

USSR

BELOV, ALEKSANDR SERGEYEVICH, et al., Vzaimozamenyayemye otechestvennyye i zarubezhnyye poluprovodnikovyye pribory, Moscow, Izd. "Energiya," 1971.
104 pp. ill. 32 k.

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ENGINEERING
Acoustical and Ultrasonic

USSR

UDC 534.2

NEFEDOV, L. M.

"Fluctuations in Path Time of a Ray in an Underwater Sound Channel"

Tr. Sakhalin. Kompleks. NII [Works of Sakhalin Combined Scientific Research Institute], No 28, 1972, pp 38-39, (Translated from Referativnyy Zhurnal, Mekhanika, No 11, 1972, Abstract No 11 B289 by N. K. Ivanov-Shits).

Translation: There is a linear dependence between dispersion of signal path time over a ray and distance between source and receiver in a statistically homogeneous medium with no refraction. A model is studied of an underwater sound channel with a random gradient (fluctuating medium). Formulas are produced for the time fluctuations. It is demonstrated that the dispersion of path time of a signal in the medium for the given model is proportional to the square of the distance.

1/1

1/2 019 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--CRYSTAL STRUCTURE OF A COMPLEX OF GERMANIUM DICHLORIDE WITH
1,4-DIOXANE -U-
AUTHOR--KULISHOV, V.I., BOKIY, N.G., STRUCHKOV, YU.F., NEFEDOV, O.M.,
KOLESNIKOV, S.P.
COUNTRY OF INFO--USSR
SOURCE--ZH. STRUKT. KHIM. 1970, 11(1), 71-4
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--CRYSTAL STRUCTURE, GERMANIUM COMPOUND, COMPLEX COMPOUND,
DIOXANE, X RAY STUDY, CHLORIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1987/0316 STEP NO--UR/0192/70/011/001/0071/0074
CIRC ACCESSION NO--AP0103971
UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--A0103971

ABSTRACT/EXTRACT--(U) GP-C- ABSTRACT. THE CRYSTAL STRUCTURE OF THE COMPLEX OF GECL SUB2 WITH 1,4-DIOXANE, GECL SUB2 TIMES C SUB4 H SUB8 O SUB2, IS DETD. BY MEANS OF 3 DIMENSIONAL X RAY DATA. THE CRYSTALS BELONG TO THE MONOCLINIC SYSTEM, A 7.59, B 11.72, C 8.85 ANGSTROMS, BETA EQUALS 96.3DEGREES, ZETA EQUALS 4, AND SPACE GROUP IS CC. THE CRYSTAL IS MADE UP OF ENDLESS CHAINS...-GECL SUB2-OC SUB4 H SUB8 O), BETWEEN WHICH ONLY VAN DER WAALS INTERACTION EXISTS. THE GE ATOM FORMS TWO NORMAL ELECTRON BONDS WITH ATOMS OF CL (GE-CL DISTANCES OF 2.25 AND 2.28 ANGSTROMS, CL-GE-CL-ANGLE EQUALS 94.6DEGREES) AND ITS VACANT THIRD P, ORBITAL INTERACTS WITH TWO ATOMS OF O (GE-O DISTANCES OF 2.41 AND 2.48 ANGSTROMS).

UNCLASSIFIED

USSR

UDC 534.2

APANASENKOV, V. A., NEFEDOV, P. M., SHAROMOV, I. P.

"Study of Fluctuations of Propagation Velocity of Sound in the Region of the Frontal Zone"

Tr. Sakhalin. Kompleks. NII [Works of Sakhalin Combined Scientific Research Institute], No 28, 1972, pp 25-31, (Translated from Referativnyy Zhurnal, Mekhanika, No 11, 1972, Abstract No 11 B290 by N. K. Ivanov-Shits).

Translation: The Sakhalin Institute has measured the propagation times of a pulse signal in the surface layer of the ocean. The time of arrival of the leading edges (rays traveling through the mass of the ocean) and trailing edges (surface rays) of the signal were recorded. The fluctuations in travel time (Δt^2) were calculated for these cases. It was shown that for the leading edge, this quantity is practically independent of distance, while there is a linear relationship for the trailing edge between Δt^2 and distance (up to 100 km). This agrees with the assumption made concerning the path of the rays. An estimate is given for the mean horizontal heterogeneity, equal to 4 km.

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Acc. Nr.

AA0108167

Abstracting Service:
CHEMICAL ABST.

6-70

Ref. Code

UR 0482

N

134782b Briquets for silicocalcium production. Kozhevnikov,
 G. N.; Nefedov, P. Ya.; Vorob'ev, V. P.; Rys, M. A.;
 Getmanchuk, V. M.; Zaiko, V. P.; Belvaev, G. S.; Mikulinski,
 A. S. (Ural Institute of Metallurgy, Academy of Sciences,
 U.S.S.R.) U.S.S.R. 200,653 (Cl. C 21c), 06 Jan 1970, Appl.
 25 Feb 1969; From *Otkrytiya, Izobret., Prom. Obratsy, Tovarnye
 Znaki* 1970, 47(4), 26. Briquets for silicocalcium production
 were made from lime 60-70 and a carboniferous reducing agent
 20-40 wt. % to reduce the losses of Si and the consumption of
 charge materials. MSCI.

EB

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REEL/FRAME

18

19891833

72 029 UNCLASSIFIED PROCESSING DATE--23OCT70
 TITLE--THERMAL HARDENING OF COMPOSITIONS CONTAINING
 POLY(METHYLPHONYLSILOXANE) AND FINELY DISPERSED LAMINATED SILICATES -U-
 AUTHOR--(5) DENISOVA, N.A., KROTIKOV, V.A., KHARITONOV, N.P., FILINA,
 L.V., NEFEDOV, V.D.
 COUNTRY OF INFO--USSR
 SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER., 1970, 6(2), 362-7
 DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--HARDNESS, SILOXANE, LAMINATED PLASTIC, TALC, ASBESTOS,
ALCOHOL, POLYMER CROSSLINKING, THERMAL EFFECT, BUTANOL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
 ROXY REEL/FRAE--1997/0623

STEP NO--UR/0363/70/006/002/0362/0367

IRC ACCESSION NO--AP0119535

UNCLASSIFIED

2/2 029

UNCLASSIFIED

PROCESSING DATE--23OCT70

IRC ACCESSION NO--AP0119535

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ORG. SILICATE COMPS. CONTG. POLY(METHYLPHENYLSILOXANE) (I) WERE HARDENED IN THE PRESENCE OF FINELY DIVIDED MUSCOVITE, TALC, ASBESTOS, AND MONTMORILLONITE (WHICH HAD BEEN TREATED WITH BOILING BUOH, OCTANOL, OR DECANOL AT 180-300DEGREES). DTA INDICATED THAT THE HYDROXYLATED SURFACE OF THE LAMINATED SILICATES REACTED WITH ALCS. ONLY AT LARGER THAN OR EQUAL TO 200-300DEGREES. THUS, THE SIOH GROUPS PARTICIPATED IN CONDENSATIONS OCCURRING DURING THE HARDENING OF I. THERMAL HARDENING OF I WITHOUT LAMINATED SILICATES PROCEEDED WELL ONLY AT LARGER THAN OR EQUALS TO 200-300DEGREES. THE THERMAL HARDENING OF I WAS ACCOMPANIED BY EVOLUTION OF GASEOUS PHME, C SUB6 H SUB6, AND CO SUB2. A CROSSLINKING MECHANISM FOR THE HARDENING OF I WAS PROPOSED. FACILITY: INST. KHIM. SILIKAT. IK. GREBENSHCHIKOVA, LENINGRAD, USSR.

UNCLASSIFIED

1/2 008 UNCLASSIFIED PROCESSING DATE--13NOV70
 TITLE--REACTIONS OF BENZENE WITH IODINE-125 AND ASTATINE-211 FORMED IN
 NOBLE GASES AS A RESULT OF K CAPTURE -U-
 AUTHOR--(J5)-NEFEDOV, V.D., TOROPOVA, M.A., KHALKIN, V.A., NORSEYEV, YU.V.,
 KUZIN, V.I.
 COUNTRY OF INFO--USSR
 SOURCE--RADIOKHIMIYA 1970, 12(1), 194-5
 DATE PUBLISHED-----70
 SUBJECT AREAS--CHEMISTRY, NUCLEAR SCIENCE AND TECHNOLOGY
 TOPIC TAGS--IODINE ISOTOPE, ASTATINE ISOTOPE, BENZENE, XEON ISOTOPE, RADON
 ISOTOPE, CHEMICAL REACTION
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAME--3002/1227 STEP NO--UR/0186/70/012/001/0194/0195
 CIRC ACCESSION NO--AP0128643
 UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--13NOV70

2/2 008

CIRC ACCESSION NO--AP0128643

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

ABSTRACT. THE PRIME125 I AND PRIME211 AT
FORMED AS A RESULT OF K CAPTURE IN PRIME125 XE AND PRIME211 RN, RESP.,
IN CONTACT WITH DEGASSED C SUB6 H SUB6 AT ROOM TEMP. AND IN THE LIGHT,
REACT WITH THE C SUB6 H SUB6; THE ONLY REACTION PRODUCTS ARE PHI AND
ASTATOBENZENE, RESP., BUT IS SIMILAR TO 30PERCENT OF THE AT REMAINS IN
THE AT PRIME(O) FORM AND CANNOT BE EXTD. FROM THE C SUB6 H SUB6 BY N H
SUB2 SO SUB4 OR N H SUB2 SO SUB4 SATD. WITH SO SUB2.

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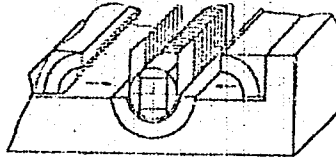
UDC 621.372.823

BAZARNYY, Ye. M., ISAKOV, V. N., NEFEDOV, V. G., LAGEREV, L. I.

"A Device for Making Corrugated Waveguides of Circular Cross Section"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 22, Aug 71, Author's Certificate No 309422, Division H, filed 24 Oct 69, published 9 Jul 71, p 206

Translation: This Author's Certificate introduces a device for making corrugated waveguides of circular cross section. The device contains a frame and a sectional corrugated mandrel. As a distinguishing feature of the patent, the manufacturing process is simplified by using sliders which move in a direction perpendicular to the axis of the waveguide. The inner spherical surface of the sliders is corrugated with respect to the waveguide profile.



