 8, 1971, pp 1644-1646

Abstract: The authors set themselves the problem of determining the threshold for the initial formation of a defect of the Fränkel type in semiconductor radiation under electron bombardment in this brief communication. For their experiments, they chose the A center in silicon (the association of a vacancy with oxygen) of the n type with a resistivity of 2 ohm·cm and an oxygen concentration of $2 \cdot 10^{17}$ per cc. The specimens were irradiated in a van de Graaf accelerator at room temperature. The measurements were made by the electron paramagnetic resonance method at a temperature of 77°C with a spectrometer having a sensitivity of 10^{11} spins/gauss. The irradiation dosage was kept small to maintain constant the rate of A-center accumulation. Gratitude is expressed to R. R. Sevast'yanenko and M. P. Shadrina for preparing the specimens and to V. A. Abramenko and S. A. Sokolov for performing

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USSR

GERASIMENKO, N. N., et al., Fizika i tekhnika poluprovodnikov, Vol 5, No 8, 1971, pp 1644-1646

the irradiation procedure. The authors are connected with the Novosibirsk Semiconductor Physics Institute.

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- 81 -

1/2 024 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--ZONES AND MODULATED STRUCTURE IN AGING AL,ZN ALLOYS -U-
AUTHOR--(05)-KLESHCHEV, G.V., TOLDIN, V.A., SHUMILOV, D.V., PANOV, V.N.,
RASPOPOV, YU.G.
COUNTRY OF INFO--USSR
SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(4), 818-20
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--ALUMINUM ALLOY, ZINC ALLOY, SOLID SOLUTION, ELECTRON
MICROSCOPE, METAL AGING, METAL MICROSTRUCTURE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/0555 STEP NO--UR/0020/70/191/994/0818/0820
CIRC ACCESSION NO--AT0126302
UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--27NOV70

GIRC ACCESSION NO--AT0126302

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FORMATION IN AL,ZN ALLOYS DURING THE DECOMP. OF THE SUPERSATD. SOLID SOLN., OF SPHEROIDAL ZONES ENRICHED WITH ZN WAS STUDIED TO DET. WHETHER THESE ZONES ARE THE RESULT OF SPINODAL DECOMP. TWO COMPETING PROCESSES WERE DETD. DURING THE DECOMP. OF THE SUPERSATD. SOLID SOLNS.: THE FORMATION OF ZONES AND THE FORMATION OF A MODULATED STRUCTURE. ZONE FORMATION PROCEEDED WITH THE ACTIVE PARTICIPATION OF VACANCIES, AND THEREFORE IT IS ASSUMED THAT DURING THE EARLY STAGE OF DECOMP. THE ZONE FORMATION CAN SUCCESSFULLY COMPETE WITH THE MODULATED STRUCTURE FORMATION. VACANCIES STIMULATED THE RAPID GROWTH OF ZONES AND SUBSEQUENT TRANSFORMATION OF THESE ZONES INTO CRYSTALLITES OF THE BETA PHASE. ZONE FORMATION CANNOT BE REGARDED AS THE REALIZATION OF SPINODAL DECOMP. THE STUDY WAS CARRIED OUT WITH AN ELECTRON MICROSCOPE OF AN AL,ZN 40 WT. PERCENT ALLOY, WHEREBY THE SPECIMENS WERE HEATED DIRECTLY IN THE ELECTRON MICROSCOPE AND THE DECOMP. WAS OBSD. AND STUDIED. FACILITY: CHELYABINSK. GOS. PEDAGOG. INST., CHELYABINSK, USSR.

