

USSR

UDC 632.952:581.1 + 634.75/721

POLYAKOV, I. M., NILOVA, V. P., KSENDZOVA, E. N., ZARUBINA, M. A.,
RAKITINA, R. N., All-Union Institute of Plant Protection, Leningrad,
All-Union Academy of Agricultural Sciences imeni V. I. Lenin

"Investigation of the Nature of Nitrafen Action on Berry Cultures"

Moscow, Khimiya v Sel'skom Khozyaystve, Vol 8, No 6, Jun 70, pp
31-34

Abstract: The study was carried out on first year "Festival'naya"
strawberries and black currant of the "Liya Productive" and "Lakston"
line. The plants were treated in early spring, the strawberries
being sprayed twice at a week's interval with a 1% nitrafen solu-
tion and the currants once with a 2% solution. The leaves were
subjected to biochemical analysis 20 days later and the fruit was
checked as it ripened. The leaves of the treated strawberry plants
exhibited higher levels of chlorophyll, carbohydrates, and ascorbic
acid in comparison to controls, there was no indication of peroxi-
dase activity, the polyphenoloxidase activity was increased, and

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POLYAKOV, I. M., et al, Khimiya v Sel'skom Khozyaystve, Vol 8, No 6, Jun 70, pp 31-34

the activity of cytochromoxidase and ascorbatoxidase was lowered. Both types of currant showed increased content of nitrogenous materials and chlorophyll under the influence of nitrafen, and their cytochromoxidase and peroxidase activity was elevated. As far as the content of carbohydrates and vitamin C and the activity of ascorbatoxidase are concerned, the two types of currant showed different effects to the action of nitrafen. Neither nutritional nor taste qualities of the berries were affected by treatment with nitrafen.

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UDC 621.372.8

MUKHTAROV, I. N. and NILOVSKIY, V. T.

"Broadband Waveguide Three-Port Circulator"

Moscow, Antenny, No. 10, 1971, pp 74-81

Abstract: The operating band of the classical three-port, or Y circulator does not exceed 10%. The purpose of the present article is to realize a circulator on this model, but with a larger band, by introducing a gap into the ferrite element along the height of the waveguide joint, as well as a sleeve. The effect of this is to optimize the dielectric parameters of the element. It is shown that in T circulators, which are preferable to the Y type from the miniaturization point of view, the use of ferrite dielectric elements optimized by the method described in this article not only is deprived of its electrical asymmetry but also achieves a widened band. Experiments performed on both the Y and T circulators developed by the authors are described. They showed that the band width of the circulators can be substantially increased without substantially complicating their structures, and is at least three times wider than the value regarded in the literature as limiting.

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UDC: 621.372.832.8

MUKHTAROV, I. N., NILOVSKIY, V. T.

"Wide-Band Waveguide Y-Circulators"

V sb. Antenny (Antennas--collection of works), vyp. 10, Moscow, "Svyaz(", 1971, pp 74-81 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5B143)

Translation: The paper describes a method of considerably extending the working range of frequencies of a waveguide H-plane Y-circulator of conventional design with a dielectric sleeve over a ferrite cylinder; a Y-circulator for the centimeter band made by this method has a 30 percent band. Data are given from research and development of a waveguide H-plane T-circulator with the same band. Seven illustrations, one table, bibliography of eight titles. Resumé.

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Polymers and Polymerization

USSR

UDC 638.632

PUCHKOVA, I. A., NININ, V. K., SHORYGINA, N. V., GEFTER, Ye. L., and
ZHURAVLEVA, L. S.

"A Method of Making Polymers Which Contain Phosphorus"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obratzsy, Tovarnyye Znaki,
No 36, 1971, Author's Certificate No 322347, Division C, filed 24 Jul 70,
published 30 Nov 71, p 55

Translation: This Author's Certificate introduces: 1. A method of making polymers which contain phosphorus and are based on phenol, formaldehyde and an organophosphorus compound. Synthesis is done by two-stage polycondensation of phenol with the phosphorus-containing compound in the presence of heat with subsequent treatment of the resultant product in formaldehyde at a temperature of up to 100°C. As a distinguishing feature of the patent, the fire resistance of the resins is improved by using di- $\beta\beta'$ -chloroethyl ether of vinylphosphonic acid (vinifos) as the phosphorus-containing compound, and carrying out the first stage of the reaction in an acid medium at 130-200°C for 3-7 hours. 2. A modification of this method distinguished by the fact that phenol and vinifos are taken in ratios from 1:2 to 1:4. 3. A modification of this method distinguished by the fact that the formaldehyde is taken in a ratio of 0.7-0.9 mole per mole of phenol.

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USSR

UDC 547.944/945

NINOVA, P., ABDUSAMATOV, A., and YUNUSOV, S. YU., Higher Medical Institute, Sofia, and Red Banner of Labor Institute of Plant Physiology, Uzbek Academy of Sciences

"Alkaloids of Verbascum Nobile"

Tashkent, Khimiya Prirodnikh Soyedineniy, No 4, 1971, p 540

Abstract: Verbascum nobile Vel., of the Scrophulariaceae family, is endemic along the Strum River in southwestern Bulgaria; it has a fairly high alkaloid content.

A chloroform extract, following processing, yielded 0.5% ether-soluble, and 0.6% chloroform-soluble alkaloids (percent of dry plant weight). The ether portion of the mixture was divided into 10 fractions on the basis of basicity. Three individual bases, the third with melting point of 100°C, were separated. The first ($C_{25}H_{42}N_4O_4$), with melting point 74-75°C, was named verbasine; the second ($C_{27}H_{44}N_4O_4$), with melting point 125-126°C, was named verbasine.

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1/2 032

UNCLASSIFIED

PROCESSING DATE--23OCT70

TITLE--PHOTOLUMINESCENCE OF EPITAXIAL LAYERS OF AL SUBX GA SUB1-X AS SOLID SOLUTIONS -U-

AUTHOR--(02)-ALFEROV, ZH.I., NINUA, O.A.

N

COUNTRY OF INFO--USSR

SOURCE--FIZ. TEKH. POLUPROV. 1970, 4(3), 618-19

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--PHOTOLUMINESCENCE, EPITAXIAL GROWTH, LUMINESCENCE SPECTRUM, SOLID SOLUTION, ALUMINUM COMPOUND, GALLIUM ARSENIDE, TIN CONTAINING ALLOY, ZINC CONTAINING ALLOY, SEMICONDUCTOR BAND STRUCTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1988/0102

STEP NO--UR/0449/70/004/003/0618/0619

CIRC ACCESSION NO--AP0105188

UNCLASSIFIED

2/2 032

CIRC ACCESSION NO--AP0105188

UNCLASSIFIED

PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PHOTOLUMINESCENCE SPECTRA OF EPITAXIAL LAYERS OF SOLID SOLNS. OF AL SUBX GA SUBI-X AS WERE OBTAINED BOTH IN NONALLOYED (N TYPE) AND SN OR ZN ALLOYED (P TYPE) SPECIMEN. THE LATTER SAMPLES SHOWED 2 NARROW BANDS, CONNECTED BY TRANSITIONS AND RECOMBINATION THROUGH THE ZN BAND. SN ALLOYED SAMPLES HAD A LONGER WAVELENGTH BAND, WHOSE POSITION WAS A FUNCTION OF THE AL CONC. FACILITY: FIZ. TEKH. INST. IM. IOFFE, LENINGRAD, USSR.

UNCLASSIFIED

1/2 031

UNCLASSIFIED

PROCESSING DATE--16OCT70

TITLE--ELECTROLUMINESCENCE OF AL SUBX GA SUBL NEGATIVE AS-GAAS
HETEROJUNCTIONS DURING AVALANCHE BREAKDOWN -U-

AUTHOR--(02)-ALFEROV, ZH.I., NINUA, O.A.

N

COUNTRY OF INFO--USSR

SOURCE--FIZ. TEKH. POLUPROV. 1970, 4(2), 360-2

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--SEMICONDUCTOR JUNCTION, RECOMBINATION RADIATION,
ELECTROLUMINESCENCE, EPITAXIAL PN JUNCTION, GALLIUM ARSENIDE
SEMICONDUCTOR, ALUMINUM COMPOUND, SEMICONDUCTOR BAND STRUCTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1988/0086

STEP NO--UR/0449/70/004/002/0360/0362

CIRC ACCESSION NO--AP0105172

UNCLASSIFIED

2/2 031

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0105172

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

ABSTRACT. THE RECOMBINATION RADIATION DURING AVALANCHE BREAKDOWN OF N-P AND P-N HETEROJUNCTIONS OF AL SUBX GA SUB1-X AS-GAAS WITH AL CONTENT AT THE HETEROJUNCTION BOUNDARY OF 10-20PERCENT WAS STUDIED AT 77DEGREESK WITH FORWARD AND REVERSE BIASED HETEROJUNCTIONS. THE HETEROJUNCTIONS WERE PREPD. BY EPITAXIAL GROWTH OF THE LAYERS OF AL SUBX GA SUB1-X AS-GAAS FROM SOLN. (AS IN A GA MELT WITH ADDN. OF AL) ON THE (111) PLANE OF GAAS SUBSTRATES. THE MAX. OF RADIATION BANDS DURING AVALANCHE BREAKDOWN WERE SHIFTED (10-15 MEV) TOWARD SMALLER ENERGIES AS COMPARED WITH THAT WITH FORWARD BIAS. THE DEPENDENCE OF RADIATION INTENSITY ON CURRENT WAS NEARLY LINEAR. THE EXTERNAL QUANTUM EFFICIENCY (10 PRIME NEGATIVE MINUS 10 PRIME NEGATIVE) WAS APPROX. 1-2 THAT OF FORWARD BIASED HETEROJUNCTIONS. IT IS ASSUMED THAT ONLY 1 BAND IS CONNECTED WITH RECOMBINATION OF HOT CARRIERS INSIDE THE ENRICHMENT REGION OF THE SPACE CHARGE LAYER. FACILITY: FIZ. TEKH. INST. IM. IOFFE, LENINGRAD, USSR.

UNCLASSIFIED

USSR

UDC: 622.011.43

YEGOROV, P. V., NIRENBURG, R. K.

"Determination of the Tensor of Total Stresses in the Field of Action of Gravitational and Tectonic Forces"

Sb. nauch. tr. Kuzbas. politekhn. in-ta (Collected Scientific Works of the Kuznetsk Basin Polytechnical Institute), 1970, No 28, pp 32-37 (from RZh-Mekhanika, No 7, Jul 71, Abstract No 7V688)

Translation: Rock is treated as an ideally elastic medium. The natural weight of the rock generates vertical ($\sigma_x^{yH} = \gamma H$) and horizontal ($\sigma_x^{yH}, \sigma_y^{yH}$) principal stresses which satisfy the well known formula of A. N. Dinnik:

$$\sigma_x^{yH} = \sigma_y^{yH} = \gamma H \mu / (1 - \mu)$$

where μ is the Poisson ratio, γ is the specific weight of the rock, and H is depth. The principal tectonic stresses in the corresponding $x'y'z'$ system satisfy the analogous relationship:

$$\sigma_y^T = \sigma_x^T = T \mu / (1 - \mu)$$

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YEGOROV, P. V., NIRENBURG, R. K., Sb. nauchn. tr. Kuzbas. politekhn. in-ta,
1970, No 28, pp 32-37

where T is the component in direction x' . Superposition of these stresses in the xyz system gives relationships presented in the article which define the magnitude and direction of T from the overall stress components $\sigma_x, \sigma_y, \sigma_z$ measured in the rock. Yu. M. Liberman.