1/1

1/2 030 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--X RAY ABSORPTION OF IONIC CRYSTALS -U-
AUTHOR--NEFEDOV, V.I. N
COUNTRY OF INFO--USSR
SOURCE--ZH. STRUKT. KHIM. 1970, 11(2), 299-304
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--IONIC CRYSTAL, X RAY ABSORPTION SPECTRUM, EXCITED STATE, WAVE
FUNCTION, METAL ION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3008/1187 STEP NO--UR/0192/70/011/012/0299/0304
CIRC ACCESSION NO--AP0138202
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--04DEC70

2/2 030

CIRC ACCESSION NO--AP0138202

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE POTENTIALS OF THE EXCITED NA PRIME POSITIVE, K PRIME POSITIVE, AL PRIME³ POSITIVE, AND IN PRIME³ POSITIVE IONS OF NA₂CL, KCL, CAF SUB₂, ALF SUB₃, AND INF SUB₃, RESP., WERE CALCD. THE ORTHOGONALITY OF THE WAVE FUNCTIONS WAS TAKEN INTO ACCOUNT BY PUTTING IN A PSEUDOPOTENTIAL AND THE POTENTIALS OF THE ADJACENT ANIONS WERE AVERAGED. THE CALCD. VALUES AGREED WELL WITH THE RECORDED X RAY ABSORPTION SPECTRA. FACILITY: INST. OBSHCH. NEORG. KHIM. IM. KURNAKOVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 616.008.922.1.04-085.38

UVAROV, B. S., and NEFEDOV, V. N., Chair of Anesthesiology and Reanimation, Military Medical Academy imeni S. M. Kirov, Leningrad

"The Effect of Transfusion Therapy in the Restorative Period Following Acute Oxygen Starvation"

Moscow, Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya, No 3, May/Jun 73, pp 25-29

Abstract: Acute oxygen starvation was induced in 10 dogs by artificial ventilation of the lungs for 2-2.5 hrs with a gas mixture consisting of O₂ 8-9, CO₂ 3, N₂ 81-82%, while complete muscle relaxation was maintained by the administration of dilitin. This was followed by ventilation of the lungs with carbogen (O₂ 97, CO₂ 3%) for 1 hr. All dogs died within 10-15 min during the restorative period immediately following termination of hypoxia. The cause of death was ventricular fibrillation that occurred during a period of progressive hypotension. Fifteen dogs were treated in the same manner, except that they received an intravenous injection of the plasma substitute gelatinol (10-15 ml/kg at the rate of 20 ml/min) in addition to having the lungs ventilated with carbogen. Of these dogs, nine perished: one died 3 hrs, six 8 hrs, and two 20 hrs following hypoxia. Dogs which exhibited marked excitement before 1/2

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UVAROV, B. S. and NEFEDOV, V. N., Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya, No 3, May/Jun '73, pp 25-29

the experiment were more sensitive to hypoxia and died earlier. The injection of gelatinol led to an improvement of circulation, as shown by a reduction of myocardial ischemia, normalization of arterial pressure, and elimination or reduction of hypovolemia and hemoconcentration. The results showed that administration of the plasma substitute is essential for the restoration of normal blood circulation following acute hypoxia.

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USSR

UDC 669.14.018.8

SHUSTOVA, Z. F., SINYAVINA, R. A., YEMEL'YANOVA, V. A., ROZENFEL'D, I. L.,
KUZNETSOV, G. G., RAYMOND, E. D., and NEFEDOV, V. P.

"Inclination toward Stress Corrosion Cracking of 1Kh16M4B (EP-56) High-Strength
Stainless Steel"

Moscow, Zashchita Metallov, Vol 6, No 6, Nov-Dec 70, pp 696-700

Abstract: This article contains the results of a study of the effect of heat treatment conditions on the inclination of welded joints of 1Kh16M4B steel to stress corrosion cracking. This steel is a high-strength steel of the martensitic class heat-treated by quenching from 950-1,050° and annealing at 300 or 500°. The stress-rupture strength of the steel is ≥ 120 kg/mm² in the former case and ≥ 100 kg/mm² in the latter case. It was established earlier that neither the basic metal nor the welded joints of this steel in the fully heat-treated state were inclined to stress corrosion cracking. In the present investigation the inclination toward stress corrosion cracking was evaluated by the time of occurrence of cracks in the welded joint in a saline mist at room temperature.

From the tabulated data it is noted that unannealed samples and samples annealed at 300° exhibit an inclination toward stress corrosion cracking.

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SHUSTOVA, Z. F., et al., Zashchita Metallov, Vol 6, No 6, Nov-Dec 70, pp 696-700

Welded joints annealed at 600° are not inclined to such cracking. Pictures are presented showing the microstructure of a welded joint made of 1Kh16N4B steel and the hardness distribution in the welded joint. Comparison of metallographic and corrosion studies shows that the section near the weld subjected to heating in the temperature range of $475-550^{\circ}$ is distinguished by lower corrosion resistance. It is possible to decrease the tendency toward corrosion cracking of 1Kh16N4B steel joints not only by high temperature annealing (600°) but also by high temperature quenching of the steel before welding. The tendency of the welded joints toward corrosion cracking was found to depend on the structural state of the basic metal before welding. A table is presented showing the effect of slow cooling and induced heating on the stress corrosion cracking of 1Kh16N4B thick sheet steel in a saline mist atmosphere.

It is concluded that welded joints of 1Kh16N4B steel made of material with a strength of 100 kg/mm^2 and annealed at 300 and 600° are not inclined to stress corrosion. Slow cooling of the steel during quenching increases the tendency of the unannealed and low-temperature (300°) annealed welded joints to stress corrosion cracking. Heating 1Kh16N4B steel subjected to high tempera-

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SHUSTOVA, Z. F., et al., Zashchita Metallov, Vol 6, No 6, Nov-Dec 70, pp 696-700

ture annealing in the 475-550° range can cause a tendency toward corrosion under stress. When quenching with slow cooling the inclination toward cracking is exhibited after a short delay (5 minutes) at 475-550°. In the case of air quenching this inclination is exhibited after a longer period (2 hours).

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Hematology

USSR

UDC 591.1

NEFEDOV, V. P., SAMOYLOV, V. A., KUDYAKOVA, N. N., DUBYNIN, V. N., PETUSHKOV, V. N., YASNIKOV, I. L., NIKHAYLOV, V. I., and KHRUSTALOV, V. F., Institute of Physics imeni L. V. Kirenskiy, Siberian Department USSR Academy of Sciences

"Culturing Bone Marrow in Vitro by the Method of Isolated Organ Perfusion"

Moscow, Izvestiya Akademii Nauk SSSR, No 2, Mar/Apr 71, pp 179-191

Abstract: The role played by the bone marrow in maintaining normal erythron series was studied. Blood was perfused through the isolated sternum by means of a pumping and oxygenating system which automatically regulated the perfusion pressure, pO_2 , HbO_2 , pH, and temperature of the perfused blood, partly in response to the feedback information on pO_2 , temperature, and impedance received from the bone marrow. Best results were obtained when the circulating blood was completely exchanged after 12 hours of perfusion. The maximum duration of perfusion was 20 hours. Histological examination of the sternum performed after 6, 11, and 17 hours of perfusion revealed a shift in the leukoerythroblast ratio toward the red series and a normal maturation of erythrocytes and granulocytes.

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USSR

UDC 621.3.049.75

NEFEDOV, V. S., YAKUNIN, V. A., BOLOTOV, G. V., KIREYEV, I. V., UMOV, V. S.,
GRISHCHENKO, G. V., VAYSBURG, A. O.

"A Method of Making Multilayered Printed-Circuit Boards"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki,
No 2, Jan 71, Author's Certificate No 290492, division H, filed 18 Dec 67,
published 22 Dec 70, pp 169-170

Translation: This Author's Certificate introduces a method of making multi-layered printed-circuit boards which is based on stacking the boards followed by interconnection of the current-conducting sections. As a distinguishing feature of the patent, the manufacturing technique is simplified and the resolving capacity of the boards is improved by connecting the outer current-conducting layers to the inner layers, and interconnecting the inner layers, the interlayer connections of the boards being made by current-conducting pins.

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USSR

BENETSKIY, B. A., NEFEDOV, V. V., FRANK, I. M., and SHTRANIKH, I. V.,
Institute of Nuclear Research, Academy of Sciences USSR

"Interaction of 13-17-Mev Neutrons With Lead Isotopes"

Moscow, Yadernaya Fizika, Vol 17, No 1, 1973, pp 21-23

Abstract: For purposes of studying the interaction of neutrons with heavy nuclei in the vicinity of filled shells, the authors investigated the total neutron cross-sections σ_T for $Pb^{206,207,208}$. The results of these experiments were reported at the Twenty-Second All-Union Conference on Nuclear Spectrometry. A resonance peculiarity is observed in the behavior of σ_T for Pb^{207} at a neutron energy of 16.8 Mev (16.7 Mev c.m.s.), which corresponds to excitation of the compound nucleus Pb^{208} equal to $\epsilon = 24.1$ Mev. The position of the resonance, the order of its width and the character of the peculiarity in the variation of the elastic scattering cross-section with energy suggest the excitation of analog fast-neutron capture resonance.

The authors thank V. A. ROZOVSKIY and V. P. MALIKOV, who took part in the work, and F. L. SHAPIRO, G. Ye. BELOVITSKIY, I. Ya. BARIT, V. I. POPOV, and V. A. SERGEYEV for discussing the work and for their interest in it.

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USSR

UDC 621.791.06

NEFEDOV, V. V., and KHOLOPOV, Yu. V., All-Union Scientific Research Institute of Electrowelding Equipment"

"Ultrasonic Foil Seam Welding"

Kiev, Avtomaticheskaya Svarka, No 12, Dec 70, pp 58-59

Abstract: A process developed by the All-Union Scientific Research Institute of Electrowelding Equipment for a continuous transverse system with 1.5 kW of power for ultrasonic seam welding of metal foils is described. Features of the process are its low sensitivity to loading and the broad zone of approach to the welding roller. Experiments on using the process for aluminum welding are described. The energy for the device is supplied by an UZM-1.5 ultrasonic generator whose output parameters are controlled by a T-141 thermal volt-ampere meter. The amplitude of the welding roller oscillations is measured by an UBV-2 vibrometer and its frequency by Lissajou figures using the S1-1 electronic oscillator and the GZ-34 sonic oscillator. A drawing and a description of the welding head are given as well as curves showing the strength of the weld seam as a function of the oscillation frequency of the welding head and the welding rate. Ultrasonic seam welding is seen as a highly productive method for joining aluminum, copper, nickel, and other foils.

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1/2 019 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--SCATTERING OF 14.2-MEV NEUTRONS ON MAGNESIUM -U-
AUTHOR--(021)-NEFEDOV, V.V., MYACHKOVA, S.A.
COUNTRY OF INFO--USSR N
SOURCE--IZV. AKAD. NAUK SSSR, SER. FIZ. 1970, 34(1), 179-81
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS, NUCLEAR SCIENCE AND TECHNOLOGY
TOPIC TAGS--NEUTRON SCATTERING, FAST NEUTRON, NEUTRON ENERGY DISTRIBUTION,
DIFFERENTIAL CROSS SECTION, MAGNESIUM ISOTOPE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1988/0211 STEP NO--UR/0048/70/034/001/0179/0181
CIRC ACCESSION NO--AP0105287
UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0105287

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ENERGY SPECTRUM OF N SCATTERED ON MG AT 60DEGREES WAS MEASURED WITH A STILBENE SCINTILLATOR. T D, EXCITED STATES ARE FOUND IN PRIME24 MG. THE D SIGMA-D OMEGA IS CALCD. FOR 1.4-, 4.2-, 5.3-, AND 6.1-MEV LEVELS, AND COMPARED WITH THE PREVIOUS DATA. FACILITY: FIZ. INST. IM. BEDEVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 621.372.54

NEFEDOV, YE.I., FIAIKOVSKIY, A.T.

"Open Coaxial Cylindrical Resonator"

Kiev, Izvestiya Vuzov SSSR--Radioelektronika, Vol XIV, No 10, 1971, pp 1115-1122

Abstract: It is shown that a high-Q oscillation can exist in a segment of a coaxial waveguide with an internal conductor unrestricted in length. The characteristics of the open resonator are found and the area of use of the studies of the system are discussed. In the work only those oscillations are studied in which dependence on the azimuthal angle φ is absent. For a generalization in the case of $\partial/\partial\varphi = 0$, it is necessary with the cylindrical functions participating in the derivation to substitute the index 0 at $n = 1, 2, \dots$ end upon obtaining the final formulas the Debye asymptotic formulas are used. The second polarization (of H-wave) is studied similarly. During this the dispersion equation for transverse oscillations must be transformed in a corresponding wave and the function β_E must be substituted for the function β_H . Received by editors 14 Sept 70; after revision 21 Jan 71. 12 ref. 3 fig. 1 tab.