UNCLASSIFIED

024 UNCLASSIFIED PROCESSING DATE--27NOV70
 TITLE--ZONES AND MODULATED STRUCTURE IN AGING AL,ZN ALLOYS -U-
 AUTHOR--(05)-KLESHCHEV, G.V., TOLDIN, V.A., SHUMILOV, D.V., PANOV, V.N.,
 RASPOPOV, YU.G.
 COUNTRY OF INFO--USSR
 SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(4), 818-20
 DATE PUBLISHED-----70
 SUBJECT AREAS--MATERIALS
 TOPIC TAGS--ALUMINUM ALLOY, ZINC ALLOY, SOLID SOLUTION, ELECTRON
 MICROSCOPE, METAL AGING, METAL MICROSTRUCTURE
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAE--3001/0555 STEP NO--UR/0020/70/191/994/0818/0820
 ARC ACCESSION NO--AT0126302
 UNCLASSIFIED

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C ACCESSION NO--AT0126302

UNCLASSIFIED

PROCESSING DATE--27NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FORMATION IN AL,ZN ALLOYS DURING THE DECOMP. OF THE SUPERSAT. SOLID SOLN., OF SPHEROIDAL ZONES ENRICHED WITH ZN WAS STUDIED TO DET. WHETHER THESE ZONES ARE THE RESULT OF SPINODAL DECOMP. TWO COMPETING PROCESSES WERE DETD. DURING THE DECOMP. OF THE SUPERSAT. SOLID SOLNS.: THE FORMATION OF ZONES AND THE FORMATION OF A MODULATED STRUCTURE. ZONE FORMATION PROCEEDED WITH THE ACTIVE PARTICIPATION OF VACANCIES, AND THEREFORE IT IS ASSUMED THAT DURING THE EARLY STAGE OF DECOMP. THE ZONE FORMATION CAN SUCCESSFULLY COMPETE WITH THE MODULATED STRUCTURE FORMATION. VACANCIES STIMULATED THE RAPID GROWTH OF ZONES AND SUBSEQUENT TRANSFORMATION OF THESE ZONES INTO CRYSTALLITES OF THE BETA PHASE. ZONE FORMATION CANNOT BE REGARDED AS THE REALIZATION OF SPINODAL DECOMP. THE STUDY WAS CARRIED OUT WITH AN ELECTRON MICROSCOPE OF AN AL,ZN 40 WT. PERCENT ALLOY, WHEREBY THE SPECIMENS WERE HEATED DIRECTLY IN THE ELECTRON MICROSCOPE AND THE DECOMP. WAS OBSD. AND STUDIED. FACILITY: CHELYABINSK. GOS. PEDAGOG. INST., CHELYABINSK, USSR.

UNCLASSIFIED

USSR

UDC 621.357.1:66/.847(088.8)

BUDANOV, V. V., KIBENKO, V. D., BUKIN, S. M., PANOV, V. P.

"Electrochemical Procedure for Obtaining Rongalite"

USSR Author's Certificate No 303317, filed 11 Oct 69, published 14 Jul 71 (from RZh-Khimiya, No 12, Jun 72, Abstract No 12L286P)

Translation: An electrochemical method of obtaining rongalite using cathode reduction has been patented. It is distinguished by the fact that in order to improve the process, increase the yield and improve the quality of the product, zinc formaldehydebisulfite is reduced at a pH of the electrolyte of 5-6, D_c 5-10 a/dm², a raw materials concentration 2 g-mole/liter in SO₂ at a temperature of 85-100^o, and the zinc formaldehydesulfoxylate formed is converted to the product by known procedures.

1/1

1

USSR

UDC 681.325.54.042

SUKHOV, L. N., SHLYAKHTIN, V. T., KRYLOV, Yu. D., PANOV, V. P., and
PARAMONOV, K. G.

"A Reversible Binary Counter"

USSR Author's Certificate No 280542, Filed 12 Dec 68, Published 9 Dec 70
(from Referativnyy Zhurnal — Avtomatika, Telemekhanika, i Vychislitel'naya
Tekhnika, No 8, 1971, Abstract No 8B188 P)

Translation: The purpose of this invention is to ensure stable operation of a counter, given a significant level of noise. This is achieved by having each digit position of the counter consist of two "memory" cells connected in series via an AND cell, while a NOT inverter is connected to the input of the first position. The binary reversible counter includes an inverter, which is meant to control the counter according to the change in potential; delay lines consisting of logical "memory" elements; logic circuits consisting of AND cells; and memory elements consisting of logical "memory" elements.