1/2 008 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--COMPLEXING PROPERTIES OF STEREOISOMERS OF DIMERCAPTOSUCCINIC ACID
-U-
AUTHOR--(04)-OKONISHNIKOVA, I.YE., YEGOROVA, L.G., NIRENBURG, V.L.,
POSTOVSKIY, I.YA.
COUNTRY OF INFO--USSR
SOURCE--KHIM.-FARM. ZH. 1970, 4(1), 21-4
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ISOMER, RAT, MERCURY COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1993/1901

STEP NO--UR/0450/70/004/001/0021/0024

CIRC ACCESSION NO--AT0114341

UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AT0114341

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TWO FORMS OF THE TITLE COMPD., DL-DMSA AND MESO-DMSA, WERE TESTED AS TO THEIR RELATIVE EFFICACY IN THE REDN. OF PRIME203 HGCL SUB2 WHICH HAD BEEN GIVEN TO RATS. THE ISOMER TESTED WAS ADMINISTERED IS LESS THAN OR EQUAL TO 15 MIN PRIOR TO THE INTRODUCTION OF THE HG COMPD., 3 DOSES OF THE RESP. ISOMER BEING GIVEN EACH DAY FOR A TOTAL OF 3 DAYS. THE HG WAS GIVEN S. C. AT LEVELS OF 35, 70, AND 242 MG-KG. AN EXPT. WAS ALSO DONE AT AN ORAL DOSAGE LEVEL OF 385 MG-KG. THE PERCENT OF THE HG COMPD. ELIMINATED WAS CHECKED AFTER 1 AND 3 DAYS. IN ALL CASES THE DL FORM WAS MUCH MORE EFFICIENT THAN THE MESO FORM. THE RESULTS ARE GIVEN IN TABULAR FORM. ON ALKALI TITRN. OF THE 2 FORMS, BOTH IN THE PRESENCE AND ABSENCE OF HGCL SUB2, IT WAS FOUND THAT THE 2 TITRN. CURVES WERE ALMOST IDENTICAL. HOWEVER, DIFFERENCES WERE NOTED IN THE CURVES WHEN THE ABSORBANCE WAS DETD. AT DIFFERENT PH LEVELS. FACILITY: SVERDLOVSK. INST. GIG. TR. PROFZABOL, SVERDLOVSK, USSR.

UNCLASSIFIED

USSR

UDC: 8.74

N'IRI, Geza"Methods of Sorting on Computers"

V sb. Teoriya i praktika sbora, peredachi i obrabotki ekon. inform. (Theory and Practice in the Collection, Transmission and Processing of Economic Information--collection of works), Moscow, 1971, pp 124-138 (from RZh-Kibernetika, No 4, Apr 72, Abstract No 4V544)

Translation: The author considers methods of internal and external sorting on computers. The methods of internal sorting are based on analysis of the frequency of values of the features being sorted, which appreciably accelerates sorting. A flowchart is given of a generalized index method of sorting, and its operation is considered in detail. A description is given of a method of sorting information on two magnetic tapes using a frequency table for the values of key words in the data block to be sorted. A method of sorting on four magnetic tapes is proposed for sorting large data blocks. The sorting consists of two parts: the first part is internal block sorting executed by a sorting method based on frequency analysis, and the second part is union of the blocks by the method of two-stage equalization. T. Sidorova.

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1/2 037 UNCLASSIFIED PROCESSING DATE--16OCT70
 TITLE--ENERGY AND HEAT EXCHANGE IN MUSCLES AT DIPHTHERIC INTOXICATION -U-
 AUTHOR--(02)-NISELOVSKAYA, L.I., GRAMENITSKAYA, YE.S.
 COUNTRY OF INFO--USSR
 SOURCE--VOPROSY MEDITSINSKOY KHIMII, 1970, VOL 16, NR 3, PP 266-268
 DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
 TOPIC TAGS--MUSCLE PHYSIOLOGY, HEAT EXCHANGE, RABBIT, PHOSPHORYLATION,
 CALORIMETRY, DIPHTHERIA, MITOCHONDRIA, TOXIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAE--1998/0266

STEP NO--UR/0301/70/016/003/0266/0268

CIRC ACCESSION NO--AP0120956
 UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--16OCT70

2/2 037

CIRC ACCESSION NO--A0120956

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DURING THE STUDY OF ENERGY EXCHANGE IN MUSCLES AT DIPHThERIC INTOXICATION IN RABBITS THE EXTENT OF OXIDATIVE PHOSPHORYLATION (P,O) AND HEAT PRODUCTION BY WHOLE ORGANISM WERE DETERMINED. THE HEAT PRODUCTION WAS MEASURED BY MEANS OF DIRECT AND INDIRECT CALORIMETRY. SUBCUTANEOUS AND INTERAVENOUS ADMINISTRATION OF DIPHThERIC TOXINE DOES NOT EFFECT THE OXIDATIVE PHOSPHORYLATION LEVEL IN MITOCHONDRIA ISOLATED FROM GASTROCNEMIUS MUSCLE OF RABBITS. AT THE SAME TIME SUBCUTANEOUS INJECTION OF TOXINE LEADS TO OVERHEATING OF THE BODY. THEREFORE THE LACK IN OXIDATIVE PHOSPHORYLATION UNCOUPLING IN MUSCLES EXCLUDES THE INVOLVEMENT OF THIS MECHANISM IN OVERHEATING PHENOMENA AT DIPHThERIC INTOXICATION. FACILITY: THE DEPARTMENT OF BIOCHEMISTRY AND PATHOLOGY INSTITUTE OF EXPERIMENTAL MEDICINE USSR ACADEMY OF MEDICAL SCIENCES.

UNCLASSIFIED

Coatings

UDC: 546.882'811:548.522

USSR

PETRUSEVICH, I. V., KOZLOV, F. N., BOGDANOV, V. P., NISEL'SON, L. A.

"Production of Nb₃Sn Coatings from the Gas Phase"

Moscow, Izvestiya Akademii Nauk SSSR, Neorganicheskiye Materialy, No 6, Jun 73, pp 952-955.

Abstract: Coatings of Nb₃Sn were produced on a moving strip of nickel by reduction of NbCl₅ and SnCl₄ from the gas phase. The dependence of coating thickness and yield on strip movement rate through the experimental apparatus is presented in tabular form. In the apparatus used, varying strip movement rate from 5 to 25 cm/min caused the coating thickness to decrease from 10.8 to 0.6 μ. Joint reduction of the higher chlorides of Nb and Sn by hydrogen in continuous apparatus used was determined by coating thickness as a function of strip movement rate, hydrogen concentration and gas stream velocity. The composition and structure of the Nb₃Sn coatings were found to be homogeneous along the length of the tape. The temperature at which the coatings convert to the superconducting state is 17.7° K.

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UDC 546.193'131

USSR

NISEL'SON, L. A., TRET'YAKOVA, K. V., and AKHMADEYEV, V. YA., State Scientific Research and Development Institute of Rare Earth Metal Industry

"The Liquid-Vapor Equilibrium in the Systems Formed by Arsenic Trichloride With Some Sulfur and Phosphorus Containing Admixtures"

Moscow, Zhurnal Neorganicheskoy Khimii, Vol 18, No 4, Apr 73, pp 1092-1097

Abstract: The liquid-vapor equilibrium was studied ebulliometrically in the systems formed by AsCl_3 with SOCl_2 , SO_2Cl_2 , PSCl_3 and POCl_3 . Using the method of simple equilibrium distillation, relative volatilities have been refined for the area of pure AsCl_3 . It has been established that POCl_3 and PSCl_3 ($\alpha_{\text{POCl}_3/\text{AsCl}_3} = 1.1$ and $\alpha_{\text{PSCl}_3/\text{AsCl}_3} = 1.5$ at 760 mm Hg) are the most difficult of the admixtures to remove by fractional distillation. The density of binary mixtures has been determined as a function of temperature. The correspondence between the type of the systems studied and the degree of deviation from Raoul law and the molar volumes of the mixtures from the additive rule have been confirmed.

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Chemistry

NISELSON, L.A.

JPRS 55263

24 February 1972

UDC 669.295.4

COMPARATIVE EVALUATION OF VARIOUS METHODS OF REFINING TITANIUM TETRACHLORIDE

Article by L. A. Niseison, Yu. V. Golubov, and I. Ya. Rudaybarova, Khimiya, Moscow, Khimya Metall, Russian, No 11, 1971, pp 41-46

Titanium tetrachloride is a very important intermediate for the production of metallic titanium and titanium dioxide pigment. Its production approaches tens of thousands of tons per year in the industrially developed countries. The production of titanium metal as well as the production of the tetrachloride place stringent demands on the purity of the tetrachloride used as the starting material.

Technical TiCl₄ consists of a very complex non-equilibrium system containing many minor components. It contains a broad spectrum of impurities which are clearly determined by the nature of the starting materials and by the chlorination method. The domestic industry produces the bulk of technical titanium tetrachloride by the established technology. In accordance with this technology, the titanium-containing slags or concentrates are chlorinated in the presence of carbon-containing reducing agents (petroleum or coal-tar coke) in shaft furnaces (in the form of briquettes), or, preferably, in molten chlorides of the alkali or alkaline earth metals (for example, in the spent electrolyte from the electrolytic magnesium cells). As a rule, the chlorination of titanium-containing raw materials in molten salts yields purer TiCl₄ than that obtained by the chlorination in electric shaft furnaces. Thus, for example, on chlorination in the melt, most of the condensation system as MeCl₄ which partially trapped in the subsequent purification of the tetrachloride, involving aluminum removal. As a second example we may cite the sulfur-containing impurities in quantities that are in the technical titanium tetrachloride in quantities that are determined not only by the sulfur content of the starting material, but also by the type of the chlorinating agent.

[1 - USSR - 1]

The resulting technical-grade titanium tetrachloride is a milky (due to the presence of hydrolysis products and entrained starting material) and fuming liquid that varies in color from yellow-green to dark red, depending on the quantity and type of impurities present.

The impurities found in the technical titanium tetrachloride may be tentatively divided into three basic groups, depending on their physical form at the normal boiling point of $TiCl_4$ and their solubility in the tetrachloride:

- 1) Gases and vapors (O_2 , N_2 , CO_2 , Cl_2 , $COCl_2$, HCl , etc.);
- 2) Liquids ($SiCl_4$, CCl_4 , $VOCl_3$, CCl_3COCl , Si_2OCl_6 , etc.);
- 3) Solids ($PbCl_2$, $TiOCl_2$, $SnCl_2$, $CoCl_2$, $FeCl_3$, $TiCl_3$, $AlCl_3$, etc.).

Under normal conditions, the impurities of the first group are gases or vapors that are only sparingly soluble in $TiCl_4$ and are, therefore, readily removed from the latter simply by boiling. The second group contains compounds that are either liquids or low-melting solids under normal conditions. All of these compounds are miscible with $TiCl_4$ in all proportions. This group contains the majority of the compounds that are very difficult to remove, e.g., $VOCl_3$ and Si_2OCl_6 . Finally, the third group contains solid compounds. Most of the impurities in this group are practically insoluble in titanium tetrachloride ($HgCl_2$, $CuCl_2$, $MnCl_2$, etc.), or are almost insoluble ($AlCl_3$, $FeCl_3$, $PbCl_2$, $TiCl_3$, etc.).

The analytical data on the common types of technical titanium tetrachloride are given in Table 1. In the same table are also listed the specifications for purified $TiCl_4$ according to TU-39-69 [Tekhnicheskoye Ustoyoye; Technical Conditions (Specifications)] and the impurity levels commonly attained under practical industrial conditions.

In the case of titanium tetrachloride which is slated for the production of the titanium dioxide pigment, the content of the so-called tinting impurities must be limited. These impurities are mainly those containing iron, vanadium, and chromium. In the case of titanium tetrachloride which is used in the production of titanium sponge, the impurities that increase the titanium sponge hardness must be limited, i.e., the impurities containing oxygen, sulfur, carbon, vanadium, and silicon [1].

UDC 669.295.48

USSR

KHUDAYBERGENOV, T. YE., RUBAN, N. N., NISEL'SON, L. A., POGORELOV, V. I., GOLUBKOV, YU. V.