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USSR

UDC 621.385.6

VILKOVA, L. P., GAYDUK, V. I., NEFEDOV, YE. I.

"Interaction of A Nonaxisymmetric Tubular Spiral Flux with Undelayed Waves in a Cylindrical Wave Guide"

Kiev, Izvestiya vysshikh uchebnykh zavedeniy--Radioelektronika, Vol XIV, No 9, 1971, pp 1009-1021

Abstract: A systematic analysis of the effects connected with the effect of the space charge in various superhigh-frequency devices using the interaction of curvilinear electron fluxes with fast electromagnetic waves. The dispersion equation is found in the linear approximations for a tubular spiral electron flux formed by a longitudinal magnetic field in a cylindrical wave guide where the flux axis cannot coincide with the waveguide axis. As an illustration of the developed theory, a more detailed analysis is performed for the case of a nonaxisymmetric flux (for interaction with waves of the H_{ok} type) and the case of an axisymmetric flux (for interaction with longitudinal E or H waves). The space charge field is considered in the quasistatic approximation.

The discussed linear theory is based on strict expressions for the

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VILKOVA, L. P., et al., Izvestiya vysshikh uchebnykh zavedeniy-Radioelektronika, Vol XIV, No 9, 1971, pp 1009-1021

charge and current densities in curvilinear fluxes [Gayduk, Radiotekhnika i elektronika, Vol 11, No 2, 219, 1966] and on the excitation equations [Gayduk, Izv. vuzov SSSR -- Radioelektronika, Vol 14, No 1, 17, 1971]. The theoretical characteristics permit expressions to be obtained for the coupling resistance in closed form -- in the form of quadratures or ordinary functions. Thus, it is not necessary to expand the fields excited in the flux in infinite Fourier series as is usually done when considering interaction with one E or H wave. The derived dispersion equation for the propagation constant k reduces to algebraic equations for interaction of the displaced flux with the H_{0k} wave and the axisymmetric flux with arbitrary E or H waves. In the general case it is transcendental but also can be approximately reduced to algebraic. Consideration of the quasistatic Coulomb fields indicates the presence of varied effects caused by the space charge in the spiral tubular flux. The effects connected with these waves are different on variation of the position of the centers of the electron orbits and on variation of the azimuthal number n . Thus, when $n \neq 0$, the relativism can be reduced to an increase in effectiveness of the interaction in certain cases. For a displaced flux with a small radius of the electron orbits, the effect of the Coulomb forces is quite different.

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Electromagnetic Wave Propagation

USSR

UDC 538.576.3

NEFEDOV, YE. I., FIALKOVSKIY, A.T.

"Diffraction Of Plane Electromagnetic Wave At An Anisotropic Half-Plane In Free Space And In A Plane Waveguide"

Radiotekhnika i elektronika, Vol XVII, No 6, June 1972, pp 1141-1152

Abstract: Two problems are considered of the diffraction of a plane electromagnetic wave at a half-plane with the external anisotropic boundary conditions specified for it: 1) The half-plane is located in infinite space; and 2) The half-plane is in a plane waveguide. The results are obtained in the form of two pairs of integral equations for the first case, and for the second -- in the form of an infinite system of algebraic equations. An example is presented of the solution of equations for one special case. The problems considered have a practical value for problems of diffraction at ferrite and plasma layers and also in a whole series of other problems of antenna-waveguide techniques, measuring devices, etc. The authors thank P.Ya. Ufimtsev for discussion of the work and for his comments. 4 fig. 14 ref. Received by editors, 7 May 1971.

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(H)

UDC 616.393-092.9-008.7-074.543.522
GAS CHROMATOGRAPHIC INVESTIGATIONS OF VOLATILE PRODUCTS OF HUMAN METABOLISM ACCOMPANYING REDUCED FOOD INTAKE AND STARVATION

[Article by V. P. Savina, L. N. Stepenov, N. I. Sokolov, and M. G. [unclear] Moscow, Rossiyskaya Zhurnal Meditsiny, Kuznetsov, Vol 6, No 5, September-October 1972, pp 67-69, submitted for publication 21 June 1971.]

Abstract: This paper gives the results of comparative studies of volatile metabolites eliminated together with the urine, saliva and exhaled air by human subjects during prolonged starvation. It also presents data obtained by examining the gas-vapor phase of urine from human subjects kept on calorie-reduced diets. Changes in the content of ketones and alcohols were similar in all the three analyzed media. Changes of this type may develop in patients suffering from certain metabolic disorders. Accordingly, they can be used as an additional test during functional diagnosis of some diseases.

Study of the gaseous metabolites released by man during his vital functions and changes in the qualitative and quantitative composition of the excretions included in this complex under the influence of diets with a reduced caloric content and during starvation are of definite interest for clarifying the metabolism process, diagnosis of different diseases and clarifying the influence of these metabolites on the processes of forming the habituated medium in pressurized, enclosed chambers.

It has been demonstrated in a number of studies that with impairment of fat or carbohydrate metabolism, particularly during diabetes, pregnancy, starvation, or an irregular food intake, the number of "acetone bodies" (beta-oxylbutyric acid, acetone, acetoacetic acid) in the urine, blood and exhaled air changes considerably (V. V. Kustov and L. A. Timonov) B. D. [unclear] man, Levey, et al.).

It has recently established that in addition to ketones the human body eliminates a number of other volatile compounds. A detailed investigation of the composition of exhaled air with the use of highly sensitive

JRS 57577
15 JAN 72

MR FADON, Yu. G.

172 039 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--WORKED OUT ON THE GROUND AND CHECKED OUT IN SPACE +U-
AUTHOR--NEFEDOV, YU.G. N
COUNTRY OF INFO--USSR
SOURCE--VYSHKA, JUNE 18, 1970, P 4, COLS 1-3
DATE PUBLISHED--18JUN70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--SPACE MEDICINE, SPACECRAFT, CARDIOVASCULAR SYSTEM, VISUAL PERCEPTION, VESTIBULAR APPARATUS/(U)SOYUZ 9 MANNED SPACECRAFT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1989/0910 STEP NO--UR/9059/70/000/000/0004/0004
CIRC ACCESSION NO--AN0107439
UNCLASSIFIED

2/2 039

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AN0107439

ABSTRACT/EXTRACT--(U) GP-G- ABSTRACT. ACCORDING TO NEFEDOV, AN EXPERT IN SPACE MEDICINE, THE SCOPE OF MEDICAL RESEARCH CARRIED OUT BY THE "SOYUZ-9" HAS BEEN APPRECIABLY EXPANDED AS COMPARED TO PREVIOUS FLIGHTS. IN ADDITION TO STANDARD MEANS OF MONITORING THE HEALTH OF ASTRONAUTS VARIOUS INSTRUMENTS WERE INSTALLED ABOARD THE SHIP WHICH PERMITTED QUALITATIVE EVALUATION OF THE FUNCTIONS OF THE CARDIAC VASCULAR SYSTEM, VISUAL APPARATUS, AND VESTIBULAR APPARATUS OF ASTRONAUTS.

UNCLASSIFIED

USSR

UDC 541.49

KHATAMI, A. I., GINZBURG, A. G., NEFEDOVA, M. N., SETKINA, V. N., and
KURSANOV, D. N.

"Cyclopentadienylmanganesedicarbonyltriphenylphosphines Substituted in the
Cyclopentadienyl Ring"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), No 12, Dec 72, pp 2665-2667

Abstract: Carbonyl ligands in complex transition metal compounds can be easily replaced by PPh₃ group upon irradiation with UV light. This method was used to synthesize derivatives of CpMn(CO)₂PPh₃, where Cp = C₅H₅, containing Et, PhCH₂, MeS, Cl, Br, I, and COOMe substituents in the Cp ring, from the respective derivatives of CpMn(CO)₃. The new products are yellow crystalline compounds with high melting points. In the solid state they are stable in air, dissolve easily in CCl₄, CHCl₃, and CS₂. The structure of these products was confirmed by PMR and IR spectroscopical analysis.

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USSR

UDC 612.8

KRYLOV, YU. V., and NEFEDOVA, M. V.

"Peculiarities of Auditory Adaptation in Man Under the Complex Action of Noises of Medium Intensity Under Conditions of Relative Isolation and Hypokinesia"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Biologicheskaya, No 4, 1971, pp 629-630

abstract: The threshold of audibility at frequencies of 500, 1,000, and 1,500 cycles per second was determined on a subject placed in an isolated compartment, with a background of continuous noise of constant spectrum and intensity. A tone of 1,000 cycles per second and 95 decibel intensity was then transmitted over a telephone for three minutes. The audibility thresholds were measured immediately upon shutting off at a frequency of 500 cycles per second. Fifteen minutes later the sound load was repeated, the threshold was measured at a frequency of 1,500 cycles per second, and again after 15-20 minutes, with the same sound load, at 1,000 cycles per second. Under conditions of relative isolation and adynamia with many hours of continuous medium-intensity noise a diminishing adaptational effect was observed. Evidently these conditions lead not only to restructuring of cortical processes but also affect different analyzer systems, in this case the auditory.

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1/2 020 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--INITIAL TEMPERATURE DEPENDENCE OF THE THICKNESS OF AN UNBURNED
POWDER LAYER ON A METAL PLATE -U-
AUTHOR-(04)-NEFEDOVA, O.I., NOVIKOV, S.S., POKHIL, P.F., RYAZANTSEV, YU.S.
COUNTRY OF INFO--USSR N
SOURCE--PMTF, ZHURNAL PRIKLADNOI MEKHANIKI I TEKHICHESKOI FIZIKI,
MAR.-APR. 1970, P. 95-99
DATE PUBLISHED----- 70

SUBJECT AREAS--PROPULSION AND FUELS

TOPIC TAGS--COMBUSTION R AND D, POWDER COMBUSTION, MATHEMATIC EXPRESSION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--3005/1966

STEP NO--UR/0207/70/000/000/0085/0089

CIRC ACCESSION NO--AP0133810

UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0133810

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DISCUSSION OF CERTAIN FINDINGS REGARDING THE DEPENDENCE OF THE THICKNESS OF AN UNBURNED POWDER LAYER ON THE INITIAL TEMPERATURE. THE POSSIBILITY OF AN APPROXIMATE CALCULATION OF THE UNSTEADY PROCESSES ACCOMPANYING THE APPROACH OF A COMBUSTION WAVE TO THE PLANE OF CONTACT BETWEEN THE POWDER AND THE METAL IS CONSIDERED. SOME THEORETICAL AND EXPERIMENTAL FINDINGS ARE COMPARED.

UNCLASSIFIED

Automatic Control Instruments & Systems

USSR

KOLOSOV, S.P.; KALMYKOV, I.V.; NEFEDOVA, V.I.

"Elements of Automation" (book)

Moscow, Mashinostroyeniye Publishing House, 1970, 392 pp

Annotation: The book contains basic information on the structure, theory, and design of the elements (means of automation) comprising automatic control systems -- mechanical, electromechanical, ferromagnetic, electronic, semiconductor, etc.

Physically different elements of automation are considered from a point of view which reveals the common character of the structure of circuits and methods of design. The third edition is distinguished from the preceding one by the large variety of technical means of automation considered and the design of such elements as pneumatic and jet, thyristor, electronic-optical equipment, etc.