1/1

- 34 -

USSR

UDC 621.3032.269.1

PANOV, V.P., GORBATOV, D.M., PETRONINA, N.I.* [* Transliterated from Ukrainian]

"Development Of Electron Guns With Ribbon Flow"

Ukr. fiz.zh. (Ukrainian Journal Of Physics), 1971, 16, No 6, pp 966-970 (from RZh--Elektronika i yeye primeneniye, No 11, Nov 1971, Abstract No 11A23)

Translation: In order to improve the properties of klystrons with a ribbon beam it is desirable to increase the value of the perveance of the flow per unit length. As a result of the study with the use of an electrolytic bath of the effect of the anode aperture, corrections are obtained to the magnitude of the perveance and the dependences characterizing the nonuniformity of current takeoff from the cathode. The basic geometry and experimental data are presented for electron guns with a linear perveance of 133, 220, and 360 microamp/v^{3/2}.m with voltages above 10 kv. Summary.

1/1

USSR

UDC: 681.327.2

SUKHOV, L. N., SHLYAKHTIN, V. T., KRYLOV, Yu. D., PANOV, V. P., PARAMONOV, K. G.

"A Reversible Binary Counter"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 28, 1970, Soviet Patent No 280542, Class 21, filed 12 Dec 68, p 40

Abstract: This Author's Certificate introduces a reversible binary counter which contains digital places on "memory" cells, AND cells, and a control bus. As a distinguishing feature of the patent, operational stability is ensured in the presence of an appreciable level of industrial interference by making each digital place of the counter in the form of two "memory" cells connected in series through an AND cell, and connecting a NOT inverter to the input of the first digital place.

1/1

- 05 -

112 - 054 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--APPLICATION OF METAL CERAMIC ALLOYS FOR HANDLING HIGH TEMPERATURES
AND PRESSURES -U-
AUTHOR--(02)-STEPNOV, S.A., PANOV, V.S.
COUNTRY OF INFO--USSR
SOURCE--MOSCOW, KUZNECHNO-SHTAMPOVOCHNOYE PROIZVODSTVO, NO. 2, 1970, PP
43-44
DATE PUBLISHED-----70

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

TOPIC TAGS--ALLOY, DIE CASTING, CONSTRUCTION MATERIAL, HIGH TEMPERATURE
MATERIAL, CERMET PRODUCT, VACUUM TECHNOLOGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1985/0272

STEP NO--UR/0182/70/000/002/0043/0044

CIRC ACCESSION NO--AP0100778

UNCLASSIFIED

2/2 - 054

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0100778

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIS ARTICLE PRESENTS SOME OF THE RESULTS OBTAINED FROM WORK DONE BY THE NII TRAKTORSEL'KHOZMASH (SCIENTIFIC RESEARCH INSTITUTE FOR AGRICULTURAL TRACTORS AND MACHINERY) ON THE APPLICATION OF REFRACTORY ALLOYS TO INSTRUMENTS FOR WORKING AT HIGH TEMPERATURES AND PRESSURES. SUCH MATERIALS ARE METAL CERAMIC COMPOSITIONS MADE BY PRESSING AND SINTERING IN A VACUUM. A TABLE IS GIVEN LISTING THE TYPE NUMBER OF THE ALLOY, THE COMPONENTS OF THE LATTER, AND ITS CHARACTERISTICS, TOGETHER WITH NOTES AS TO THE POSSIBLE USES INSTRUMENTS MADE OF IT CAN BE PUT TO. SOME DETAILS CONCERNING THE MANUFACTURE OF THESE ALLOYS, STEEL TYPE NUMBERS, THE TEMPERATURE, THE DURATION OF THE HEATING, ARE GIVEN. PLANTS SUCH AS THE CHELYABINSK AUTOMECHANICAL PLANT AND THE VOROSHILOVGRAD AUTOMOBILE VALVE PLANT IN WHICH DIES MADE OF SUCH ALLOYS ARE USED, ARE LISTED, AND DETAILS OF THE MATERIALS ARE PRESENTED. THE AUTHORS CONCLUDE THAT REFRACTORY ALLOYS ARE WIDELY APPLICABLE FOR DIE CASTING, AND THAT A SUBSTANTIAL IMPROVEMENT IN THE STABILITY OF DIES AND PUNCHES CAN BE MADE BY PROPER CHOICE OF ALLOY.