Pererabotka pul'p chetyrekhkhlorigo titana i mednovanadiyevykh kekov (Processing Titanium Tetrachloride Pulp and Copper-Vanadium Cakes), Institute of Metallurgy and Beneficiation of the Kazakh SSR Academy of Sciences, Alma-Ata, 1971, 21 pp, 19-entry bibliography (No2694-71 Dep) (from RZh-Metallurgiya, No 7, Jul 1971, Abstract No 7G241 DEP)

Translation: This is a survey. The published information about the methods of processing $TiCl_4$ pulp and Cu-V cakes to extract $TiCl_4$ and V and Cu compounds is classified. A critical analysis is performed, and it is demonstrated that all the proposed procedures have a number of essential deficiencies both with respect to equipment and technological process. These deficiencies make it impossible to introduce them into industrial production. It is recommended that scientific research work be continued in this area. The bibliography has 19 entries.

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USSR

UDC 661.882:669.295.4:541.183

GOLUBKOV, YU. V., AGRINSKAYA, L. N., KOROLEV, V. V., and NISEL'SON, I. A.
Scientific Research and Development State Institute of Rare Metal Industry

"Investigation of the Adsorption Purification of Titanium Tetrachloride"

Leningrad, Zhurnal Prikladnoy Khimii, Vol 45, No 8, Aug 72, pp 1661-1664

Abstract: To purify titanium tetrachloride from various admixtures, a combination of chemical processes and fractional distillation is used in industry. An investigation of the statics and dynamics of adsorption purification over BAU activated charcoal showed that this method is more efficient in removing the impurities $VOCl_3$, Si_2OCl_6 , and CCl_3COCl . The BAU charcoal column must be at least 130 cm high for an effective separation of $TiCl_4$ from above impurities.

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Acc. Nr: APO054282

Ref. Code: UR0463

PRIMARY SOURCE: Molekulyarnaya Biologiya, 1970, Vol 4, Nr 2, pp 184-189

STUDIES OF CONFORMATIONAL HETEROGENEITY OF NATIVE PROTEINS
BY PHOTOCHEMILUMINESCENCE METHOD

S. L. AKSENTSEV, G. D. NISENBAUM, S. V. KONEV, and I. M. OKUN'

Laboratory of Biophysics and Isotopes, Byelorussian Academy
of Sciences, USSR, Minsk

The break points were revealed in the curves rate constant of decay—temperature at photochemiluminescence investigation of several proteins in solutions. These breaks are mainly due to the fact that the protein molecules at 5—40° exist in more than one native reversible conformational state. Investigation of influence of salt and propanol concentration on the photochemiluminescence parameters permits to suggest that the regions of protein molecules controlled by hydrophobic interactions are able to manifest gradual structural transitions rather than cooperative rearrangements.

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USSR

UDC 591.145.2

TURAKULOV, YA. KH., SOROKIN, V. M., NISHANKHODZHAYEVA, S. A., and YUKEL'SON, L. YA., Institute of Biochemistry, Academy of Sciences-Uzbek SSR, Tashkent

"Toxins in the Venom of the Central Asian Cobra"

Moscow, Biokhimiya, Vol 36, Vyp 6, Nov/Dec 71, pp 1282-1287

Abstract: Two toxic agents, tentatively called toxin I and toxin II, were isolated from cobra venom by means of filtration through Sephadex G-75 and chromatography on CM-cellulose. Their homogeneity was established by electrophoresis in starch and polyacrylamide gels, and their molecular weight estimated at 6000-6500. Intraperitoneal and intravenous injections of the compounds into mice revealed that the LD₅₀ of toxin I is 0.56 and its LD₁₀₀ 0.85 mg/kg body weight, while the LD₅₀ of toxin II is 0.13 and its LD₁₀₀ 0.17 mg/kg. All nonsurvivors die within 1 hr after injection. The highest non-lethal doses for mice are 0.45 mg of toxin I and 0.07 mg of toxin II per kg body weight. Toxin II is not only more poisonous, but its concentration in the venom is four times that of toxin I. Absorption spectra of the toxins are presented.

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USSR

NISHANKHODZHAYEVA, S. A., SOROKIN, V. M., and YUKEL'SON, L. Ya., Laboratory of Enzymology, Institute of Biochemistry, Academy of Sciences, Uzbek SSR

"Isolation and Characteristics of Toxin 2 from Central Asian Cobra Venom"

Tashkent, Meditsinskiy Zhurnal Uzbekistana, No 7, 1972, pp 44-46

Abstract: The venom of the Central Asian cobra *Naja oxiana* E. contains two neurotropic agents: toxin 1 (described in an earlier report) and toxin 2. Toxin 2 was isolated from whole venom by gel filtration on Sephadex G-75 and then purified by ion-exchange chromatography on KM cellulose. The toxin 2 molecule consisted of 62 amino acid radicals, with only methionine, phenylalanine, and hydroxyproline absent. Toxin 2 injected into mice intraperitoneally or intravenously was highly lethal to the animals. LD₅₀ was 0.13 mg/kg of animal weight, or 4 times more potent than toxin 1 and 9 times more potent than whole venom.

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USSR

UDC 547.993:616.9.098:598.126

NISHANKHODZHAYEVA, S. A., SOROKIN, V. M., and YUKEL"SON, I. YA., Institute of Biochemistry, Academy of Sciences, Uzbek SSR

"Terminal Amino Acids of the Toxins of Central Asian Cobra Venom"

Uzbekskiy, Biologicheskii Zhurnal, No 6, 1971, pp 61-62

Abstract: It has been determined that the venom of the Central Asian cobra *Naja oxiana* contains two neurotropic agents (toxin I and toxin II), extracted from the venom. The results of determination of the terminal amino acids from the C-ends of the molecules of both toxins is as follows: Ash-Ash-COOH. With respect to the terminal amino acids, toxin II of Central Asian cobra venom is most similar to the neurotoxin of the South African Cobra *Naja nigricollis* and to the cobra toxin of the Formosan cobra *Naja naja atra*, which have an analogous sequence of amino-acid residues and contain leucine on the N-end. Toxin I differs from these toxins by virtue of the N-end amino acid (valine); this is of particular interest because of its lower effectiveness.

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USSR

UDC 577.11

TURAKULOV, Ya. Kh., SOROKIN, V. M., and NISHANKHODZHAYEVA, S. A., Institute of Biochemistry, Academy of Sciences, Uzbek SSR, Tashkent

"Amino Acid Composition of Central Asia Cobra Venom"

Moscow, Biokhimiya, No 1, 1972, pp 124-126

Abstract: Two toxins were isolated from the Central Asian cobra *Naja oxiana* E, each with a molecular weight of about 6500 to 7000. Toxin I contained a total of 11 acid and 9 basic amino acids, while toxin II contained 15 and 12, respectively. Despite the predominance of acid amino acids, both toxins exhibited the properties of alkaline protein. The absorption spectra in the UV region revealed the peak absorption of toxins I and II to be at 279 and 281 m μ , respectively. Neither toxin contained methionine or phenyl alanine. The amino acid composition of the toxins under study is compared with that of toxins obtained by other investigators from two other cobra species, *Naja nigricollis* and *Naja n. atra*.

1/1

- 39 -

Semiconductor Technology

USSR

UDC 546.681'19:548.522

IVANYUTIN, I. A., NISHANOV, D. N., D'YACHKOVA, N. N., SABININ, A. G., and ANDREYEV, V. M.

"Study of Silicon Migration During the Deposition of Epitaxial Layers of Gallium Arsenide From the Gaseous Phase"

Moscow, Neorganicheskiye Materialy, Vol 9, No 12, 1973, pp 2116-2119

Abstract: A study was made of the transfer of the short-lived radioisotope Si^{31} from the arsenous chloride and of the source of gallium during the epitaxial accretion of GaAs. The system $\text{H}_2\text{-AsCl}_3\text{-Ga}$ was used as the gaseous phase and either irradiated quartz or elemental silicon mixed with the Ga was the Si source. Six runs were made under varying conditions and the amount of Si^{31} varied from below detection limits to $2 \times 10^{20} \text{ cm}^{-3}$. The greatest concentration of Si in the epitaxial layer was observed when the elemental Si or crushed quartz was thoroughly mixed with a liquid containing 3-4% Ga. In this case, values for Si were similar to those for SiO_2 . The proposed method for Si transfer is via the molecular species SiAs and SiO.

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USSR

NISHANOV, Yu.

"Radial-Critical Graphs with Maximum Diameter"

Vopr. Vychisl. i Prikl. Mat. [Problems of Computer and Applied Mathematics -- Collection of Works], No 13, Tashkent, 1972, pp 89-101 (Translated from Referativnyy Zhurnal Kibernetika, No 6, 1973, Abstract No 6V384, by the author).

Translation: Radial-critical graphs with maximum diameter ($d = 2r - 2$) are studied; these graphs with the maximum and minimum numbers of lines are described, and a number of properties of radial-critical graphs of general form are found.

1/1

Devices

USSR

UDC: 621.391.8

LESNICHENKO, P. S., NISHCHEV, P. A., ~~POTAPOV~~, Ye. P., KARABANOV, G. G.,
DERIPALOV, B. D.

"A Device for Search of a Noise-Like Signal"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki,
No 5, Feb 71, Author's Certificate No 293304, Division H, filed 11 Aug 69,
published 15 Jan 71, p 180

Translation: This Author's Certificate introduces a device for search of a noise-like signal with respect to time delay in correction of a pseudo-random sequence oscillator with correlation detection indicator and search interval scan. As a distinguishing feature of the patent, search is accelerated by connecting the counters for reference signals and measurement of the time of accumulation of radio pulses to a coincidence circuit whose output is connected to an integrator, to a zero-reset circuit, and to the input of the stage for feeding in correction of the integration time and the pulse elimination circuit. The output of the pulse elimination circuit is connected to the pseudorandom signal oscillator. A cadence pulse generator is connected directly to the elimination circuit, and also to a slave counter through a diode which is connected to the threshold device of the detection indicator.

171

USSR

UDC 627.81.034(47+57)

NISHCHIMENKO, A. YA., MONZHOSOV, A. I., SHEVCHENKO, P. K.

"Reformation of the Banks of the Dnepr Reservoirs"

Tr. koorkinats. soveshchaniy po gidrotekhn. (Works of the Coordinating Meetings on Hydroengineering), No 59, 1970, pp 50-59 (from RZh-Elektrotehnika i Energetika, No 2, Feb 71, Abstract No 2 D39)

Translation: Generalization of many years of stationary studies by the hydro-geological expedition of the Ministry of Water Conservancy of the Ukrainian SSR in the shore zone of the Dnepr Reservoir permitted classification of reservoir banks considering the genesis and dynamics of the reworking processes. The characteristic and spread of types of banks are presented for the three largest reservoirs: Kiev, Kremenchug and Kakhovka. There are 3 illustrations and a 2-entry bibliography.

1/1

- 37 -

Acc. Nr: AP0052305

N

Ref. Code: UP0238

PRIMARY SOURCE: Fiziologichniy Zhurnal, 1970, Vol 16, Nr 1 ,
pp 24-28

CHANGE IN GONADOTROPIC FUNCTION OF HYPOPHYSIS IN YOUNG
AND OLD RAT MALES UNDER CONDITIONS OF ADMINISTRATING DIFFERENT
DOSES OF ANTITESTICULAR CYTOTOXIC SERUM

Yu. G. Spasokukotskiy T. M. Zelenska, O. V. Nishchimenko
Department of Experimental Therapy, the A. A. Bogomoletz Institute of Physiology,
Academy of Sciences, Ukrainian SSR, Kiev

Summary

In 142 young and 122 old rat males gonadotropic function of hypophysis was studied in norm and with administration of different doses of antitesticular cytotoxic serum (ATCS). The animals of the same age without serum injection were taken as control. The results obtained testify to the fact that the content of gonadotropins in hypophyses of old rat males with age hypofunction of testicles is higher than that in young animals, that coincides with literary data. When administrating the young males

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19820874

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high (inhibitory) doses of ATCS, an increase is observed in the gonadotropins content in hypophysis of rats. When administrating the old males with age hypofunction of testicles small (reactivating) doses of ATCS, the initial rise in the gonadotropin content is found with a subsequent considerable drop. Thus ATCS small doses, affecting the specialized cellular elements of testicles, can cause normalization of hormonal status of an organism by "feedbacks" and support homeostasis.