1/2

USSR

KOLOSOV, S.P., et al., "Elements of Automation" (book), Moscow, Mashinostro-
yeniye Publishing House, 1970, 392 pp

The textbook is designed for students of higher technical schools
specializing in automation, but it can also be of interest to engineering
and technical personnel concerned with problems of the design of means of
automation.

There are 213 illustrations and 13 bibliographic references.

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- 6 -

USSR

UDC: None

N
NEFED'YEV, A. P. and URVALOV, V. A.

"Transmitting and Receiving Television Tubes"

Moscow, Tekhnika Kino i Televideniya, No. 6, 1970, pp 43-49

Abstract: The most important achievement in television receiver engineering is the increase in guaranteed life of the kinescope to 3000 hours, with an actual life of as much as 8000-10,000 hours. This is the result of the perfection of individual assembly construction, the use of new high-quality materials, and the high level of individual technical operations and production as a whole. The domestic industry is now producing modern kinescopes of the 47LK2B and 59LK2B types, which are given the government "mark of quality." The kinescope with the largest screen, the 65LK1B, is at least as good as the best foreign product. In the near future, rectangular kinescopes with screen diagonals of 50 and 61 cm can be expected, but flat kinescopes and vacuumless electroluminescent screens are more problematical. The wide domestic use of color television requires a fourfold expansion of transmitter tube output as well as a substantial improvement in their parameters and greater uniformity. Other problems in transmitter tube development are increasing resolving power, higher sensitivity, broadening

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USSR

NEFED'YEV, A. P., et al, Tekhnika Kino i Televideniya, No. 6, 1970, pp 43-49

of the spectral range, reduction in dimensions, and higher economy. In 1969, Soviet industry produced 50 types of camera tubes: superorthicons, vidicons, and dissectors; various type numbers of black-and-white and color camera tubes are given. The article is illustrated with fairly good photographs showing both kine-scopes and camera tubes.

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USSR

UDC 681.326.3:621.382.233.072.1

NEFED'YEV, Ya. N., and GOL'DBERG, L. L.

"Pulse Distributer"

USSR Author's Certificate No 277847, filed 22 May 69, published 3 Nov 70
(from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 6,
Jun 71, Abstract No 6B234P)

Translation: This invention belongs to the field of automation and computer engineering. The well-known pulse distributors made of thyristors are executed, as a rule, in such a way that when a load is connected, the preceding loads are switched off. A significant volume in the distributor circuits is occupied by the intercascade coupling circuits, complicating the distributors and frequently critical to the parameters of the elements entering into the circuit. The purpose of the given invention is simplification of the device with simultaneous improvement of its operating reliability. In the proposed device this purpose is achieved by connecting the commuted loads to the feed source via a circuit of series-connected thyristors each of which, in addition to the first, is shunted by a capacitor. There is 1 illustration.

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UDC 621.376.22

USSR

NEFEDIYEV, Yu. A., KHVILIVITSKIY, T. G., TSEKHANOVICH, G. S.

"A High-Frequency Signal Amplifier With Combined Anode Modulation"

Moscow, Otkrytiya, Izobreneniya, Promyshlennyye Obraztzy, Tovarnyye Znaki,
No 4, Feb 72, Author's Certificate No 326695, Division H, filed 29 Jul 68,
published 19 Jan 72, pp 206-207

Translation: This Author's Certificate introduces a high-frequency signal amplifier with combined anode modulation based on a vacuum-tube triode in a common-grid circuit. The plate circuit contains a parallel LC tank and a plate supply, while the cathode circuit contains an automatic biasing circuit with line-balancing resistor, and a source of high-frequency modulating voltage. As a distinguishing feature of the patent, the possibility of parasitic self-excitation of the amplifier through the grid circuit is prevented by adding a resistor in the automatic biasing circuit connected between the line-balancing potential and the common terminal of the amplifier.

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- 7 -

UDC 615.917

NIKOLOV, S. KH., LYUBETSKIY, KH. Z., BARSEL'YANTS, G. B., ZABELIN, A. A., NEFELOV, P. V., ONOPCHENKO, N. V., CHURSINA, N. A., YERENIN, V. M., TREKUR, R. A.

"Toxicologic Estimate of the New Organophosphorus Pesticide Bitex"

V sb. Vliyanie ul'trazvuka, yadokhimik, i drugikh faktorov sredy na organizm cheloveka i pishch. produkty (Effect of Ultrasound, Poisons and other Factors of the Environment on the Organism of Man and Food Products -- collection of works), Krasnodar, 1971, pp 85-91 (from RCh-Farmakologiya. Khimioterapevticheskiye sredstva. Toksikologiya, No 2, Feb 72, Abstract No 2.54.773)

Translation: Rats were injected intraventricularly with bitex (an organophosphorus pesticide; I: contains 50% active principle) dissolved in water (1 ml) in doses of 100, 200, 300, 400, 500, 600, 700 and 800 mg/kg, and they were observed for 3 weeks. With a dose of 100-200 mg/kg, the activity of the cholinesterase dropped by 2-3 times during the first 1-2 days, and it began to recover after 7-11 days. The dose of 100 mg/kg was taken as the minimum toxic dose. For doses of 300 mg/kg and higher, sluggishness, increased frequency of urination, diarrhea, contraction of the pupils, tears, paresis of the extremities, a drop in body temperature of 1-5°, an increase in the sedimentation rate, leucocytosis, neutrophilia and a reduction in the cholinesterase activity by 3-15 times were noted. The DL_{100} of I is 800 mg/kg, the DL_{50} is 384.6

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KOLOV, S. KH., et al., Vliyaniye ul'trazvuka, yadokhinik. i drugikh faktorov redy na organizm cheloveka i pishch. produkty, Krasnodar, 1971, pp 85-91

(491.8-277.4 mg/kg). For rabbits (I was injected in doses of 25-200 mg/kg) the DL_{50} was calculated on the level of 52 (11.67-47.3) mg/kg. The pathomorphological changes in rabbits were characterized by circulatory disorders and distrophy. BSSR. Krasnodar, Medical Institute.

USSR

UDC 669.295.053.24

NEFZIGER, R.

"Slags from Electroslag Titanium Making and the Melt Conditions"

V sb. Elektroshlak. pereplav. (Electroslag Remelting -- collection of works),
Moscow, Metallurgiya Press, 1971, pp 202-219 (from RZh--Metallurgiya, No 4, Apr
72, Abstract No 4G213)

Translation: Results are presented from melting small Ti ingots. The slags
most suitable for electroslag remelting of Ti are described. A study was made
of the melt parameters defining the degree of refining the Ti during electro-
slag remelting. Nine illustrations, 8 tables, and a 12-entry bibliography.

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- 19 -

Vacuum Tubes

USSR

UDC: 621.385.6

LEPILOV, V. A. and NEGAROV, V. A.

"Possibility of Designing a Convection Current Oscillation Suppressor in M-Type Beam Instruments with a Negatively Charged Delay System"

Kiev, Izvestiya VUZ--Radioelektronika, Vol 14, No 1, 1971, pp 27-33

Abstract: This paper formulates mathematically the behavior and characteristics of a system proposed in an earlier paper (Dunsmuir, R. and Twistleton, J., Improvements Relating to Magnetrons, Eng. Pat. 875.263, Appl. Date Aug. 15, 1958, Complete Specification Published, Aug. 16, 1961) for eliminating the convection current oscillation limiting the amplification factor of magnetron traveling wave and backward wave tubes. A schematic of the system and a short description of it are given. The authors of the present paper assert that a quantitative analysis of the efficiency of the convection current suppression this system offers has not previously appeared. They derive design formulas for the system and analyze its operation for backward and forward waves. The conditions for most effective suppression of the convection current oscillations are found. It is also shown that combinations of the two older types and the new type of tube are effective.

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USSR

UDC: 621.385.632.2.(633.24)

LAGRANSKIY, L. M., LEPILOV, V. A., NEGANOV, V. A.

"An Electronic SHF Device With Crossed Fields ('Phasmatron')"

Moscow, Otkrytiya, Izobreneniya, Promyshlennyye Obratzsy, Tovarnyye Znaki, No 24, 1970, Soviet Patent No 277115, Class 21, filed 2 Feb 68, p 63

Abstract: This Author's Certificate introduces: 1. An electronic SHF device with crossed fields which contains an electron gun and a space where the electron stream interacts with the field of a delayed electromagnetic wave. This interaction space is formed by the opposing surfaces of the decelerating system and the negative electrode. The surface of the negative electrode which faces the interaction space has grooves or projections arranged parallel to the magnetic lines of force. As a distinguishing feature of the patent, efficiency is improved and the length of the device is reduced by installing a phasing electrode between the end of the electron gun and the region of intense collection of electrons by the decelerating system in the area where the grooves or projections are located. This electrode is made in the form of a conducting plate parallel to the surface of the decelerating system. The geometric dimensions of the regions of the interaction space between the phasing electrode and the decelerating system and the negative electrode respectively are selected from conditions of a change

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LAGRANSKIY, L. M. et al., Soviet Patent No 277115

by 180° in the phase of improperly phased electrons passing between the opposing surfaces of the phasing and negative electrodes with respect to the phase of the properly phased electrons. 2. A modification of this device distinguished by the fact that its dynamic working range is extended by installing several phasing electrodes in the interaction space in series with the gap; 3. A modification of the SHF device under No 1 distinguished by the fact that an electrically insulated correcting electrode is installed between the phasing and negative electrodes and in parallel with them.

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.. 127 ..

USSR

UDC 621.318.134.029.64:621.385.632.2

AYERBUKH, M.E., LEPILOV, V.A., NEGANOV, V.A.

"Use Of Ferrite Rectifier In Decimeter Band M-Type TWT With Spiral Delay System"

Elektron. tekhnika. Nauchno-tekhn. sb. Elektron. SVCh (Electronic Technology. Scientific-Technical Collection. Microwave Electronics), 1970, Issue No 10, pp 140-143 (from RZh--Elektronika i yeye primeneniye, No 2, February 1971, Abstract No 2A182)

Translation: The paper presents the experimental dependences of the properties of a spiral delay line of rectangular cross section with a ferrite plate, on the temperature, the composition of the ferrite, and the magnitudes of the magnetizing fields. 3 ref. Summary.

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USSR

UDC 621.385.632.2

LEPILOV, V.A., NEGANOV, V.A.

"On The Effect Of Amplification In An M-Type TWT With A Negatively Charged Decelerating System"

Elektron. tekhnika. Nauchno-tekhn. sb. Elektron. SVCh (Electronics Technology. Scientific-Technical Collection. Microwave Electronics), 1970, No 3, pp 61-64 (from RZh--Elektronika i yeye primeneniye, No 8, August 1970, Abstract No 8A145)

Translation: An analysis of the dispersion equation for a Type M TWT with a negatively charged decelerating system shows that amplification of the input signal is possible in this device. It is established that with an increase of the length of the device the amplitude of the high-frequency field is decreased to zero at first and subsequently either increases exponentially with larger values of the space charge parameter or periodically changes with small values of the space charge parameter. Summary.