UNCLASSIFIED

Titanium

USSR

UDC 621.669.27

MEYERSON, G. A., KREYMER, G. S., GLUSHKOV, V. N., PANOV, V. S., Moscow Institute of Steels and Alloys

"Study of the Influence of Conditions of Production of Metallic Tungsten on the Properties of T15K6 Alloy"

Kiev, Poroshkovaya Metallurgiya, No 6, Jun 72, pp 31-35.

Abstract: The possibility is studied of producing fine-grained, homogeneous tungsten powder in commercial muffle furnaces using direct input of hydrogen, and the influence of the grain size of the tungsten powder produced on the physical, mechanical and cutting properties of the hard alloys is investigated. NO_3 was reduced to W in one stage in an industrial type GSPI muffle furnace. Direct input of hydrogen allows a homogeneous, fine-grained tungsten powder with adsorption of over 0.2 mg/g and mean grain size less than 1 micron to be produced. The properties of T15K6 alloy were studied as functions of sintering temperature. It was found that the alloy has a finer WC-phase grain structure and higher physical, mechanical and cutting properties than standard T15K6 alloy. The cutting properties are 10-30% higher than the standard alloy.

1/1

1/2 014 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--EXCHANGE OF MOLECULAR DEUTERIUM WITH DIMETHYL FORMAMIDE IN THE
PRESENCE OF A COMPLEX HYDROGENATION CATALYST -U-
AUTHOR-(02)-YEFIMOV, O.N., PANOV, V.V. *P*
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (2), 491-3
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, NUCLEAR SCIENCE AND TECHNOLOGY
TOPIC TAGS--DEUTERIUM, FORMIC ACID, AMIDE, CATALYST, HYDROGENATION,
RHENIUM COMPOUND, COMPLEX COMPOUND, RADIOACTIVITY, TRITIUM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1999/1784 STEP NO--UR/0062/70/000/002/0491/0493
CIRC ACCESSION NO--AP0123581

UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0123581

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXCHANGE OF D WITH HCONME SUB2 IN THE PRESENCE OF THE HYDROGENATION CATALYST (I) FORMED FROM RH AND N, PHENYLANTHRANILIC ACID (AVILOV V. A., ET AL., 1968) WAS FOUND, ON THE BASIS OF A KINETIC STUDY, SHOWN GRAPHICALLY, TO PROCEED BY REVERSIBLE TRANSFER OF ONE D ATOM TO THE HCONME SUB2 MOL. UNDER THESE CONDITIONS D EXCHANGES WITH H IN THE C-ME GROUP OF ACNME SUB2 WITH PARTIAL HYDROGENOLYSIS OF THE C-ME BOND TO FORM CH SUB4 AND HCONME SUB2. IT WAS SUGGESTED THAT THE PROCESS INVOLVES SUCH EQUIL. AS RH. . .O:CMENME SUB2 PLUS D SUB2 FORMS AND IS FOFORMED FROM MEDRH. . .O:CDNME SUB2, WITH EACH OF THESE CAPABLE OF UNDERGOING TRANSLATION OF D AND H ATOMS. FROM DATA ON REDISTRIBUTION OF RADIOACTIVITY WITH TRITIUM TRACING IT WAS SHOWN THAT THE ME GROUP BOUND TO C TAKES PART IN THE EXCHANGE.
FACILITY: INST. KNIM. FIZ., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC: 621.373:530.145.6

ARKHIPOV, V. K., YERSHOV, Ye. I., PANOV, Ye. I., RYZHAKOVA, Z. L.,
and TARASOV, R. P.