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19820875

7/2

USSR

UDC:533.6.013.122

BELOTSERKOVSKIY, S. M., NISHT, M. I., Moscow

"Study of Peculiarities of Flow Around a Plate at High Angles of Attack"

Moscow, Mekhanika Zhidkosti i Gaza, No 5, Sep-Oct 73, pp 110-116

Abstract: The method of discrete vortices is used to perform a detailed analysis of the peculiarities of separating flow around a plate of infinite span at angles of attack $0 < \alpha \leq 90^\circ$. The flow diagram, based on the model of an ideal fluid, allows the characteristic features of the separating flow to be determined. For example, the continuous vortex sheet breaks up in time, forming vortex clusters similar to Karman vortex streets. The loads have characteristic "levels," observed experimentally. As separation develops, the flow begins to change periodically with time. The period and amplitude of the oscillations of normal force increase with increasing angle of attack. The center of pressure is located near the center of the chord.

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USSR

UDC 533.6.013.122

BELOTSERKOVSKIY, S. M. and NISHT, M. I.

"Calculation of Stalled Unsteady Flow Past a Thin Profile"

Moscow, Izvestiya Akademii Nauk, SSSR, Mekhanika Zhidkosti i Gaza, No 3, 1972, pp 177-186

Abstract: A numerical method is presented for the calculation of unsteady flow past a thin profile, with stalling at the leading edge and at the trailing edge. The relationship of the boundary conditions to the coordinates and to time may be arbitrary, and the angle of attack of the profile may be large. The idea of the method consists in a transition from continuous distributions and processes to discrete ones. In the first place, the vortex layer which replaces the wing and its weight in the calculations is simulated by a system of discrete vortexes which constitute rectilinear infinite filaments, with constant circulation with respect to length. Secondly, the continuous process of change of the boundary conditions on the profile with respect to time is replaced by a stepwise process; at specific (calculated) moments of time these conditions change jumpwise, remaining constant between the calculated moments.

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USSR

BELOTSEKOVSKIY, S. M. and NISHT, M. I., Izvestiya Akademii Nauk, SSSR, Mekhanika Zhidkosti i Gaza, No 3, 1972, pp 177-186

The proposed method permits calculation of the entire transient process. It is generalized with relative ease to the three-dimensional case of flow past a thin wing of arbitrary shape. 3 figures. 7 references.

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- 21 -

AA0038316

Niskovshikh V.M.
UR 0482

1-70

Soviet Inventions Illustrated, Section I Chemical, Derwent,

238732 DUMMY BAR FOR CONTINUOUS CAST-

ING MACHINES comprises head (1), body (2) and axis (3), with movable valves or flaps (5) with rubber bladder between and flap limits. The dummy is inserted via the mould; the bladder is flat. Once the head is positioned in the mould, air from mains floods into the bladder and the valve or flaps are expanded though not too tightly onto the secondary cooling surfaces and the withdrawal surfaces. Friction between the

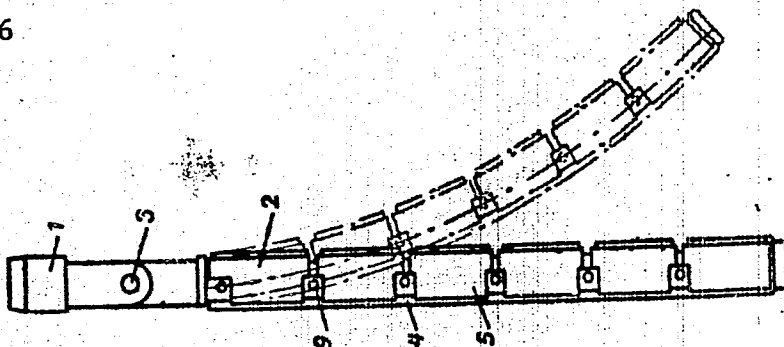
withdrawal and base (4) of the dummy draws this down and through. The rubber bladder is resilient and the link design of the base assists in negotiating the curved sectors of the cooling area. Maintained air pressure in the bladder keeps the dummy bar horizontal and straight during roll table travel.

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19731413

AA0038316



10.5.65 as 1006297/22-2.NISKOVSIIKH,V.M.et al.
SERGO ORDZHONIKIDZE URALS HEAVY ENGINEERING WORKS.
(19.8.69) Eul 10/10.3.69. Class 31b². Int.Cl.B 22d.

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19731414

AA0038316

AUTHORS: Niskovskikh, V. M.; Varaskin, A. I.; Gel'fenbeyn,
Ye. Yu.; and Litvinov, A. I.
Ural'skiy Zavod Tyazhelogo Mashinostroyeniya
imeni Sergo Ordzhonikidze

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19731415

USSR

UDC 681.332.65

NISNEVICH, D. G., and NISNEVICH, A. G.

"A Flip-Flop"

USSR Author's Certificate No 273280, Filed 13/02/69, Published 16/09/70
(Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 5, 1971, Abstract No 5B209P)

Translation: Flip-flops are known which contain semiconductor elements and a 4-hole transfluxor with windings for writing "0" and "1" and interrogation and output windings. The flip-flop suggested differs in that the beginnings of the "0" and "1" write windings are connected through decoupling diodes to the midpoints of capacitive accumulators, made of condensers and resistors, each of which is connected through diodes to the collectors of the corresponding transistors, forming the flip-flop, and to the collector of the input transistor; the ends of these windings are combined and connected to one of the power inputs of a switching element-- for example, a transistor -- while the control input is connected to a threshold device, connected to the midpoints of the capacitive accumulators through an "OR" cell. Information is input through low-turn (possibly one-turn) input windings by a powerful current pulse, produced by one threshold former common for both
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USSR

NISNEVICH, D. G., and NISNEVICH, A. G., USSR Author's Certificate No 273280, Filed 13/02/69, Published 16/09/70 (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 5, 1971, Abstract No 5B209P)

windings (writing "0" and "1"). Control of the former and distribution of pulses through the corresponding input windings is achieved by low-power signals which can be produced by microelements. This circuit can be made as an integrated microblock, can use transfluxors with comparatively high values of H_c , and provides high reliability under severe operating conditions. The frequency capabilities of the circuit suggested are the same as for circuits with transistor switches.

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USSR

UDC 681.332.65

NISNEVICH, D. G., and NISNEVICH, A. G.

"A Flip-Flop"

USSR Author's Certificate No 273280, Filed 13/02/69, Published 16/09/70
(Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 5, 1971, Abstract No 5B209P)

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USSR

NISNEVICH, D. G., and NISNEVICH, A. G., USSR Author's Certificate No 273280, Filed 13/02/69, Published 16/09/70 (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 5, 1971, Abstract No 5B209P)

windings (writing "0" and "1"). Control of the former and distribution of pulses through the corresponding input windings is achieved by low-power signals which can be produced by microelements. This circuit can be made as an integrated microblock, can use transfluxors with comparatively high values of H_c , and provides high reliability under severe operating conditions. The frequency capabilities of the circuit suggested are the same as for circuits with transistor switches.

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MISDEVIC D.G.

AA0051826

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

236862 MEMORY DEVICE, one of whose variants is shown in fig. 1. It comprises two-hole transfluxors, but it can be built with storage elements of any other type, e.g. with four-hole elements.

The device comprises two-hole transfluxors (1), digit blocking wires (2) and unblocking wires (3), number inhibition wires (4), controlled by numerical code distributor (5). The starts of the digit unblocking wires are connected to the corresponding outputs of the address digit decoder, and their ends are joined at a common point and connected by a distributor to the start of the first inhibition wire (any of these wires can be counted as the first), whose end is connected to the start of the second number inhibition wire, and so on over the

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AA0051826

whole memory device in consecutive cycles. The information introduction into corresponding digits of all numbers is done simultaneously in one writing cycle.

The special feature of the proposed device is that the digit blocking wires (2) pass consecutively through storage elements of corresponding digits of all numbers, and the digit unblocking wires (3) are consecutively looped around the connecting pieces between holes in the storage elements.

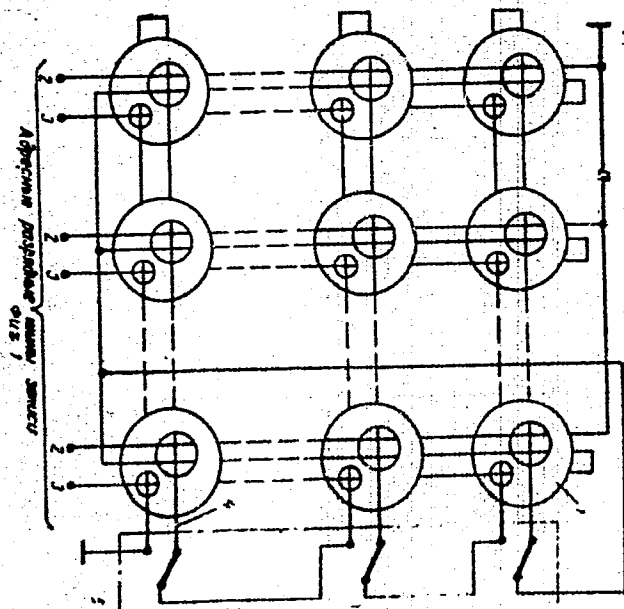
2.12.67 as 1200361/18-24. NISNEVICH, D.G. et al.
(27.6.69) Bul 7/3.2.69. Class 42m. Int. Cl. G 06f.

Authors: Nisnevich, D.G.; Kiselev, L.Ye.

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AA0051826



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AA0043373

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UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

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236527 TRIGGER preserves information when the supply is interrupted and also it is free from external interference. Windings (4) and (5) pass through two small holes and one large of the "transflux" (1). Each of two output windings (6) and (7) are connected in opposition and are passed accordingly through two small holes. Their terminals are connected through the diodes to the bases of the transistors, the other ends are joined together and fixed to the switch (8), which is controlled by gating pulses (9). The windows (2) and (3) are to set trigger into "0" or "1" state.

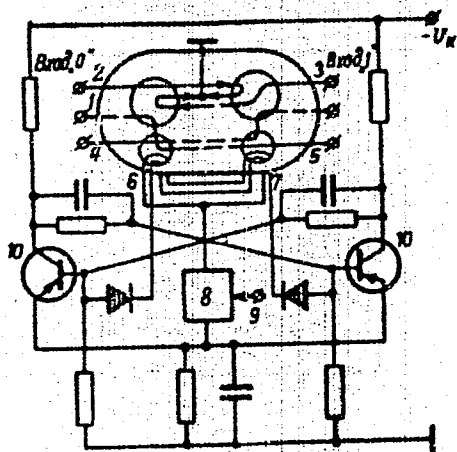
2.12.67 as 1200362/18-24. D. G. NISNEVICH (17.69.)
 Bul 7/3.2.69. Class 21a¹. Int. Cl. H^{03K}.