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UDC 591.046:591.436:599.323.4

USSR

KHAMIDOV, D. Kh., MIRAKHMEDOV, A. K., and NEGANOVA, N. L., Institute of Biochemistry, Academy of Sciences Uzbek SSR

"Results of Histochemical Study of Glycogen and the Fine Structure of Irradiated Rat Liver Cells"

Tashkent, Uzbekskiy Biologicheskii Zhurnal, No 3, 1970, pp 25-28

Abstract: The fine structure of irradiated rat liver cells was investigated. The rats were irradiated in two groups: one group with a lethal dose and the other group with sublethal doses of Co^{60} gamma-rays. Experiments were conducted on white randombred male rats weighing 150-200 g, with doses of 400 and 1200 r (dose rate 18-20 r/sec). Five days after irradiation with a dose of 400 r, marked accumulation of a large number of large glycogen granules was observed in hepatocytes, where they were arranged compactly in some cells, and loosely in others. At the peak of radiation sickness (10 days after irradiation), the number of glycogen granules dropped sharply. Fifteen days after irradiation, there was a tendency to normalization in some lobes, and a pronounced glycogen content compared with the normal state and especially with the peak period of radiation sickness. Thus, variation in the content of glycogen granules in hepatocytes

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USSR

KHAMIDOV, D. Kh., et al, Uzbekskiy Biologicheskii Zhurnal, No 3, 1970, pp 25-28

upon irradiation with lethal and sublethal doses occurs in parallel with the response of cellular organelles to irradiation. These shifts, detected histochemically, were confirmed by data obtained with the electron microscope.

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Epidemiology

USSR

UDC 616.988.5-053.2-036.15-036.22

SIGAYEVA, L. A., NEGINA, A. I., and GRACHEVA, K. G., First Moscow Medical Institute imeni Sechenov and Sanitary Epidemiological Station of the Fourth Main Administration

"The Role of Adenoviruses in the Development of Group Diseases Among Children"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 11, 1971, pp 140-144

Abstract: Investigations were performed during two outbreaks of upper respiratory diseases: among nursery children aged 1-3 in Nov-Dec 1966, and among hospitalized children aged 3-11 in Feb-Mar 1968. In each group, the outbreak was precipitated by a child with an acute respiratory infection and lasted 21-23 days, involving 14 out of the 19 nursery children and 15 out of the 16 hospitalized children. The disease had an acute onset with fever, inflammation of nasal and pharyngeal mucosa, and sometimes vomiting and diarrhea; the course was mild and recovery complete. Adenovirus type 5 was identified in nose and throat smears of all sick children but was no longer found after recovery. Titers of complement-fixing antibodies were significantly elevated (1:40-1:160) even on the 30th day after the onset of the disease. Adult personnel taking care of the children remained well, and serological and virological tests yielded negative results in all cases.

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USSR UDC 616.927-085.371:576.851.49]-039.71-032:611.3]-036.8

5

MESHALOVA, A. N., KURLOVA, V. I., TELESHEVSKAYA, E. A., BABINA, V. P.,
GOKHSHEYN, S. E., LIROVA, B. M., LAVROVSKAYA, V. M., TAMARIN, Yu. A., and
REGINA, Yu. I., Moscow Institute of Vaccines and Sera imeni Mechnikov,
Gor'kiy Institute of Epidemiology and Microbiology, and Moscow Municipal and
Kuntsevo Sanitary Epidemiological Stations

"Peroral Immunization of Humans with Typhoid Vaccines in a Strictly Controlled
Experiment"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 10, 1972,
pp 71-77

Abstract: Following a successful trial of enteral immunization of children with
heated typhoid vaccine, larger doses of the same vaccine - heated and chemical -
contained in sugar-coated tablets were given in a double-blind test to 1225
children age 3 to 15 and 274 adults in 2 equal doses 15 to 30 days apart. The
reactions to the vaccine were mild and they generally occurred after ingestion
of the first tablet: in 13.60% and 9.31% those who took the heated and chemical
vaccines, respectively (in 5.83% of those who received placebo). Both vaccines
produced high antibody titers against the O, Vi, and H antigens in the sera of
the children as well as the adults. The authors recommend a major epidemiologi-
cal trial of the vaccines in regions with a high incidence of typhoid.
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USSR

UDC 576.851.49.094.85:615.371:851.497.012.6

BOGDANOVA, V. V., STANISLAVSKIY, YE. S., MATER, G. A., and HEGINA, YU. P.,
Gor'kiy Institute of Epidemiology and Microbiology and Moscow Institute of
Vaccines and Sera imeni Mechnikov

"Protective Properties of Cell Fractions and Mixtures of Isolated from the
Vi-Positive Strain of Typhoid Bacillus"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 12, 1971,
pp 87-89

Abstract: Various cell fractions isolated from S. typhi Ty₂ 4446 (capsular
substance, cell walls, culture fluid, capsular substance + cell walls, culture
fluid + cell walls) were tested as vaccines in mice. Two weeks after the
mice were vaccinated, they were infected with a virulent strain of S.
typhi Ty₂ 4446 (LD₅₀ 13 million cells). The mixture of cell walls and
culture fluid proved to be the most efficacious in protecting mice infected
with 5 LD₅₀ of typhoid bacillus. Both fractions possess little toxicity
for mice and contain protective Vi and O antigens (whose macromolecular
organization is close to the crude antigens in the original microbial cell).
Unlike corpuscular vaccine, they do not contain intracellular components
that may have immunodepressive activity or stimulate the synthesis of auto-
antibodies. 1/1

USSR

UDC: 621.317.757

GERSHENZON, Ye. M., NEGIREV, A. A., PUTILOV, P. A., TUMANOV, B. N.

"An Autodyne Radio Spectrometer"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obratzysy, Tovarnyye Znaki, No 26, 1970, Soviet Patent No 278797, Class 21, filed 2 Dec 68, p 47

Abstract: This Author's Certificate introduces an autodyne radio spectrometer for the submillimeter wavelength range which contains a source of SHF oscillations, with a phase shifter and attenuator connected to this source. As a distinguishing feature of the patent, the measurement precision is improved by using a backward wave tube with dc-isolated decelerating system and collector as the SHF source.

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USSR

UDC 621.387

BELYAYEV, V.P., KUDYAN, N.F., ANIKINA, N.M., NEGIREVA, L.V.

"Recovery Time Of Discharger With Discharge Gap Shifted To The Wall Of A Waveguide"

Elektron.tekhnika. Nauch.-tekhn.sb. Elektron. SVCh (Electronics Technology. Scientific-Technical Collection. Microwave Electronics), 1972, Issue 4, pp 108-109 (from RZh:Elektronika i yeye primeneniye, No 9, Sept 1972, Abstract No 9A153)

Translation: It is established that with the shift of the discharge gap of a discharger to the wide wall of a waveguide, the recovery time is decreased in the case where the discharger is filled with electrically negative gas and increased when it is filled with electrically positive gas. Summary.

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1/2 020 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--MECHANISM OF THE SIMULTANEOUS REACTION OF BUTYL ISOCYANATE AND
METHANOL WITH AERCSIL -U-
AUTHOR--(05)--KULIK, N.V., NEGIYEVICH, L.A., KURGAN, N.P., BELITSKAYA, G.F.,
KACHAN, A.A.
COUNTRY OF INFO--USSR
SOURCE--TEOR. EKSP. KHIM. 1970, 6(1), 55-60
DATE PUBLISHED--70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ORGANIC ISOCYANATE, METHANOL, CHEMICAL REACTION RATE,
ADSORPTION, SILICA
CENTRAL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1171 STEP NO--UR/0379/70/006/001/0055/0060
CIRC ACCESSION NO--AP0128593
UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0128593

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. REACTION RATES WERE MEASURED OF URETHANE (I) FORMATION FROM BUNCO (II) AND MEOH IN THE GAS PHASE ON AERCSIL. THE HIGHEST RATE WAS ACHIEVED BY INTRODUCING A MIXT. OF MEOH AND II ONTO THE CATALYST, DUE TO COMPLEX FORMATION. A LOWER RATE WAS OBTAINED ON INTRODUCING II FIRST. INTRODUCTION OF MEOH FIRST LED TO THE LOWEST RATE DUE TO BLOCKING OF SILANOL GROUPS OF THE CATALYST BY MEOH ADSORPTION. FACILITY: INST. KHIM. VYSOKOMOL. SOEDIN., KIEV, U.S.S.R.

UNCLASSIFIED

Miscellaneous

USSR

UDC 681.335.4

NEGNEVITSKIY, I. B.

"Operational Magnetic Amplifiers"

Operatsionnyye magnitnyye usiliteli (cf. English above), "Energiya," 1971, 328 pp, 1 r., 11 k (from RZh-Avtomatika, telemekhanika i vychislitel'naya tekhnika, No 11, Nov 72, Abstract No 11B434 RETs)

Translation: The fundamentals of the theory of operational magnetic amplifiers are presented. These are designed chiefly along classical lines: a base magnetic amplifier with a sufficiently high amplification encompassing high negative resistance and resolving elements at the input and in the negative resistance circuit. The static and dynamic characteristics of the base magnetic amplifier are analyzed and the case of its operation in the recommended relay mode is discussed. Adding and integrating magnetic amplifiers are described. Problems of systematic static and random errors under various methods of adding and integrating are discussed in addition to a technique for reducing errors (introduction of a positive negative resistance into the base magnetic amplifier, optimal matching, etc.). Original magnetic integrators with booster amplification and auxiliary amplifiers for amplifying the derivative of the output voltage are proposed. The simplest type of differentiating
1/2

USSR

NEGNEVITSKIY, I. B., Operatsionnyye magnitnyye usiliteli, "Energiya," 1971,
328 pp, 1 r., 11 k

magnetic amplifier is discussed and expressions are derived for the transfer functions, frequency characteristics, and errors; a simple method is proposed for regulating the degree of damping: shunting the winding of the base magnetic amplifier with a resistor. Multiplying devices and functional converters are studied. Preference is given to time-pulse multiplying devices containing magnetic switches and logarithmic magnetic amplifiers. The parameters and characteristics of all these operational magnetic amplifiers are illustrated in specific examples showing the potentialities and shortcomings of operational magnetic amplifiers; specific recommendations are given for their rational application. Discussed separately is a dc-ac magnetic-transistor converter which is of great interest due to the potentialities of its application in frequency models combining the accuracy of digital computers and the compactness of analog computers. It is pointed out that the systematized data on operational magnetic amplifiers makes it possible to extend their development and also their introduction into the optimal and extremal control systems industry. T. V.

2/2

- 78 -

USSR

UDC: 621.378.329

2

BOGDANKEVICH, O. V., BORISOV, N. A., LAVRUSHIN, B. M., LEBEDEV,
V. V., NEGODOV, A. G., STREL'CHENKO, S. S.

"Waveguide Structure of the Cavity in a Semiconductor Laser With
Electron-Beam Pumping"

Moscow, Kvantovaya Elektronika, Sbornik Statey, No 2(8), 1972,
pp 61-68

Abstract: A method is described for creating a cavity with wave-
guide structure in a semiconductor laser with electron-beam pump-
ing. It is shown that waveguide modes are stimulated in such a
cavity, with the result that the emission threshold is indepen-
dent of the energy of the electrons, and the radiation pattern
has a structure which is more complex than in a uniform cavity.
This type of cavity reduces the emission threshold to 0.3 A/cm^2
(in the 15-20 keV electron energy region), which is 1-2 orders
of magnitude lower than in a cavity of homogeneous structure.
Five illustrations, four tables, bibliography of nine titles.

1/1

- 42 -

UDC 621.375.82

USSR

BOGDANKEVICH, O. V., BORISOV, N. A., LAVRUSHIN, B. M., LEBEDEV, V. V.,
NEGODOV, A. G., STREL'CHENKO, S. S.