"Generator of Specially Formed Light Pulses Based on the Gas
Laser"

Elektron. tekhnika. Nauchno-tekhn. sb. Gazorazryadn. pribory
(Electronic Engineering, Scientific-Technical Collection of
Gas Discharge Devices) 1970, No. 3(19), pp 33-36 (from RZh-
Radiotekhnika, No. 3, March 71, Abstract No. 3D250)

Translation: A light-pulse generator is described in which light
signals in the nanosecond range are formed with the deviation of
the light beam of a helium-neon laser LG-56 in an electrooptical
deviating device under the action of a pulse controlling voltage.
The structural peculiarities and the basic output characterist-
ics of the generator are given. Author's abstract

1/1

USSR

UDC 518.5:681.3.06

GITERMAN, E. M., PANOY, Y. I.

"The Use of the Method of Recognition of Classes for Automatic Control of Chemical Processes"

Avtomatiz. Khim. Proiz-v, [Automation of Chemical Production--Collection of Works], Moscow, 1970, pp 29-31, (Translated from Referativnyy Zhurnal Kibernetika, No 5, 1971, Abstract No. 5V665).

No Abstract.

1/1

- 57 -

USSR

UDC: 621.396.69:621.318.4(088.8)

PANOV, Yu. A., ANTONOV, V. P., GOROZHANIN, Yu. A.

"An Inductance Coil"

USSR Author's Certificate No 266869, filed 24 Sep 68, published 15 Jul 70
(from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1V324 P)

Translation: The proposed inductance coil is made in the form of two helical windings which are mutually coaxial and contains a regulating element. In order to regulate the inductance of the coil, this element is made in the form of a cylindrical shield placed between the windings of the coil.

1/1

USSR

UDC 535.65

PANOVA, I. N., and YUSTOVA, Ye. N.

"Problem of the Effect of Errors in Reproducing Color Addition Functions on the Readings of Photoelectric Comparators"

Tr. metrol. in-tov SSSR (Works of the USSR Metrological Institutes), No 114 (174), 1970, pp 159-166 (from RZh-Metrologiya i Izmeritel'naya Tekhnika, No 2, Feb 71, Abstract No 2.32.1838)

Translation: The problem of tolerances on the spectral sensitivity curves of radiation receivers and the spectral curves of correcting light filters in objective color comparators is investigated. As a result of the experiment the following was discovered: for the scale range of the EKTs-1 and FKTs-Sh comparators the differences in the addition function systems of M. M. Gurevich and D. A. Shklover are not reflected in the measurement results. In the same way the measurement results from using the comparators do not depend on the choice of illumination source. The system of zonal light filters (red, green, blue) used for approximate estimation of the whiteness carry systematic errors exceeding the comparator measurement errors by an order. There are 3 illustrations, 4 tables and a 3-entry bibliography.

1/1

I/2 015 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--CATALYTIC PYROLYSIS OF A GAS CONDENSATE FROM THE SHEBELINSKI
DEPOSIT -U-
AUTHOR-(04)-LYSYKH, O.V., PAUSHKIN, YA.M., ADELSON, S.V., PANOVA, I.YU.
COUNTRY OF INFO--USSR
SOURCE--GAZOV. PROM. 1970, 15(3), 44-7 (RUSS) P
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, EARTH SCIENCES AND OCEANOGRAPHY
TOPIC TAGS--PYROLYSIS, ALKANE, NAPHTHENE, ETHYLENE, BUTADIENE, CATALYST,
NATURAL GAS, PETROCHEMISTRY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3022/1122 STEP NO--UR/0492/70/015/003/0044/0047
CIRC ACCESSION NO--A20124549

UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0128549

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CATALYTIC PYROLYSIS AT 760-850DEGREES OF THE 53-125DEGREES FRACTION OF SHEBELINSKII GAS CONDENSATE WAS EXAMD. THE PYROLYSIS FEED HAD D. 0.743 G-CM PRIMES AND CONTAINED 40.9 WT. PERCENT PARAFFINS, 51.7 WT. PERCENT NAPHTHENES AND 7.4 WT. PERCENT AROMATICS. THE OPTIMUM FEED-STEAM WT. RATIO WAS 2.2:1. THE MAX. YIELD OF ETHYLENE (36.4 WT. PERCENT) WAS AT 850DEGREES AND SPACE VELOCITY 0.93 HR PRIME NEGATIVE1, AND THE MAX. OF BUTADIENE (8.35PERCENT BY WT.) AT 800DEGREES AND SPACE VELOCITY 2 HR PRIME NEGATIVE1. THE CATALYST COMPN. IS NOT GIVEN.