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19761637

AA0043373



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19761638

9c

USSR

UDC 681.326.3

KOTYUZHANSKIY, G. A., NISNEVICH, L. B., STETSYURA, G. G., and EPSHTEYN, V. L.,
Institute of Automation and Remote Control (Technical Cybernetics)

"A Data Transmission Device for Digital Computer Systems"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki,
No 3, Jan 71, Author's Certificate No 291199, Division G, filed 27 Nov 68,
published 6 Jan 71, p 119

Translation: This Author's Certificate introduces a data transmission device for digital computer systems. The device includes a transmitter which incorporates a module for storage and bit-serial transmission of priority code. One output of this module is connected to the controlling input of a switch and an input of the output signal generator, the other input of the signal generator being connected to the information source, while the output is connected to the communications channel. The data transmission device also includes a receiver which incorporates an input stage whose reception input is connected to the communications channel, while its actuating input is connected to the source of information. As a distinguishing feature of the patent, in order to organize exchange of information between sources through a common communications channel and to eliminate mutual interference, the

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USSR

KOTYUZHANSKIY, G. A., et al., Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 3, Jan 71, Author's Certificate No 291199, Division G, filed 27 Nov 68, published 6 Jan 71, p 119

receiver also contains a module for detection of a "pause" in the communications channel, and a module for detecting a "one" signal. The inputs of these modules are connected to the input stage of the receiver. The output of the "pause" detection module is connected to the actuating input of the module for storage and bit-serial transmission of priority code. The output of the "one" signal detection module is connected through a switch to the deactivating input of the module for storage and bit-serial transmission of priority code, and the output of this module is connected to the source of information.

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- 65 -

Acc. Nr: AP0040885

N

Ref. Code:

UR 0103

PRIMARY SOURCE: Avtomatika i Telemekhanika, 1970, Nr / , pp 159-169

NUMERICAL MODEL FOR ESTIMATION OF PARAMETERS OF AUTOMATIC DATA PROCESSING SYSTEMS

Kotyuzhanskiy, G. A.; Nisnevich, L. B.; Stetsyura, G. G.; Tint, L. S.; Epshteyn, V. L.

There is presented a description of a specialized numerical model for the estimation of the electronic computer parameters (its memory volume, its productivity) and the choice of the discipline of data processing in designing one-machine automatic systems of data processing, functioning in real time.

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USSR

NISEVICH, N. I., KAZARIN, V. S., GASPARYAN, M. O., and IVANOVA, G. M.

"Comparative Analysis of Some Serologic Reactions in the Diagnosis of Infectious Mononucleosis in Children"

Vopr. Okhrany Materinstva i Detstva (Problems of the Protection of Motherhood and Childhood), 1973, No 7, pp 35-39 (from RZh - Biologicheskaya Khimiya, No 22, Nov 73, Abstract No 1706)

Translation: A comparative analysis has been carried out of the diagnostic value and specificity of 6 serologic tests: reactions of Paul-Bunnell, Paul-Bunnell-Davidson, Tomchik, Lovrik, hemolysis of beef erythrocytes, and agglutination of horse erythrocytes. All of these reactions were tested concurrently on the same patient in the dynamics of the disease. In all 108 patients with infectious mononucleosis and 100 patients with other problems (control group) were studied. It has been established that the best diagnostic value for infectious mononucleosis is obtained from the reactions of Paul-Bunnell-Davidson (92.5%) and from the Tomchik reaction (90.7%). The reaction of the agglutination of horse erythrocytes is recommended as an express diagnostic method.

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UDC: 621.396.6-181.48

USSR

TARABRIN, B. B., NISSEL'SON, L. I., BULATOV, T. A.

"Parametric Series of Integrated Microcircuits"

Elektron. promst'. Nauch.-tekhn. sb. (The Electronics Industry. Scientific and Technical Collection), 1972, No 1, pp 34-36 (from RZh-Radiotekhnika, No 8, Aug 72, Abstract No 8V244)

Translation: The paper takes up problems of standardizing the main parameters of microcircuits with regard to their functional peculiarities. Resumé.

1/1

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1/2 020 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--EEG CHARACTERISTICS IN PILOTS -U-
AUTHOR--(03)-LITSOV, A.N., NISTRATOV, V.V., TERENTYEV, V.G.
COUNTRY OF INFO--USSR
SOURCE--KOSMICHESKAIA BIOLOGIIA I MEDITSINA, VOL. 4, JAN.--FEB. 1970, P
73-74
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--ELECTROENCEPHALOGRAPHY, AIRCRAFT PILOT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1997/1975 STEP NO--UR/0453/70/004/000/0073/0074
CIRC ACCESSION NO--AP0120618
UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0120618

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RESULTS OF AN ANALYSIS OF A TOTAL OF MORE THAN 1200 EEGS OF PILOTS RECORDED IN A QUIET RECLINED POSITION WITH CLOSED EYES. HIGH AND MEDIUM ALPHA RHYTHM ACTIVITIES ARE ESTABLISHED IN 77.7PERCENT OF TESTS. THE DISTRIBUTION OF THE SUBJECTS ACCORDING TO ALPHA WAVE AMPLITUDE IS MODERATELY ASYMMETRICAL WITH A MAXIMUM AMPLITUDE BETWEEN 70 AND 90 MICROVOLT. IT IS CONCLUDED THAT THE ALPHA AND BETA RHYTHMS PREVAIL IN MOST HEALTHY PILOTS.

UNCLASSIFIED

1/2 040 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--NATURE OF THE EEG FOR FLIERS (COMMUNICATION I) -U-
AUTHOR--LITSOV, A.N., NISTRATOV, V.V., TERENTYEV, V.G. N
COUNTRY OF INFO--USSR
SOURCE--MOSCOW, KOSMICHESKAYA BIOLOGIYA I MEDITSINA, RUSSIAN, VOL 4, NO 1,
JANUARY-FEBRUARY 1970, PP 73-74
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--ELECTROENCEPHALOGRAPHY, AERONAUTIC PERSONNEL, PERSONNEL
SELECTION, MEDICAL EXAMINATION

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1986/1617 STEP NO--UR/0453/70/004/001/0073/0074
CIRC ACCESSION NO--AP0103383
UNCLASSIFIED

2/2 040

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0103383

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TAKING INTO ACCOUNT THE PRACTICAL IMPORTANCE OF AN ANALYSIS OF THE EEG FOR FLIGHT PERSONNEL AND CANDIDATES FOR SELECTION AS STUDENTS AT AVIATION SCHOOLS, WE MADE INVESTIGATIONS OF CEREBRAL BI-ELECTRIC ACTIVITY IN MORE THAN 100 SUBJECTS. WE ANALYZED MORE THAN 1,200 ELECTROENCEPHALOGRAMS REGISTERED AT REST WITH THE SUBJECTS IN A SEMIRECLINING POSITION WITH THE EYES CLOSED. WE REGISTERED THE EEG IN FRONTAL SINCIPITAL, SINCIPITAL OCCIPITAL AND FRONTAL OCCIPITAL LEADS FROM THE RIGHT AND LEFT SIDES.

UNCLASSIFIED

1/2 007

UNCLASSIFIED

PROCESSING DATE--23OCT70

5

TITLE--ROLE OF ELECTRICAL DOUBLE LAYER IN THE SETTING OF SLAG PORTLAND CEMENT -U-

AUTHOR--(05)-VED, E.I., BAKLANOV, G.M., ZHAROV, E.F., NITCHENKO, V.S., SIDOROVA, T.A.

COUNTRY OF INFO--USSR

SOURCE--BUDICEL'NI MATER. KONSTR. 1970, (1), 31-2

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CEMENT, CALCIUM CHLORIDE, COHESION STRENGTH

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1995/1478

STEP NO--UR/0635/70/000/001/0031/0032

CIRC ACCESSION NO--AP0116915

UNCLASSIFIED

2/2 007

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0116915

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SETTING PROCESS IS EXPLAINED IN TERMS OF THE SHAPE OF THE ZETA POTENTIAL CURVES. ADDN. OF SMALL AMTS. OF CACL SUB2 CAUSES SHARP DROP IN ZETA POTENTIAL, INDICATING COMPRESSION OF ELEC. DOUBLE LAYER AND LIMITED MIGRATION OF NEG. CHARGED OH AND CL IONS. RISE IN ZETA POTENTIAL WITH INCREASING ADDN. OF CACL SUB2 INCREASES IN DIFFUSION REGION OF ELEC. DOUBLE LAYER OF NEG. CHARGED OH AND CL IONS AND ACCELERATION IN SETTING. COHESION FORCES RISE AND STRENGTH INCREASES.

UNCLASSIFIED

USSR

UDC: 8.74

NITSETSKIY, I. V.

"The Multimode 'KONTAKT' Program for Communication Between a Man and the 'Minsk-22' Digital Computer Under Conditions of the Institution of Higher Education"

V sb. Primeneniye mat. metodov i vychisl. tekhn. v upr. vyssh. uchebn. zavedeniyami. Vyp. 2 (Use of Mathematical Methods and Computer Technology in Administration of Institutions of Higher Education--collection of works), vyp. 2, Moscow, 1971, pp 155-158 (from RZh-Kibernetika, No 4, Apr 72, Abstract No 4V565)

Translation: The paper describes the experimental multimode "KONTAKT" program for the "Minsk-22" digital computer. This program is based on the following principles: 1. teletypes are selected as the main channel of man-computer information exchange on the basis of the requirement for remote and multiple-panel operation, as well as subscriber telegraph communications with the system. The role of the computer panel is minimized: as far as possible, all control commands are set up on the teletypewriter keyboard. 2. High-speed photoelectric input from punched tape is used

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USSR

NITSETSKIY, L. V., Primeneniye mat. metodov i vychisl. tekhn. v upr. vyssh. uchebn. zavedeniyami, vyp. 2, Moscow, 1971, pp 155-158

only for input of large previously prepared data blocks: lists of students, blocks of instructions on the teaching process, the results of examinations, textbooks. 3. Alphanumeric printer output is provided as an auxiliary output channel for large data blocks unless data are to be transmitted over wire communications lines. 4. Input of machine instructions is in the form of words and phrases of a natural language. 5. Input of supervisory commands is possible in three working languages of the system -- Russian, Lettish and English since students are instructed at Riga Polytechnical Institute in Russian and Lettish, and commands in English enable instruction of foreign students. The system accepts a phrase given in any of the working languages, but printout is only in the language chosen in pre-programming the machine. The Lettish language can be replaced by any other language using the Russian or Latin alphabets. A special supervisory command -- "introduction of a new language" -- is provided for this purpose. 6. The original version of the "KONTAKT" program provides the following operating modes: programmed instruction, engineering computations, and data retrieval. In the future, the system is to be supplemented by programs for evaluating the students' progress, correlation

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USSR

NITSETSKIY, L. V., *Primeneniye mat. metodov i vychisl. tekhn. v upr. vyssh. uchebn. zavedeniy*, vyp. 2, Moscow, 1971, pp 155-158

analysis of grades and so forth, and translation of certain operators of ALGOL-60 language is to be provided in the engineering computations mode. 7. The engineering computations mode provides for executing computations in the form of a dialog by formulas as is done with the "Nairi" or "Mir" computers. 8. The data retrieval program provides for teletype input of a search pattern (by 20 descriptors which are analyzed by the same rules as are the supervisory commands), and printout of a list of the documents found or their number. 9. The basic part of the program is written in the AKI algorithmic language, but contains numerous additional set up in machine codes as well as access to a special library of standard programs. V. Mikheyev.

3/3

USSR

UDC: 621.396.662:621.396.669

BEREZKIN, V. V., NITSIYEVSKIY, E. S.

"A Device for Isolating a Coherent Frequency"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 12, Apr 71, Author's Certificate No 299935, Division H, filed 12 Feb 68, published 26 Mar 71, p 204

Translation: This Author's Certificate introduces a device for isolating a coherent frequency. The device contains a converter which transforms the signal frequency to an intermediate frequency, a phase detector, a low-frequency filter, a frequency-controlled heterodyne, and a converter which transforms the intermediate frequency to the initial signal frequency, and also an optimum detector made in the form of a set of narrow-band filters which cover a predetermined frequency band and have an amplitude comparator at the output for selection of the maximum signal. As a distinguishing feature of the patent, the ratio of the capture band to the filtration band is increased by connecting the optimum detector between the output of the converter which changes signal frequency to intermediate frequency and one of the inputs of the phase detector.