"Waveguide Structure of a Resonator in a Semiconductor Laser With Electron
Beam Pumping"

V sb. Kvant. elektronika (Quantum Electronics -- Collection of Works),
No. 2, Moscow, "Sov. radio", 1972, pp 61-68 (from RZh-Fizika, No 10,
Oct 72, Abstract No 10D999)

Translation: A method is described for developing a waveguide structure of
a resonator in a semiconductor laser with electron beam pumping. It is
shown that modes of a waveguide type are excited in such a resonator, as a
result of which the oscillation threshold is independent of the electron
energy and the directional diagram has a more complex structure than in a
homogeneous resonator. Use of the resonator makes possible a reduction
in the oscillation threshold to 0.3 a/cm^2 (in the electron energy range of
15-20 kev), which is less than in a laser with a homogeneous resonator by a
factor of 1-2. 9 ref. Authors abstract.

1/1

Acc. No: **AP0050815**

Abstracting Service:
CHEMICAL ABST. **5-70**

Ref. Code:
UR 0502

97094f Indexes of lipid metabolism in the liver in experimental thyroidin toxicosis (pathogenesis of thyrotoxic liver). Gol'ber, L. M.; Negovskaya, A. V. (Inst. Eksp. Endokrinol. Khim. Gormonov, Moscow, USSR). *Probl. Endokrinol.* 1970, 16(1), 67-71 (Russ). Thyroidin administered orally to rats at 0.2-0.7 g (gradually increasing doses) daily for 15 or 30 days increased the level of total lipids and decreased the content of glycogen, β -lipoproteins, and phospholipids in the liver and reduced autolipolysis of hepatic tissue. Fat accumulation in the liver during thyroidin toxicosis seems to be caused by disruption of the formation and release of β -lipoproteins and phospholipids from the liver and is accompanied by increased mobilization of fat deposits as measured by increased lipolytic activity of adipose tissue, elevation of nonesterified fatty acids in the serum, and insufficient splitting of fat in the liver. Changes in lipid metabolism during thyroidin-induced toxicosis were reversible. BJJR

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19810817

2 di

Corrosion

UDC 669.71.620.193

USSR

GRABOVETSKIY, A. P., NEGREBETSKIY, K. N., and KRZHIVITSKIY, B. N., Kiev
Technological Institute of Light Industry

"Corrosion-Fatigue Strength of Duralumin"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 2, 1973,
pp 77-78

Abstract: The effect of increasing temperature on the corrosion-fatigue strength of duralumin was experimentally investigated on D17 alloy specimens, 8 mm in diameter, subjected to the action of corrosive medium (tap-water, supplied in drops on the middle part of the specimen) and to cyclic loads, 10, 12, and 15 kgcm/mm² at 20 and 70°C. The test results are discussed by reference to diagrams of longevity and endurance. The longevity increased with increasing temperature the lower the load. It is assumed that the protective oxide film developing at increased temperature is more durable than the oxide film developing at normal temperatures which gives rise to the increase of longevity of specimens under given test conditions. The demonstrated dependence of protective film properties on mechanical loads can be explained by more intensive cracking of the oxide film under the action of high loads. Two figures.

1/1

USSR

UDC 547.555+547.297

SVIRSKAYA, P. I., STRESBULAYEVA, A. I., NEGREBETSKIY, V. V.,
TIBANOV, P. V., VASIL'YEV, A. F., and BASKAKOV, Yu. A., All-
Union Scientific Research Institute of Chemical Agents for Plant
Protection

"Hydroxylamine Derivatives With Herbicidal Activity. 42. Reactions
of Derivatives of N-Carbamoyl-N-arylhydroxylamines with Halides of
Haloalkylcarboxylic Acids"

Leningrad, Zhurnal Organicheskoy Khimii, Vol 9, No 6, Jun 73,
pp 1163-1171

Abstract: N-Carbamoyl-N-arylhydroxylamine derivatives, on react-
ing with halides of alpha- and beta-halopropionic acids, formed
N-substituted O-alpha- or O-beta-halopropionyl derivatives of
carbamoyl-N-arylhydroxylamines. Under the action of bases, O-beta-
chloropropionylhydroxylamines were hydrolyzed to the initial
hydroxylamines. Depending on the conditions of the reaction and
the nature of the substituents, the N-substituted O-alpha-halopro-
pionyl derivatives of carbamoyl-N-arylhydroxylamines, on being
subjected to the action of bases, either split off hydrogen halide
with the formation of O-acryloyl derivatives or underwent cycliza-
tion with the formation of 2-aryl-4-(alkyl)aryl-5-methyl-1,2,4-
1/2

USSR

SVIRSKAYA, P. I., et al., Zhurnal Organicheskoy Khimii, Vol 9,
No 6, Jun 73, pp 1163-1171

oxadiazine-3,6-diones. At high temperatures the O-alpha-halo-
propionyl and O-acryloyl derivatives readily underwent rearrange-
ment into the corresponding derivatives of o-aminophenol. In the
presence of triethylamine the O-alpha-halopropionyl-N-alkylcar-
bamoyl-o-aminophenols were converted as a result of recyclization
into N-alpha-halopropionyl-N-alkylcarbamoyl-o-aminophenols. The
compounds that have been synthesized and their physical proper-
ties are listed in tables.

2/2

- 57 -

USSR

UDC 547.26'118

AZIZOVA, SH. A., MEL'NIKOV, N. N., VLADIMIROVA, I. L., and NEGREBETSKIY, V. V.

"Synthesis of Mixed Esters of Phosphoric and Phosphonic Acids"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), Vyp 4, 1972, pp 816-820

Abstract: The title reaction was carried out by reacting β -halogenated benzoyl-propionic acids with trialkyl phosphites, thereby synthesizing compounds not previously reported in the literature. The reaction can proceed via two pathways: one resulting in the phosphoric acid derivatives; the other in phosphonic acid derivatives. With trimethyl phosphite a mixture of the two types of derivatives result; but with triethyl phosphite, only derivatives of phosphoric acid were detected. Physical properties, elemental composition, and NMR data are given for the studied compounds.

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- 27 -

USSR

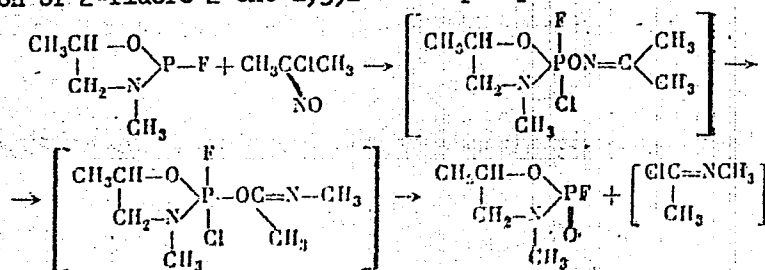
UDC 547.26'118

MALEKIN, S. I., KRUGLYAK, YU. L., MARTYNOV, I. V., and NEGREBETSKIY, V. V.

"Phosphorylated Oximes. XIII. Reaction of Fluorophospholanes With α -Monochloronitrosoalkanes. The Beckman Rearrangement"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), Vyp 4, 1972, pp 814-816

Abstract: The reaction of the penta-coordinate phosphorous compound 2-fluoro-1,3,2-azaioxaphospholanes with α -monochloronitrosoalkanes results in the formation of 2-fluoro-2-oxo-1,3,2-azaioxaphospholane. The mechanism is as follows:



The latter reacts with water to give the corresponding amide, $\text{CH}_3\text{C(=O)NHCH}_3$.

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USSR

UDC 547.241

2

MIRONOVA, Z. N., TSVETKOV, Ye. N., PETROVSKAYA, L. I., NEGREBETSKIY, V. V., NIKOLAYEV, A. V., and KABACHNIK, M. I., Institute of Inorganic Chemistry, Siberian Division, Academy of Sciences USSR, and Institute of Heteroorganic Compounds, Academy of Sciences USSR

"Synthesis Starting With Tetraoxymethylphosphine Chloride; Aminomethylphosphines and Their Oxides"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), Vyp 10, 1972, pp 2152-2158

Abstract: Eleven aminomethylphosphines, general formula $R_nP(CH_2NR')_{3-n}$ were synthesized from tri(acetoxymethyl)phosphine, whose synthesis the authors have previously reported, and secondary amines in aqueous methanol in the presence of potassium hydroxide. This synthetic pathway is said to have fewer difficulties than those described previously, and to proceed via a saponification mechanism. The yield, boiling point, refractive index, density, observed and calculated molar refraction, percentages of C, H, and P, and formula are reported. Using hydrogen peroxide in acetone the phosphines were oxidized to their corresponding oxides. Several previous synthetic pathways are listed and some of the constants are reported for ten of these. Proton magnetic resonance and double resonance
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USSR

MIRONOVA, Z. N., et al., Zhurnal Obshchey Khimii, Vol 42(104), Vyp 10, 1972, pp 2152-2158

were used for confirmation of structure; the chemical shift and spin-spin coupling constant of the PCH_2N interaction are given for eleven of the compounds synthesized. An intense doublet at $1130-1165\text{ cm}^{-1}$ in the IR spectrum of tri(dimethylaminomethyl)phosphine is interpreted as an indication of rotational isomerism. All operations with trivalent phosphorus compounds were conducted under argon.

2/2

- 35 -

USSR

BASKAKOV, Yu. A., VOLOVNIK, L. L., VASIL'EV, A. F., ARYUTKINA, N. L.,
TIBANOV, P. V., and NEGREBETSKIY, V. V.

"Herbicides Derivatives of Hydroxylamine. XXIV. The Reaction of Halides
of Haloacetic Acids with Hydroxylamine Derivatives of Thiourea"

Khimiya Geterotsikl. Soyedin. [Chemistry of the Heterocyclic Compounds --
Collection of Works], No 3, Riga, Zinatne Press, 1971, pp 104-107. (Trans-
lated from Referativnyy Zhurnal Khimiya, No 5, Moscow, 1972, Abstract No
5N676 by the authors)

Translation: The reaction of ClCH_2COCl with N-methylthiocarbonyl-O-methyl-
hydroxylamine (I) without any HCl acceptor produces 2-methoxyimino-3-methyl-
4-oxo-1, 3-thiazolidinium (II), which is converted by heating in MeOH to 2-
methoxyimino-3-methyl-1, 3-thiazolidin-4-one (III). Two point two (2.2) g
 ClCH_2COCl is added to a solution of 2.4 g I in 100 ml ether at -20° , mixed
for 2 hours (after which the temperature of the mixture is about 20°) and
3.6 g II are separated, yield 94 %, mp 160° (in a sealed capillary). A
solution of II in MeOH is heated 1-2 hr on a water bath, the MeOH is dis-
tilled under vacuum, producing III, yield about 100 %, mp 88° . For a
previous report see RZHKhim, 1969, 4B1038.

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- 69 -

USSR

UDC 543.422.23:546.1'118

NURETDINOV, I. A., NEGREBETSKY, V. V., YANKELEVICH, A. Z., KESSENIKH, A. V.,
 NIKONOROVA, L. K., and LOGINOVA, E. I., Institute of Organic and Physical
 Chemistry imeni A. Ye. Arbuzov, Academy of Sciences USSR, and Institute of
 Organic Chemistry imeni N. D. Zelenskiy, Academy of Sciences USSR

"NMR- H^1 , NMR- P^{31} and INDOR- H^1 - $\{P^{31}\}$ Spectra of Compounds Containing
 $-P(X) - N - P(Y)-$ Group"

 CH_3

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, no 11, Nov 71,
 pp 2589-2591

Abstract: For purposes of studying the spin-spin interaction in compounds with
 fragments of the type $-P(X) - N - P(X)-$ and $-P(X) - N - P(Y)-$, the authors stud-

ied the NMR- H^1 , NMR- P^{31} and INDOR- $H^1 - \{P^{31}\}$ spectra of the following compounds:

$(CH_3O)_2P_I(O)N(CH_3)P_{II}(OCH_3)_2$, $(CH_3O)_2P_I(O)N(CH_3)P_{II}(Se)(OCH_3)_2$, $(CH_3O)_2P_I(O)N-$

$(CH_3)P_{II}(Se)(OC_4H_9 - i)_2$, $(CH_3O)_2P_I(S)N(CH_3)P_{II}(Se) \begin{matrix} \swarrow OC_3H_7 - i \\ \searrow N(C_2H_5)_2 \end{matrix}$. The values and
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USSR

NUREYDINOV, O. A., et al., Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 11, Nov 71, pp 2589-2591

signs of the constants $^2J_{pp}$, $^3J_{PNCH}$ were determined. The series of compounds studied display a decrease in the value of $^2J_{pp}$ with a change in its sign.