FACILITY: MINKHGP

IN. GUBKINA, MOSCOW, USSR.

UNCLASSIFIED

3

USSR

UDC 616.931.553

GLADKOVSKIY, A. P., LESNIKOV, A. L., MAKAROVA, T. A., PANOVA, K. M., DINER, Z. S., KRUPINA, A. P., and VITIVKER, V. S., Leningrad Hospital imeni S. P. Botkin, and Chair of Infectious Diseases, First Leningrad Medical Institute imeni I. P. Pavlov, and Institute of Epidemiology and Microbiology imeni Pasteur

"Clinical Symptoms and Etiology of Botulism"

Moscow, Klinicheskaya Meditsina, Vol 48, No 9, Sep 70, pp 79-83

Abstract: From 1959 to 1967 the authors treated 14 cases of botulism, most of which were caused by eating marinated or salted mushrooms or home-canned fish. The incubation period ranged from 2 hours to 3 days. The disease was incorrectly diagnosed in all but one case, owing to unfamiliarity with the symptoms on the part of the first doctors to see the patients (botulism has for sometime been virtually eradicated in the USSR). The initial symptoms are characteristic and readily detectable. They include a combination of indications of gastrointestinal disorders (vomiting, nausea, constipation, abdominal pains), with symptoms of impaired vision (anisocoria, mydriasis, diplopia, blepharoptosis, nystagmus, etc.), impaired swallowing, speech, and respiration. Prompt injection of antitoxin serum usually prevents further development of the symptoms and, combined with antibiotics and hormones plus cardiovascular agents, strychnine, physostigmine, and pilocarpine, brings about recovery within about a month.

1/1

USSR

UDC 621.762.001

AKSENOV, G. I., and PANOVA, L. A.

"Gas-Permeability of Metal Powders"

Tr. Kuybyshev. aviats. in-t (Works of Kuybyshev Aviation Institute), 1970, vyp. 42, pp 9-16 (from RZh-metallurgiya, No 3, Mar 71, Abstract No 3G358 by O. Padalko)

Translation: The reason for the appearance of pulsations in the hopper during rolling is the gas displaced from the compacted volume. When a rolling speed equal to critical speed is attained, the displacement rate reaches a value at which the lifting power developed by the gas flow becomes equal to the weight of the powder in the hopper. Pulsations begin. Powder pulsation results in nonuniformity of strip density with respect to length. A formula is suggested which makes it possible to determine the critical rolling speed if the magnitude of critical permeability and the ratio of overpressure of displaced gas to the height of the powder column in the hopper are known. The authors experimentally determine the values of critical H_1 and H_2 permeability for various fractions of FZh5 and FZh3 brands of iron powders, PM2 brand of copper powder, pulverized bronze, carbonyl nickel, and iron. The dependences of critical permeability on height of powder level in the hopper are obtained. Five illustrations. One table.

1/1

USSR

UDC: 8.74

SEREBROVSKIY, L. A., SIBIRYAKOV, P. G., LINETS, N. Ye., PA-
NOVA, L. A. SECRET

"A System for Automating Programming and Output of Technical Documentation into a Program for Digital Control Computers (YaUZA-1)"

V sb. Tsifr. vychisl. tekhnika i programmir. (Digital Computer Technology and Programming--collection of works), vyp. 7, Moscow, "Sov. radio", 1972, pp 126-133 (from RZh-Kibernetika, No 8, Aug 72, Abstract No 8V635)

Translation: The structure and principal technical operational and technical characteristics are given for a programming automation system whose input language is the YaUZA universal command autocode. The system can be used to prepare programs for an extensive class of digital control computers. The system is adapted to a specific digital computer by specifying its parameters and command system.