1/1

USSR

UDC 621.165.533.6

DEYCH, M. Ye., LAZAREV, L. Ya., and NITSKEVICH, V. P.

"On Edge Losses in Turbine Nozzle Lattices"

Kazan', IVUZ Aviatsionnaya Tekhnika, No 4, 1971, pp 67-72

Abstract : Experimental investigation results of edge losses in turbine nozzles, depending on the edge thickness, are discussed by reference to diagrams showing the losses measured at different distances from the edge and effects of M and Re . Based on a detailed study of the flow leveling process behind edges of different thickness and by different values of M and Re , recommendations are given for the selection of the distance of the measuring plane from outlet edges. An empirical formula which considers the edge thickness and M is presented for the determination of the coefficient of edge losses. Five illustr., two biblio. refs.

1/1

USSR

UDC 615.372:576.851.555].015.45:
[612.11+612.112.3+612.419

NITSOVA, P. and OVCHAROV, R., State Institute for Drug Control, Sofiya

"Effect of Cyclophosphamide on Antibody Formation"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 10, 1971,
pp 63-64

Abstract: The effect of different doses of the alkylating agent cyclophosphamide on antibody formation was studied in mice before receiving sheep erythrocytes. Cyclophosphamide in a dose of 5 mg/kg injected before and simultaneously with the antigen suppressed the formation of immunocompetent cells, while a dose of 0.5 mg/kg stimulated formation. A dose of 5 mg/kg of cyclophosphamide injected three days before immunization with sheep erythrocytes had an immunodepressive effect, while there was only a tendency in this direction after 1 mg/kg. However, the smallest dose used, 0.5 mg/kg, actually increased the number of immunocompetent cells compared with the control. The effect was most apparent 3 or 4 days after injection of the antigen.

1/1

USSR

UDC: [537.226+537.311.33]: [537+535]

NITSOVICH, N. V. and NITSOVICH, V. M.

"Theory of Thermal EMF Anisotropy in the Case of Two Anisotropic Dispersion Mechanisms"

Fiz. elektronika, Resp. mizhvid. nauk.-tekhn. zb. (Physical Electronics, Interdepartmental Scientific-Technical Collection, Ukrainian Republic--collection of works) No. 2, 1970, pp 19-22 (from RZh-Fizika, No. 11, 1971, Abstract No. 11E1070)

Translation: The effect of anisotropic dispersion on the amount of anisotropy of thermal emf is investigated in the presence of anisotropic dispersion of charged ions as a function of the temperature and the deformation potential constants. It is shown that taking the phonon anisotropic dispersion into account substantially affects the amount of thermal emf anisotropy by leading to its diminution; taking the ion anisotropic dispersion into account leads to a change in sign of the thermal emf anisotropy.

1/1

- 103 -

USSR

UDC: [537.226+537.311.33]: [537+535]

NITSOVICH, M. V. and NITSOVICH, V. M.

"Theory of Thermal EMF Anisotropy in the Case of Two Anisotropic Dispersion Mechanisms"

Fiz. elektronika, Resp. mizhvid. nauk.-tekh. zb. (Physical Electronics, Interdepartmental Scientific-Technical Collection, Ukrainian Republic--collection of works) No. 2, 1970, pp 19-22 (from RZh-Fizika, No. 11, 1971, Abstract No. 11E1070)

Translation: The effect of anisotropic dispersion on the amount of anisotropy of thermal emf is investigated in the presence of anisotropic dispersion of charged ions as a function of the temperature and the deformation potential constants. It is shown that taking the phonon anisotropic dispersion into account substantially affects the amount of thermal emf anisotropy by leading to its diminution; taking the ion anisotropic dispersion into account leads to a change in sign of the thermal emf anisotropy.

1/1

- 103 -

UDC 621.165:62-752

USSR

SAMOYLOVICH, G. S., NITUSOV, V. V., and YURKOV, E. V.

"Investigation of the Influence of the Profile Shape of the Working Blades Upon the Excitability of Tangential and Axial Low-Multiple Forced Oscillations"

Tr. Mosk. Energ. In-ta (Works of the Moscow Power Engineering Institute), No 99, 1972, pp 108-113 (from Referativnyy Zhurnal, Turbostroyeniye, No 5, 1972, Abstract No 5.49.35)

Translation: In the work are presented the results of an experimental investigation of the forced oscillations of active-profile blades R5S33A from an irregularly circular low-multiple source ($K_N = 2 - 8$), situated behind the blades. The possibility of evaluating the variable aerodynamic forces acting upon the blade with such excitation is shown. 4 figures. 5 references.

USSR

N
UDC: 621.165.1:532.5.031

SAMOYLOVICH, G. S., NITUSOV, V. V., SIDOROV, A. A., Moscow

"Estimation of Aerodynamic Damping of Oscillations of Turbine Blades"

Kiev, Problemy Prochnosti, No 9, 1970, pp 98-100

Abstract: Due to difficulties involved in testing, there is considerable interest in determination of the aerodynamic damping coefficient of turbine blades by calculation. A formula for the unknown perturbed velocity at points along the blade profile presented in an earlier work is analyzed. It is determined that profile displacement can be very significant in many cases.

1/1

USSR

UDC 531.383

NITUSOV, YE. V.

"Stability of a Gyroscopic Navigation System"

Moscow, Vestnik Moskovskogo universiteta, Seriya I, Matematika, Mekhanika, No. 3, May/Jun 72, pp 113-117

Abstract: The stability of motion of a gyroscopic inertial navigation system with two Newton meters is investigated. The system operates in a gyroscopic horizon-compass regime. Oscillations in the system are damped by the method proposed by E. B. Leventhal. Two cases are considered: when the variable coefficients of the homogeneous system of equations for the small motions are constants, and when they are continuous arbitrary functions of time. The equations for small motions in the navigation system are derived using the same technique as for a platform navigation system with a right orthogonal system of coordinates. The equations for small motions of the navigation system are investigated for motions of the point of suspension with velocities that are small as compared with the first cosmic velocity. Sufficiency conditions are then given for the stability of the trivial solution of the system for constantly acting perturbations.

1/1

USSR

UDC 621.387.333

KOSMARSKIY, L. N., NITYAYEV, M. V., SINEL'NIKOVA, L. G.

"Energy Losses in Controlled Gas-Discharge Devices"

Elektron. tekhnika. Nauchno-tekhn. sb. Gazorazryadn. pribory (Electronic Technology. Scientific-Technical Collection. Gas-Discharge Devices), 1970, Issue 4(20), pp 45-48 (from RZh--Elektronika i yeye primeneniye, No 5, May 1971, Abstract No 5A168)

Translation: Energy losses were studied in trigatrons filled with various gasses. It is established that the energy losses in the discharge gas are larger the higher the strength [prochnost'] of the filling gas. Summary.

1/1

01

1/2 020 UNCLASSIFIED PROCESSING DATE--30OCT71
TITLE--EFFECT OF WATER VAPOR AND ETHYL ALCOHOL ON THETHORIUM 228 EMANATIO
DIFFUSION RATE IN CELLULOSE TRIACETATE -U-
AUTHOR--(04)-NITZOLD, D., ZABORENKO, K.B., KURBANOV, KH.T., KOZLOV, P.V.
CCOUNTRY OF INFO--USSR
SOURCE--VYSOKOMOL. SOEDIN., SER. B 1970, 12(3), 182-4
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, MATERIALS, NUCLEAR SCIENCE AND TECHNOLOGY
TOPIC TAGS--SORPTION, WATER, ETHANOL, CELLULOSE RESIN, ACETATE, THORIUM
ISOTOPE, SCINTILLATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/0670 STEP NO--UR/0460/70/012/003/0182/0184
CIRC ACCESSION NO--AP0124342
UNCLASSIFIED

272 020

UNCLASSIFIED

PROCESSING DATE—30OCT7

CIRC ACCESSION NO—AP0124342

ABSTRACT/EXTRACT—(U) GP-0- ABSTRACT. THE SORPTION OF H SUB2 O OR ETOH BY CELLULOSE TRIACETATE (I) INCREASES THE DIFFUSION OF THORON (EMANATION FROM PRIME228 TH) FROM THE INSIDE OF THE I FILM TO ITS OUTSIDE. THE FILMS CONTG. ADSORBED THORON WERE KEPT IN STREAMS OF DRY AIR OR AIR SATD. WITH H SUB2 O OR ETOH VAPOR AND THE RATES OF THORON EMANATION WERE DETD. BY SCINTILLOMETRY. FROM THE KINETIC CURVES THUS OBTAINED, THE DIFFUSION COEFFS. OF H SUB2 O AND ETOH INTO I WERE FOUND TO BE 2.7 TIMES 10 PRIME NEGATIVE 6 AND 8.2 TIMES 10 PRIME NEGATIVE 6 CM PRIME2-MIN, RESP. FACILITY: MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

1/2 020 UNCLASSIFIED PROCESSING DATE--13NOV70
 TITLE--HISTONES FROM THE SPERM AND EMBRYOS OF THE GROUNDLING MISGURNUS
 FOSSILIS -U-
 AUTHOR--(04)-VOROBYEV, V.I., VINOGRADOVA, I.A., GINEITIS, A., NIVINSKAS, G.
 COUNTRY OF INFO--USSR
 SOURCE--TSITOLOGIYA 1970, 12(2), 198-203
 DATE PUBLISHED-----70
 SUBJECT AREAS--BIOLOGGICAL AND MEDICAL SCIENCES
 TOPIC TAGS--LOACH, REPRODUCTIVE SYSTEM, PROTEIN, AQUEOUS SOLUTION,
 ELECTROPHORESIS, POLYACRYLAMIDE RESIN, CARBON ISOTOPE, CHEMICAL
 LABELLING
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAE--3002/0380 STEP NO--UR/9053/70/012/002/0198/0203
 CIRC ACCESSION NO--AP0127961
 UNCLASSIFIED

N

UNCLASSIFIED

PROCESSING DATE--13NOV70

272 020

CIRC ACCESSION NO--AP0127961

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HISTONES ISOLATED FROM THE SPERM AND EMBRYOS OF THE LOACH *M. FOSSILIS* AT DIFFERENT STAGES OF DEVELOPMENT WERE INVESTIGATED USING ELECTROPHORESIS IN POLYACRYLAMIDE GEL. FRACTION COMPN. OF EMBRYONIC HISTONES DIFFERED AT THE BLASTULA AND GASTRULA STAGES, AND THE HISTONE COMPN. CHANGES WERE FIRST OBSD. AT TRANSITION FROM BLASTULA TO GASTRULA. THE FRACTION S OF ARGININE RICH HISTONE F SUB3 DECREASED IN CONTRAST TO THE AMT. OF THE LYSINE RICH FRACTION WHICH INCREASED. INVESTIGATION OF PRIME14 C INCORPORATION INTO HISTONES INDICATED THAT RELATIVE INTENSITY OF HISTONE SYNTHESIS AT BLASTULA AND GASTRULA WAS DIFFERENT. THE SYNTHESIS OF LYSINE RICH FRACTION, THE RELATIVE CONTENT OF WHICH INCREASED AT LATER STAGES OF DEVELOPMENT, WAS DETECTED EVEN IN BLASTULA. THE PROGRESSIVE DECREASE OF ARGININE RICH FRACTIONS DURING DEVELOPMENT WAS INTERPRETED AS EVIDENCE FOR PARTICIPATION OF HISTONES IN REGULATION OF GENETIC ACTIVITY OF DNA. ELECTROPHORETIC ANAL. HAS SHOWN THAT HISTONES IN LOACH SPERM CONTAINED MORE ARGININE THAN THOSE FROM EMBRYO TISSUES. THE LYSINE RICH FRACTION F SUB1 WAS COMPLETELY ABSENT. AMINO ACID ANAL. INDICATED THAT THE LYSINE-ARGININE RATIO IN SPERM HISTONES WAS 1.5 COMPARED WITH 1.8 IN EMBRYONIC HISTONES. ALSO THE ALANINE CONTENT WAS HIGHER THAN THAT OF ARGININE. ARGININE RICH FRACTIONS OF HISTONE ARE RESPONSIBLE FOR STRUCTURAL CHANGES OF CHROMATIN COMPLEXES. FACILITY: LAB. BIOCHEM. CELL REPROD., INST. CYTOL., LENINGRAD, USSR.