2/2

1/2 015 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--DETERMINATION OF THE RELATIVE SIGNS OF SPIN SPIN COUPLING CONSTANTS
IN NITROETHYLENE PRIME15 N BY LOCAL HOMO AND HETERONUCLEAR DOUBLE
AUTHOR--(03)-PROKOFYEV, YE.P., NEGREBETSKIY, V.V., KESSENIKH, A.V.

COUNTRY OF INFO--USSR

SOURCE--ZH. STRUKT. KHIM. 1970, 11(2), 221-8

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--ALIPHATIC NITRO COMPOUND, ETHYLENE, NITROGEN ISOTOPE, NUCLEAR
RESONANCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3008/1502

STEP NO--UR/0192/70/011/002/0221/0223

CIRC ACCESSION NO--AP0138503

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--04DEC70

2/2 015

CIRC ACCESSION NO--AP0138503

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PRESUMING J SUBH-H (VIC) IS POS. FOR NITROETHYLENE, THE RELATIVE SIGNS OF THE COUPLING CONSTS. WERE OBTAINED. THEY ARE FOR J SUBH-H 14.8 (TRANS), 7.1 (CIS), AND NEGATIVE 1.8 (GEM) AND FOR J SUBH-H PRIME15 NEGATIVE 9.0 (TRANS), NEGATIVE 4.4 (CIS), AND NEGATIVE 4.5 (GEM) GHZ. IM. ZELINSKOGO, MOSCOW, USSR.

FACILITY: INST. ORG. KHIM.

UNCLASSIFIED

USSR

UDC 615.765

NEGRESKU, V. Ya., and BURSUK, I. F., Chair of Infectious Diseases, Kishinev Medical Institute and Moldavian Scientific Research Institute of Hygiene and Epidemiology

"Some Aspects of the Epidemiology, Symptomatology, and Diagnosis of Ornithosis in Moldavia"

Kishinev, Zdravookhraneniye, No 5, Sep/Oct 71, pp 45-47

Abstract: During 1967-69, ornithosis antibodies were found in rock doves from various parts of Moldavia. The percentage of complement fixation and inhibitory ornithosis antibodies fluctuated within 46.6-61.2 percent in different parts of the republic. Positive results were obtained in complement fixation reactions with ornithosis antigen in 5.19 percent of 2,731 specimens of blood serum from healthy individuals. The high incidence of ornithosis in Moldavia indicates the possibility of undetected cases of this disease in humans. One hundred eight persons hospitalized for influenza, acute respiratory disease, and pneumonia were examined. Ornithosis was found in 8 persons in the 18-30 age bracket, mostly hospitalized for respiratory disease and pneumonia. It was established by x-ray and allergenic serum methods that the victims suffered from pneumonic, influenza-like, or typhus-like ornithosis. In seven
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USSR

NEGRESKU, V. Ya., and BURSUK, I. F., Zdravookhraneniye, No 5, Sep/Oct 71,
pp 45-47

cases, contact had been made with birds. The findings demonstrates the necessity of testing any case of the typhus or influenza syndrome or atypical pneumonia for ornithosis, using the serological or allergenic methods of diagnosis.

2/2

5

Semiconductors and Transistors

USSR

UDC 621.383.51:621.472

NEGRESKUL, V.V., TORCHAK, L.V. [Letter unclear], KITORAGA, A.D.

"Study Of Solar Photocells Based On Solid Solutions Of $GaAs_{1-x}P_x$ "

V sb. Slozhn. poluprovodniki i ikh fiz. svoystva (Complex Semiconductors And Their Physical Properties--Collection Of Works), Kishinev, "Shtiintsa," 1971, pp 52-58 (from RZh:Elektronika i yeye primeneniye, No 4, April 1972, Abstract No 4B312)

Translation: The paper presents the current-voltage characteristics, the dependence of the diffusion capacitance on the biasing voltage, the light and load characteristics and the spectral distribution of the photosensitivity of diffusion p-n junctions based on solid solutions of $GaAs_{1-x}P_x$. It is shown that the current-voltage characteristics can be described by the theories of Sa--Noye--Shockley. Photocells from solid solutions of $GaAs_{0.9}P_{0.05}$ have increased sensitivity in the short-wave part of the spectrum in comparison with Si and GaAs phototransducers. The efficiency of the photocells in question is 3-5 percent. 5 ill. 4 ref. Summary.

1/1

USSR

UDC: 621.315.582

CHEBAN, A. G., NEGRESKUL, Y. V., OUSH, P. T., GORCHAK, L. V.,
UNGURYANU, G. I., and SMIRNOV, V. G.

"Solar Elements Using p-GaAs_{1-x}P_x-n-GaAs Heterojunctions"

Tashkent, Geliotekhnika, No 1, 1972, pp 30-33

Abstract: The results of investigations made for determining the volt-ampere, load, and spectral characteristics of heterojunctions made by liquid epitaxial growth of solid solutions of GaAs_{1-x}P_x on a GaAs substrate. The purpose of the research was to estimate the possibilities of using the p-GaAs_{1-x}P_x-n-GaAs system as photoconverters. For the substrate, n-type GaAs with a μ of 2500-3500 cm²/V·sec and an electron concentration of $7 \cdot 10^{16}$ to $4 \cdot 10^{17}$ per cc was used. The crystals of the material were oriented in the (111) plane and were covered by a solution of gallium containing dissolved GaP; the doping impurity was zinc, in a pure hydrogen atmosphere. Crystal growth was made in a temperature range of 760-910° C. Curves are plotted for the volt-ampere characteristic, the load characteristic, and the spectral distribution of the vapor collection coefficient for the heterojunctions. The basic advantage of the materials is that, in the form of solar elements, they can be used for operation at temperatures above 200° C, with an increase in the utilization percentage of the solar spectral energy.

PROCESSING DATE--30OCT70

1/2 025

UNCLASSIFIED

TITLE--SEMICONDUCTOR GAMMA SPECTROMETER -U-

AUTHOR--(02)-NEGREY, S.A., FIRSOV, YE.I.

COUNTRY OF INFO--USSR

SOURCE--PRIB. TEKH. EKSP. 1970, 1, 44-6

DATE PUBLISHED-----70

N

SUBJECT AREAS--PHYSICS, ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--SEMICONDUCTOR DEVICE, GAMMA SPECTROMETER, COBALT ISOTOPE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1989/1888

STEP NO--UR/0120/70/001/000/0044/0046

CIRC ACCESSION NO--AP0108218

UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0108218

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A GAMMA SPECTROMETER WITH A GE(LI) DETECTOR IS DESCRIBED. THE VOL. OF THE DETECTOR IS 2.7 CM PRIME3. THE SPECTROMETER HAS A 0.5PERCENT RESOLN. FOR PRIME60 CO GAMMA RADIATION. GE GDD-10-40 WITH A SP. RESISTANCE 10-20 OHM-CM AND A DISLOCATION D. OF SIMILAR TO 3 TIMES 10 PRIME3-CM PRIME2 WAS USED. ETCHING OF THE SPECIMENS WAS DONE IN A SOLN. OF 3 PARTS OF 70PERCENT HNO SUB3 AND 1 PART 48PERCENT H SUB2 F SUB2 WITH 1 DROP OF AQ. SOLN. OF BR (10 G-L.) PER 50 ML OF THE ETCHING SOLN. THE N,PENTANE WAS USED FOR PERFORMING THE DRIFT OF LI IN GE AT 500 V ON THE DIODE. EQUALIZATION OF CAPACITANCE WAS ACCOMPLISHED IN A CRYOSTAT WITH A BIAS OF 400 V AND A CURRENT OF ONE THIRD OF THE CURRENT FLOW THROUGH THE DIODE AT ROOM TEMP. FACILITY: INST. FIS., MINSK, USSR.

UNCLASSIFIED

USSR,

NEGREYEV, V. F., FARKHADOV, A. A., ABRAMOV, D. M., ALEKPEROVA, A. YU.

"Corrosion of Steel in Cooling Systems and Methods for Protection Against It"

Korroziya Stali v Okhlazhdayushchikh Sistemakh i Metody Zashchity [English Version Above], Baku, 1971, 144 pages.

Translation of Annotation: This book describes the corrosion characteristics of cooling water, taking into account various cooling systems, and discusses the basic causes for corrosion of steel equipment in cooling systems, factors influencing this corrosion, and methods of protection from it. The classification of inhibitors and modern interpretations of the mechanism of the protective action of various classes of inhibitors are studied as applicable to cooling media; the use of corrosion inhibitors is shown to be the most effective and economically suitable means for protection in moving corrosive cooling media.

Our studies of the mechanism of action of various inorganic and organic water-soluble steel corrosion inhibitors, both those used at the present time, and the new, more economical products and wastes of petrochemical production processes, are described in detail; serious attention is given to a new trend in this area, the combination of inhibitors, allowing complete prevention of corrosion in many cases.

The book is designed for scientific and engineering personnel who work on problems of corrosion of metals and methods of protection against it, as well as

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USSR:

NEGREYEV, V. F., et al., Korroziya Stali v Okhlazhdayushchikh Sistemakh i Metody Zashchity, 1971, 144 pages

workers at industrial enterprises who work with equipment cooled by circulating cooling systems. It can also be used by students in higher and secondary special technical schools.

There are 36 Figures, 30 Tables, and 154 Biblio. Refs.

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2/3

USSR

NEGREYEV, V. F., et al., Korroziya Stali v Okhlazhdayushchikh Sistemakh i Metody Zashchity, 1971, 144 pages

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3/3

UNCLASSIFIED
 1/2 012
 TITLE--USE OF UREA FOAMED PLASTICS IN MINING -U-
 PROCESSING DATE--13NOV70
 AUTHOR--(03)-NEGRIYENKO, B.A., TELICHKO, K.A., NETREBA, Y.I.
 COUNTRY OF INFO--USSR
 SOURCE--UGOL' UFR. 1970, 141(1), 48-9
 DATE PUBLISHED-----70
 SUBJECT AREAS--MATERIALS, EARTH SCIENCES AND OCEANOGRAPHY
 TOPIC TAGS--MINING ENGINEERING, UREA RESIN, FOAM PLASTIC, SEALER
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAME--3001/0078
 STEP NO--UR/0605/70/014/001/0048/0049
 CIRC ACCESSION NO--AP0125913
 UNCLASSIFIED

272 012

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0125913

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. UREA HCHO RESINS AND AQ. SOLNS. OF AVO-I WERE USED TO SEAL UNSTABILIZED MINING CAVITIES, SHAFTS, ETC. AQ. RESIN SOLN. WAS FOAMED WITH COMPRESSED AIR AND USED TO FILL THE SPACE BETWEEN WOODEN OR METAL PARTITIONS. AFTER HARDENING THE SEALS HAD LOW PERMEABILITY TO AIR, GASES, AND MOISTURE, AND SUFFICIENT ELASTICITY TO ACCOMMODATE THE RELATIVE DISPLACEMENTS OF THE CAVITY SIDES.