The system is realized on the M-220 computer. It automatically joins programs into a single large-volume program

1/2

- 64 -

USSR

SEREBROVSKIY, L. A. et al., Tsifr. vychisl. tekhnika i programmir., vyp. 7, Moscow, "Sov. radio", 1972, pp 126-133

(of the order of hundreds of thousands of commands). Preparation of the program is accompanied by automatic output of all technical documentation, which is formulated with regard to YeSKD requirements. Authors' abstract.

2/2

172 036 UNCLASSIFIED PROCESSING DATE--27NOV70 /
TITLE--EFFECT OF STRUCTURE FORMING SUBSTANCES ON THE CHEMICAL AND
THERMOMECHANICAL PROPERTIES OF A CELLULOSE HYDRATE FIBER -U-
AUTHOR--(05)-MIKHAYLOV, N.V., TOKAREVA, L.G., TEREKHOVA, G.M., MANDROSOVA,
F.M., PANOVA, L.N.
COUNTRY OF INFO--USSR

SOURCE--KHIM. VOLOKNA 1970, (2), 37-9

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--CELLULOSE RESIN, SYNTHETIC FIBER, DIAMINE, PHTHALATE, FILLER,
PIGMENT, THERMOMECHANICAL PROPERTY, FATIGUE STRENGTH

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3008/0873

STEP NO--UR/0183/70/000/002/0037/0039

CIRC ACCESSION NO--AP0137901

UNCLASSIFIED

272 036

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0137901

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CELLULOSE (I) FIBERS WERE MODIFIED WITH A NO. OF N, S, AND P CONTG. ADDITIVES. I FIBERS MODIFIED WITH 0.4-0.5PERCENT SV 1 COMPN. (A CONDENSATION PRODUCT OF N,N PRIME DI,BETA,NAPHTHYL P,PHENYLENEDIAMINE AND AMMONIUM DIAZOPHTHALATE), 0.6PERCENT CARBON BLACK, AND 0.2PERCENT BLUE OR YELLOW PIGMENTS EXHIBITED SUPERIOR FATIGUE STRENGTH AND OXIDATIVE DEGRADATION RESISTANCE.

UNCLASSIFIED

PANOVA, T. M.

Rigid Active capsules for
Safety Explosives

TECHNICAL TRANSLATION

PTC-HT-23-321-772

ENGLISH TITLE: Rigid Active Capsules for Safety Explosives

FOREIGN TITLE: Zheskiye Aktivnye Obolechki Dlya Pseudohranitel'nykh VZ

AUTHOR: N. S. Bakhtevich, E. V. Pospishchenko, T. M. Panova

SOURCE: Vozrymnye Delo 1970, No. 68/25, p 283-288

Translated for ESTC by Albert L. Penbody
LEO KANNER ASSOCIATES, INC.

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USSR

UDC 621.383.292.8:621.382

PANOVA, V.G., FEDORUS, G.A., FURSENKO, V.D.

"Amplification Of Electronic Current During Irradiation Of Crystals And Films of A_2B_6 By Fast Electrons"

Poluprovodn. tekhn. i mikroelektronika. Resp. mezhved. sb. (Semiconductor Technology And Microelectronics. Republic Interdepartmental Collection), 1971, Issue 6, pp 76-80 (from RZh--Elektronika i yeye primeneniye, No 10, October 1971, Abstract No 10E240)

Translation: The dependence of the amplification factor (γ) of the electron current in A_2B_6 compounds as a function of the energy (E_0) and the intensity of the electron beam (i_n) is investigated in a wide interval of values (E_0 , 5--40 keV; i_n , 10^{-12} -- 10^{-8} a/cm²). It is shown that in highly-sensitive single crystals of CdS and CdSe during steady electron excitation with the energy of the electrons 30 keV and 20 v of the voltage applied to the specimen $\gamma \approx 10^6$. The maximum possible value γ_{max} is estimated with $E = 30$ keV under extreme conditions, which for single crystals of CdS can attain values of 10^{11} . 2 ill. 16 ref. A.B.

1/1

- 158 -