UNCLASSIFIED

1/2 016 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--MILD DUCT CARCINOMA IN MEN -U-
AUTHOR--(03)-NIVINSKAYA, M.M., SVYATUKHINA, O.V., MAKARENKO, N.P.
COUNTRY OF INFO--USSR
SOURCE--KHIRURGIYA, 1970, NR 5, PP 35-38
DATE PUBLISHED--70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--CARCINOMA, GLAND, SURGERY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3003/0131 STEP NO--UR/0531/70/000/005/0035/0038
CIRC ACCESSION NO--AP0129387
UNCLASSIFIED

Z12 016

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0129387

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PAPER IS CONCERNED WITH STUDIES OF 57 MALE PATIENTS SUFFERING FROM MILK DUCT CARCINOMA. THEIR AGE RANGED FROM 20 TO 77 YEARS. THE MEAN AGE COMPRISED 56.4 YEARS. NOTE WAS MADE OF THE ALMOST SIMILAR TUMOR LOCALIZATION IN THE RIGHT AND LEFT MILK DUCTS (RESPECTIVELY 28 TO 29 PATIENTS). UPON HISTOLOGICAL INVESTIGATION CANCER WAS COMMONLY OF GLANDULAR STRUCTURE. AN ANALYSIS OF THE REMOTE RESULTS (FROM 5 AND MORE YEARS) THE AUTHORS CONCLUDE THAT THE RESULTS OF SURGICAL AND COMBINED TREATMENT DO NOT DIFFER ESSENTIALLY. FACILITY: INSTITUT EKSPERIMENTAL'NOY KLINICHESKOY ONKOLOGII, MOSCOW.

UNCLASSIFIED

1/2 018 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--MELANOMA OF THE SKIN OF THE HEAD AND NECK -U-
AUTHOR-(02)-NIVINSKAYA, M.M., PACHES, L.R.
COUNTRY OF INFO--USSR
SOURCE--STOMATOLOGIYA, 1970, VOL 49, NR 3, PP 43-45
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--SKIN DISEASE, ONCOLOGY, BIOLOGIC PIGMENT, RADIOTHERAPY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1998/0082 STEP NO--UR/0511/70/049/003/0043/0045
CIRC ACCESSION NO--AP0120782
UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0120782

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SUMMARY. THE PAPER DEALS WITH CLINICAL OBSERVATIONS OVER 179 PATIENTS WITH MELANOMA OF THE SKIN OF THE HEAD AND NECK. OF THIS NUMBER IN 150 PERSONS THERE WAS SEEN MELANOMA OF THE SKIN TEGUMENTS, IN 22, OF THE ORGAN OF VISION, IN 7, OF THE ORAL AND NASAL MUCOUS MEMEBRANE. THE FEATURES PECULIAR TO THE CLINICAL COURSE OF THE DISEASE AMONG PATIENTS WITH DIFFERENT MALIGNANT NEOPLASMS OF THE SKIN OF THE HEAD AND NECK ARE DISCUSSED IN DETAIL. AN ANALYSIS OF THE REMOTE RESULTS OF TREATMENT IN PATIENTS SUBJECTED TO RADIATION AND COMBINED THERAPY IS GIVEN. A FIVE YEAR RECOVERY IN RADIATION THERAPY WAS OBTAINED IN 58.3 PER CENT AND IN THE COMBINED METHOD, IN 73 PER CENT CASES. THE DATA PRESENTED GIVE GROUNDS TO AGGREE WITH THE EXISTING VIEWS ON THE RELATIVELY LESS MALIGNANT COURSE OF MELANOMA OF THE REFERRED TO LOCALIZATION. THE REMOTE RESULTS OF COMBINED TREATMENT MAKES IT POSSIBLE TO CONSIDER IT AS THE METHOD OF CHOICE.
FACILITY: OTEL RADIOLOGII INSTITUTA EKSPERIMENTAL'NOY I KLINICHESKOY ONKOLOGII AMN SSSR, MOSCOW.

UNCLASSIFIED

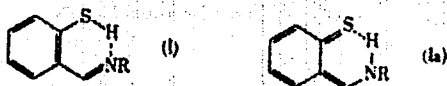
Acc. Nr. **MP0053774**

Abstracting Service:
CHEMICAL ABST.

2790
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Ref. Code
UR0366

110953g Benzenoid-quinonoid tautomerism of aromethines and their structural analogs. III. Synthesis, structure, and thermochromism of N-substituted o-mercaptobenzaldimines. Minkin, V. I.; Olekhovich, L. P.; Nivorozhkin, L. E.; Zhdanov, Yu. A.; Knyazhanskii, M. I. (Rostov-na-Donu Gos. Univ., Rostov-on-Don, USSR). *Zh. Org. Khim.* 1970, 6(2), 348-54 (Russ). The reaction of 2-NCSC₆H₄CHO with Na₂S gave 2-HSC₆H₄CHO which was condensed with amines to give 2-HS-C₆H₄CH:NR (I), R is Ph, 4-C₆H₄OMe, 4-C₆H₄NMe₂, 2-C₆H₄OH, or Bu. Similarly, the condensation of 2-MeSC₆H₄CHO with amines gave 2-MeSC₆H₄CH:NR (II). The comparison of uv and ir spectra of I and II showed that I exist in their tautomeric



colored quinonoid forms (Ia) due to H bonding. The equil. between I and Ia depends on the pblarity of the R group. Less nucleophilic R groups shift the equil. towards Ia.

CPJR J

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REEL/FRAME
19830837

7

USSR

KHODZHAYEV, Sh. Kh., NIYAZMETOVA, A. M.

"Algorithm for Selection of an Adequate Model of an Epidemic"

Vopr. Kibernetiki [Problems of Cybernetics -- Collection of Works], No 53, Tashkent, 1972, pp 105-110 (Translated from Referativnyy Zhurnal Kibernetika, No 6, 1973, Abstract No 6V277, by the authors).

Translation: The epidemic process of infectious pathology is modeled using methods of regression-correlation analysis. During the course of the solution, the program which realizes the algorithm automatically screens out insignificant factors of the predetermined nonlinear mathematical model and adapts itself to the search for an adequate model.

1/1

- 31 -

USSR

UDC 621.315.592:546.22'48

MANNANOVA, KH.KH., NIYAZOV, KH.R.

"Experimental Determination Of The Coefficients Of Radiation-Stimulated Diffusion Of Sulphur In Cadmium Sulfide"

V sb. Metod radiats. vosdevstviy v issled. struktury i svoystv tverdykh tel (Radiative Effect Method In Study Of The Structure And Properties Of Solid Bodies--Collection Of Works), Tashkent, "Fan," 1971, pp 72-81 (from RZh:Elektronika i yeye primeneniye, No 4, April 1972, Abstract No 4B117)

Translation: The effect is studied of the intensity of ionizing radiation on the coefficient of radiation-stimulated diffusion, after irradiation on sources with a dosage rate of 110--7000 R/sec at temperatures of 45--80° C. With the object of clarifying the diffusion mechanism, CdS crystals are studied, released in advance from free S by heat treatment, which were subjected to neutron irradiation and heated 10 hours at 600° C in the presence of S. The data obtained indicate the advantage of a vacancy mechanism of diffusion of S in CdS. 10 ref. V.G.

1/1

UDC 661.63.099.2.095

USSR

LINKEVICH, V. A., DADAKHODZHAYEV, A. T., NIYAZOV, M. I., and YEROFEYEVA, O. B.,
Tashkent Polytechnical Institute

"The Problem of Ammophos Granulation During Its Production by a Combination
Process"

Izvestiya VUZ -- Khimiya i Khimicheskaya Tekhnologiya, Vol 14, No 5, 1971,
pp 741-743

Abstract: When ammophos is produced by the combination process, the diameter of its granules changes exponentially. A slowed down growth of the granules, as compared to the process of normal distribution, indicates that along with the growth of the granules of the initial load, formation of new granules takes place. This points out a possibility for retreatment of poorly recoverable of nonrecoverable technological process for production of ammophos in a granulator-neutralizer using a pseudoliquefying layer, which however requires maintenance of an optimal technological process regimen coupled with a continuous separation of the finished product.

1/1

- 48 -

1/2 018 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--EFFECT OF LOW FREQUENCY MECHANICAL VIBRATIONS ON THE EXTRACTION OF
VEGETABLE OILS -U-
AUTHOR--(04)-NIYAZOV, M.I., SALIMOV, Z., YUSUBOV, M., SHARIPOV, D.
COUNTRY OF INFO--USSR N
SOURCE--UZB. KHIM. ZH. 1970, 14(1), 71-2
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--VEGETABLE OIL, LOW FREQUENCY, VIBRATION, CHEMICAL SEPARATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1999/0301 STEP NO--UR/0291/70/014/001/0071/0072
CIRC ACCESSION NO--AP0122503
UNCLASSIFIED

272 018 UNCLASSIFIED PROCESSING DATE--16OCT70
CIRC ACCESSION NO--AP0122503
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF LOW FREQUENCY MECH.
VIBRATION ON EXTN. OF COTTONSEED MEAL (8.78PERCENT OIL, 4.2PERCENT H
SUB2 J) WAS INVESTIGATED. THE EXTN. COLUMN HAD DIMENSIONS: LENGTH
(LAYER OF EXTRACTION MATERIAL) 340 MM; DIAM. 40 MM; VIBRATION AMPLITUDE
8 MM; FREQUENCY 3.5 HZ; AV. DIAM. OF EXTD. PARTICLES 4 MM; TEMP.
20DEGREES; FLOW RATE OF SOLVENT 0.35-2.0 CM-SEC. A CONSIDERABLE
INTENSIFICATION OF THE EXTN. PROCESS WAS ACHIEVED BY USE OF I IN
COMPARISON WITH COMMON EXTN. PROCESS WITHOUT I UNDER THE SAME
CONDITIONS. THE EFFECT OF I IS BASED MAINLY ON IMPROVEMENT OF EXTERNAL
DIFFUSION. FACILITY: TASHKENT. POLITEKH. INST., TASHKENT, USSR.

UNCLASSIFIED

USSR

UDC 539.3

SHIRINKULOV, T., and NIYAZOV, S.

"Concerning the Calculation of Physically Nonlinear Round Plates, Lying on a Continuous Homogeneous Base and on a Continuous Inhomogeneous Base"

Tashkent, Prochnost' i Seysmostoykost' Sooruzh. -- Sbornik (The Strength and Earthquakeproof Nature of Structures -- Collection of Works), Jan, 1971, pp 140-146 (from Referativnyy Zhurnal, Mekhanika, No 2, Feb 72, Abstract No 2V189 by V. I. Shalashilin)

Translation: The article deals with the axisymmetrical deflections of a round plate with account taken of physical nonlinearity; the plate lies on a homogeneous and on an inhomogeneous elastic base of the winkler type, with exponential change of the modulus of elasticity with respect to the depth of the base. The equation for the settlements of the base is represented in the form of an integral equation. Simultaneous solution of the equations of the deflection of the plate and the settlements of the base is sought in the form of exponential series; recurrent relationships are obtained to determine the coefficients of these series. Results of numerical calculations are presented for a homogeneous base and for an inhomogeneous base.