UNCLASSIFIED

USSR

UDC 535.233+629.7.018.1

KARPUNOV, Ye. G., NEGRUTSAK, L. M., RYZHIK, A. B., FRAYERMAN, S. I.,
and YURMANOV, Yu. A.

"Spectroscopic Investigation of Supersonic Heterogeneous Currents
in a Combustible Condensed Phase"

Novosibirsk, Fizika goreniya i vzryva, No 3, 1973, pp 387-391

Abstract: In connection with the problem of the combustion of metallic particles in ultrasonic currents, the authors describe investigations into the relative energy spectrum distribution in the interaction of detonation waves in stoichiometric hydrogen-air mixtures with aluminum and magnesium powder suspensions. They conducted their experiments in accordance with the method of heterochromic photometry, using a formula developed in this article for the radiating surface temperature. A description of the experimental equipment, which includes a shock tube, pressure sensors, and the ISP-51 spectrograph, is given. The tube was 7.5 m long and had an inner diameter of 100 mm, with the suspended material placed in the closed end. Results of the experiments were analyzed by comparing the experimental data with the conclusions of hydrodynamic theory.

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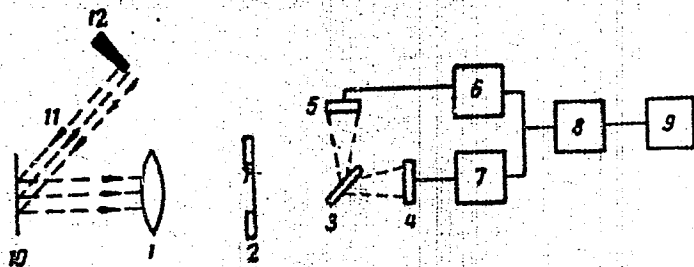
AA0047089 - Negrutsak, V.T.

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

2/70

241751 LOGARITHMIC PYROMETER. It is an optical instrument with a fast shutter and a memory. The memory is connected between the logarithmic amplifiers and a measuring device. The shutter is placed in front of a light divider. The instrument is capable of indicating the instantaneous temperatures.



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27.5.67 as 1160915/18-10.V.T.NEGRUTSAK et al.
 (29.9.69) Bul 14/18.4.69. Class 421. Int.Cl.G 01 k.

19790571

AA0047089

AUTHORS: Negrutsak, V. T.; Nazarov, B. N.; Trubitsin, Ye. V.; Mikhaylov, V. F.

19790572

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Acc. Nr: **A70041519** - Abstracting Service:
CHEMICAL ABST.

N
4-70

Ref. Code:
4R0078

85754h Complexes of nickel with diacetyl selenosemicarba-
zone oxime. Ablov, A. V.; Gerbelen, N. V.; Negrvatse, N.
Ya. (Inst. Khim., Kishinev, USSR). *Zh. Neorg. Khim.* 1968,
15(1), 119-22 (Russ). Mixing of a Ni salt soln. with a MeOH
soln. of diacetyl selenosemicarbazone oxime (H₂dseo) gave [Ni-
(H₂dseo)₂]X₂ (I), where X = Cl, Br, I, or NO₃. I are para-
magnetic ($\mu_{eff} \sim 3 \mu_B$) and are, therefore, octahedral in struc-
ture. When an NH₄OH soln. of H₂dseo was used, the reaction
gave Ni(dseo)(NH₃).H₂O. Addn. of PhNH₂ to the MeOH soln.
of H₂dseo gave Ni(dseo)(PhNH₂). The last 2 complexes are
diamagnetic. HMJR

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REEL/FRA
19751387

Acc. Nr

AP0034214

Abstracting Service:

CHEMICAL ABST. 4-70

Ref. Code

UR 0078

N

74198d Complexes of cobalt and nickel with pyruvic acid thiosemicarbazone. Abloy, A. V.; Gerbeleu, N. V.; Negryatse, N. Ya.; Revenko, M. D. (USSR). Zh. Neorg. Khim. 1970, 15(1), 123-7 (Russ). Dark-brown cryst. $NH_4[CoL_2] \cdot H_2O$ (I) formed on oxidn. of a mixt. of NH_4OH soln. of pyruvic acid thiosemicarbazone (H_2L) and a Co(II) salt. Reaction of I with HCl gave $[Co(HL)(L)] \cdot 1/2H_2O$ and $[Co(HL)_2]Cl \cdot 3.5H_2O$ and with $MCl_2 \cdot nH_2O$ gave $M[CoL_2] \cdot nH_2O$ where $M = Cu$ or Mn . Light-green cryst. $[Ni(HL)_2] \cdot H_2O$ was prepd. analogously to I. When C_5H_5N (py) or α -methylpyridine (α -Me-py) were added to the reaction mixt., the product was $NiL(py)$ or $NiL(\alpha$ -Me-py), resp. Complexes of Ni or Co contg. neutral H_2L failed to form. HMJR

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REEL/FRAME

19710867

1/2 022 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--INCREASE IN THE STABILITY OF THE GRATE BARS OF SINTERING MACHINES
-U-
AUTHOR--(05)-FELDMAN, B.A., NEIGEBAUER, G.D., GALEMIN, I.M., KVANDV, V.A.,
TERLIKOVSKIY, V.I. N
COUNTRY OF INFO--USSR
SOURCE--METALLURG (MOSCOW) 1970, 15(1), 6-8
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--SINTERING FURNACE, MATERIAL FAILURE, CAST IRON, HIGH CARBON
STEEL, CHROMIUM STEEL/(U)CSH18 36 CAST IRON
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1989/1934 STEP NO--UK/0130/70/025/001/0006/0008
CIRC ACCESSION NO--AP0108263
UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0103263

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. UNTIL RECENTLY THE KARAGANDINSK METALLURGICAL PLANT USED BARS FOR SINTERING MACHINES MADE FROM CSH18-36 GRAY CAST IRON WITH A LIFE OF 4 MONTHS AND A CONSUMPTION OF 400 G-TON OF SINTER. VARIOUS ALLOYS WITH DIFFERENT CR AND FE CONCNS. WERE TRIED. BEST WAS BB ALLOY CONTG.: C 1.10, CR 19.07, SI 2.00PERCENT. THE NEW BARS LAST 1.5-2 YR.

UNCLASSIFIED

1/2 008 UNCLASSIFIED PROCESSING DATE--11DEC70

TITLE--IODONIUM DERIVATIVES OF BETA DIKETONES. XIV. SPLITTING OF
 PHENYLIODONIUM BETAINES BY TOSYLATES OF ALIPHATIC AMINO ACIDS -U-

AUTHOR-(02)-NEIMANIS, D., NEYLANDS, O.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(5), 1011-14

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--IODINATED ORGANIC COMPOUND, KETONE, BENZENE DERIVATIVE,
 ALIPHATIC CARBOXYLIC ACID, AMINO ACID

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAE--3006/1331

CIRC ACCESSION NO--AP0135005
 UNCLASSIFIED

STEP NO--UR/0366/70/006/005/1011/1014

UNCLASSIFIED

PROCESSING DATE--11DEC70

2/2 008
CIRC ACCESSION NO--AP0135005

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REACTION OF PHI PRIME POSITIVE
C PRIME NEGATIVE (COR) SUB2 (R EQUALS PH. OR DME) WITH HO. SUB2 CCR PRIME1
R PRIME2 NH SUB2 MEC SUB6 H SUB4 SQ SUB3 (I) AT 0-5DEGREES GAVE
50-80PERCENT (RCO) SUB2 CHO SUB2 CCR PRIME1 R PRIME2 NH SUB2 MEC SUB6 H
SUB4 SQ SUB3 H (II). II ARE HYDROLYZED IN BOILING WATER TO I.
FACILITY: RIZH. POLITEKH. INST., RIGA, USSR.

UNCLASSIFIED

Environmental & Ecological Problems

4

USSR

BLIZHEYEV, V. I., D'YACHKOV, V. I., LERER, I. B., MISHIN, V. K., NEKHAMKINA, G.S.,
NIKITINA, Ye. I., DIANOVA, YE. F., and MAKLONOVA, R. Ye.

"Joint Hygienic Study of Atmospheric Pollution in Certain Industrial Centers of
the Central Volga Region"

Sb. nauch. tr. Kuybyshev, NII gigiyeny (Collection of Scientific Works of the
Kuybyshev Scientific Research Institute of Hygiene), No 7, 1972, pp 92-93
(from RZh-Geofizika, Svodnyy tom, No 5, 1973, Abstract No 53504 by L.S.G.)

Translation: A study was made of the contamination of the atmosphere by chem-
ical and oil-refining complexes and of the impact of pollutants on the health
and sickness rate of children and on immunohematological indexes of animals.
Measures have been elaborated for the elimination and reduction of specific
discharges into the atmosphere, for the organization of sanitary shielding of
industrial sites, and for improving the health of the child population.

1/1

USSR

UDC 543.42.062

NEKHAY, A. P. and MARCHENKOV, V. V., Order of Lenin Physico-Technical Institute
imeni A. F. Ioffe

"A Device for the Stabilization of Spectrometer Characteristics"

USSR Author's Certificate No 366363, Filed 12 May 68, Published 16 Jan 73
(from Otkrytiya, Izobreteniya, Promyshlennyye Obratzsy, Tavarnyye Znaki, No 7,
Mar (a) 73, Claim No 1238314/26-25)

Translation: A device for the stabilization of spectrometer characteristics containing an address n-class computer, a decoder, a reversible (k-1) class computer, two circuits of correspondence with (k-1) inputs, two valves with two permitting and one forbidding inputs each and difference rate meters of any well known type, distinguished by the fact that in order to increase the stability of spectrometer characteristics and simplify the circuits, the outputs of the smaller (k-1) class computer are unified with the inputs of the apparatus in "1" analog class of the reversible computer, the "All 1" and "All 0" conditions of which are decoded by the circuits of correspondence unified accordingly with the forbidding inputs of the valve, the permitting inputs of which are unified with the outputs "0" and "1" of the k class address computer, while the second permitting input, with the output decoder, is connected with 1/2

USSR

NEKHAY, A. P. and MARCHENKOV, V. V., USSR Author's Certificate No 366363,
Filed 12 May 68, Published 16 Jan 73

the chief n-k class address computer, outputs of the valves are unified with
the inputs of addition and subtraction of the reversible computer and the dif-
ference ratemeter, the output of which is the output of the device desired.

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AA0051775

NU

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent *1/70*

239679 CONVERTER OF PULSE AMPLITUDE INTO A DIGITAL CODE. The '0' output of the lower digit of the register is connected with one input of the first comparison circuit. The 'one' output of the lower digit of the register is connected to one input of the second comparison circuit. The decoder output is connected to the second inputs of both comparison circuits. The input of the decoder is connected to the higher digits of the register. The outputs of both comparison circuits is connected to the "+1" and the "-1" through the inputs of the reversible counter is connected to the controlling input of the amplifier through a converter of code into voltage.

23.1.68 as 1212371/18-24. A.P. NEKHAY & A.I. SMIRNOV. PHYSICS & TECHNICAL INST. (1.8.69) Bul 11/18.3.69. Class 42m⁵. Int.Cl.G 06j.

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Ordena Lenina Fiziko-Tekhicheskij Institut im. A.F. Ioffe

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