1/1

- 100 -

1/2 016 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--LUMINESCENT AGGREGATES OF RHODAMINE DYES -U-
AUTHOR-(02)-LEVSHIN, L.V., NIZAMOV, N. *N*
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, SER. FIZ. 1970, 34(3), 599-603
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--LUMINESCENCE SPECTRUM, DYE, HETEROCYCLIC SULFUR COMPOUND,
AMINE, SOLVENT EXTRACTION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3008/0996 STEP NO--UR/0048/70/034/003/0599/0603
CIRC ACCESSION NO--A0138024
UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0138024

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CONDITIONS OF FORMATION OF LUMINESCENT AGGREGATES OF RHODAMINES G, 6G, 3B, S, AND BUTYL RHODAMINE S AT ROOM TEMP. WERE STUDIED. THE AQ. DYE SOLNS. WERE EXTD. WITH CCL SUB4 IN THE COLORLESS FORM WHICH GAVE ON LIGHT IRRADN. COLORED FORMS, WHOSE SPECTRA WERE VERY LIKE THE CORRESPONDING FILM SPECTRA. THE LUMINESCENCE OF THE EXT. SHOWED 2 MAX., ONE CORRESPONDING TO THE MAX. OF AQ. LUMINESCENCE SPECTRA. THE RESULTS WERE EXPLAINED BY THE SCHEME (SHOWN ON MICROFICHE). THE EFFECTS OF DYE CONC. AND SOLVENT COMPN. WERE STUDIED IN CHCL SUB3-CCL SUB4 MIXTS. THE NATURE OF INTERACTIONS BETWEEN DYE MOL. IN AGGREGATES IS DISCUSSED AND THE ROLE OF RESONANCE ENERGY POINTED OUT. FACILITY: FIZ. FAK., MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

Acc. Nr: **AP0043597**

Ref. Code: **UR 0296**

PRIMARY SOURCE: **Izvestiya Akademii Nauk Turkmenskoy SSR, Seriya
-Biologicheskikh Nauk, 1970, Nr 1, pp 72-81**

Niyazov, O.

**ALLOTROPA MECRIDA (WALK.) (HYMENOPTERA, PLATYGASTERIDAE)—
VINE INSECT PARASITE IN TURKMENIA**

The description is given of the vine insect, its host and distribution. Besides *A. mecrida* two species of *Allotropa* genus — *A. burelli* Mues. and *A. convexifrons* Mues. are known in Turkmenia. They were delivered for Comstock insect control. The determinating table is given to recognize these species.

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1/2 033 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--SOUND ABSORPTION IN MOLTEN TIN AND THALLIUM -U-
AUTHOR-(03)-GITIS, M.B., MIKHAYLOV, I.G., NIYAZOV, S.
COUNTRY OF INFO--USSR
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SUBJECT AREAS--MATERIALS, PHYSICS
TOPIC TAGS--LIQUID METAL, TIN, THALLIUM, X RAY ANALYSIS, SOLID STATE,
SOUND ABSORPTION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
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ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ACOUSTIC PROPERTIES OF SN AND TL WERE STUDIED IN CONNECTION WITH THE DIVISION OF METALS INTO GROUPS. THE MOLTEN TL CAN BE CONSIDERED AS A "NORMAL" METAL; ITS SOUND VELOCITY DECREASES LINEARLY WITH THE TEMP. AND THE TEMP. DEPENDENCE OF ITS ABSORPTION COEFF. IS NEARLY THE SAME AS THAT OF THE MOLTEN PH. THE LIQUEFIED SN, ON THE OTHER HAND, CANNOT BE CONSIDERED AS A "NORMAL METAL"; THE COEFF. OF THE SOUND ABSORPTION INCREASES WITH THE TEMP. INCREASE, BUT THIS INCREASE BECOMES SLOWER AT GREATER THAN 550DEGREES. X RAY ANAL. ALSO SHOWS AN ABNORMAL BEHAVIOR: AT THE MELTING OF THE METAL A PHASE OF A GREATER D. IS FORMED AND SUBSISTS SIMULTANEOUSLY WITH THE LESS DENSE ONE, PROPER TO THE SOLID STATE. THIS ABNORMAL STRUCTURE DISAPPEARS PROGRESSIVELY WITH THE TEMP. INCREASE. FACILITY: LENINGRAD. GOS. UNIV., LENINGRAD, USSR.

UNCLASSIFIED

USSR

UDC 619:616.981.57-097

NIYAZOV, U.E., All Union Institute of Experimental Veterinary Medicine

"Antigenic Bonds Formed by Bacteria Causing Gas Infections"

Moscow, Veterinariya, No 8, Aug 70, pp 45-47

Abstract: To identify the bonds formed by bacteria causing gas infections, cultures of *Clostridium chauvoei*, strain R-15; *Cl. septicum*, strain 1098; and *Cl. oedematiens*, strain 34 were studied. From these cultures corpuscular O, OH, and spore antigens were prepared. Rabbits were hyperimmunized with these antigens, and the serum of these rabbits was studied in direct and cross-agglutination reactions with homologous and heterologous antigens. Agglutinating H sera were obtained through adsorption of O agglutinins from OH agglutinating sera. It was found that bilateral O antigenic bonds are formed between *Cl. chauvoei* and *Cl. septicum*. Unilateral OH antigenic bonds are formed between *Cl. chauvoei* and *Cl. septicum*, as well as between *Cl. chauvoei* and *Cl. oedematiens*. No H antigenic bonds were found between *Cl. chauvoei* and *Cl. oedematiens*. Spores of *Cl. septicum* form bilateral antigenic bonds, while spores of *Cl. oedematiens* form unilateral antigenic bonds. No spore antigenic bonds were found between *Cl. chauvoei* and *Cl. oedematiens*.

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USSR

UDC 537.311.33

AKSENOV, V.V., ZANTOV, F.A., NIYAZOVA, O.R., KHARAKHORIN, F.F.

"Effect Of Nuclear Penetrating Radiation On The Semiconductor Compounds
A^{III} B^{IV} C^V In Crystalline And Vitreous States"

V sb. Radiats. fiz. nemet. kristallov (Radiation Physics Of Nonmetallic Crystals-
Collection Of Works), Vol 3, Part 2, Kiev, "Nauk.dumka," 1971, pp 91-97 (from
RZh--Elektronika i yeye primeneniye, No 10, October 1971, Abstract No 10B65)

Translation: The effect was studied of radiation on the semiconductor com-
pounds A^{III} B^{IV} C^V in crystalline and vitreous states. Neutron and γ -radiation
has practically no effect on vitreous specimens; in crystals, however, of CdGeAs₂,
As₂Se₃ and other semiconductors they give rise to irreversible changes of the
values of the resistivity and the mobility of the carriers. 2 ill. 5 ref. I.V.

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USSR

UDC 621.382.2

KLIMKOVA, O.A., KOYFMAN, A.I., NIYAZOVA, O.R.

"Effect Of Radiation-Stimulated Diffusion Of Gold On Stability Of Silicon Diodes"

V sb. Radiats. fiz. nemet. kristallov (Radiation Physics Of Nonmetallic Crystals-Collection Of Works), Vol 3, Part 2, Kiev, "Nauk.dumka," 1971, pp 185-193 (from RZh--Elektronika i yeye primeneniye, No 10, October 1971, abstract No 10E563)

Translation: The paper studies diffusion, stimulated by Roentgen and γ -neutron irradiation, of Au into Si doped with P, with a resistivity of 150-200 ohm.cm and 7-20 ohm.cm, and also the change of the parameters of semiconductor devices with the introduction of Au into the volume of the semiconductor. The impurity profile of Au after radiated-stimulated diffusion was established by the γ --radiation of the isotope ^{198}Au (0.411 Mev) on a γ -spectrometer for the successively etched layers of Si. It was found that the stimulated diffusion of Au into Si at a temperature of 20° C ($D = 10^{-12}$ cm²/sec with Roentgen irradiation; $D = 10^{-11}$ -- 10^{-10} with γ -neutron irradiation) corresponds to thermal diffusion at a temperature of 400--500° C. Under the effect of irradiation, semiconductor devices with gold contacts disclose major changes of all characteristics as a result of the combined effect of diffusion and defect formation. 4 ill. 20 ref. I.M.

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Semiconductors and Transistors

USSR

UDC 621.315.592

ZAYKOVSKAYA, M. A., KLIMKOVA, O. A., NIYAZOVA, O. R.

"Low-Temperature Alloying of Semiconductors"

Leningrad, Fizika i Tekhnika Poluprovodnikov, Vol 5, No 5, May 1971, pp 911-914

Abstract: The experimental results of radiation-accelerated introduction of gold and lithium into silicon are presented in this article. The experimental conditions under which low-temperature (150-350°K) diffusion of lithium and gold occurs in silicon are indicated. Under optimal conditions, the low-temperature diffusion rates can be the same as in the case of thermal diffusion or close to them. The electrical properties of the crystals vary identically in the case of both low temperature and high temperature alloying. The low temperature alloying method has definite advantages over thermal diffusion methods, ion bombardment, and so on: the formation of thermal donors and thermal acceptors and radiation disarrangement of the structure are excluded, comparatively simple experimental conditions are required, new possibilities for local alloying arise, and so on.

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USSR

ZAYKOVSKAYA, M. A., et al., Fizika i Tekhnika Poluprovodnikov, Vol 5, No 5, May 1971, pp 911-914

The experimental data on gold diffusion and lithium drift in silicon under radiation effects show that radiation accelerated diffusion (in contrast to high-temperature diffusion) is characterized by temperature relations leading to reduced effective migration energy.

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USSR

UDC 619:612.017.1-014.482:636.32/.38

KRYLOVA, N. A., Professor, and NIZAMETDINOVA, G. A., Scientific Associate,
Kazan Veterinary Institute

"Protective Reactions in Vaccinated Irradiated Sheep"

Moscow, Veterinariya, No 11, 1971, pp 42-44

Abstract: The dynamics of properdin and nucleic acids in the blood were studied in sheep vaccinated against brucellosis with strain 19. Some of the experiments included irradiation (300 r) on the 30th vaccination day and administration of pyrogenal as adjuvant. Results demonstrated that the activity of the properdin system increased on the second vaccination day by 76%, tripled on the 5th day, and thereafter gradually approached initial indexes. The dynamics of nucleic acids are similar, except that on the 10th immunization day a second peak of nucleotide content was noted. Thus, antigen stimulation produces an activation of nonspecific indices of resistance during the first 5 days after vaccination, before the appearance of antibodies in the blood. Irradiation at the height of the vaccination process decreases significantly properdin system activity in the first 10 days of radiation sickness. Pyrogenal administered with vaccination and before irradiation stimulates the natural resistance and the immunologic reaction of sheep.

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USSR

UDC 661.832.43

INOAMOV, U. A., MANSUROV, P. KH., NIZAMEDINOVA, M. A., Institute of Chemistry, Academy of Sciences Uzbek SSR

"Study of the Kinetics of Ion Exchange in an Ionite-Solution System"

Tashkent, Uzbekskiy khimicheskiy zhurnal, No 3, 1971, pp 23-25

Abstract: The rate of ion exchange between the ionite and the solution which occurs by penetration of the ion from the solution into the ionite grain is determined by diffusion. During exchange, the opposite process takes place: the desorbed ion is diffused from the ionite grain interior into the external solution. This makes ion distribution between the two phases a function of the mobility of the exchanging ions. The objective of this study was the ion exchange rate between solutions of nitric acid, potassium and sodium chlorides using KU-2 cationite in K^+ , Na^+ and H^+ forms. The ion exchange rate was determined from the hydrogen ion exchange for potassium-sodium-cationite ions and from that of potassium and sodium ions for the H cationite. The concentration $1/2$

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INOAMOV, U. A., et al, Uzbekskiy khimicheskiy zhurnal, No 3, 1971, pp 23-25

of the exchanging ions of the contacted solution was determined from the difference in concentration of the initial solution by titration both before and after contact with the ionite. It was found that the ion exchange process in the synthesis of sodium and potassium nitrites is determined by internal diffusion. The ion diffusion coefficients of H^+ , K^+ and Na^+ increase in the order $D_H > D_{Na} > D_K$.

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