

USSR

UDC 621.791.856.3.019

K
KUZ'MIN, G. S., KARATYSH, V. V., and MOCHALOVA, T. F."Tendency of Nickel to Form Hot Cracks"

Kiev, Avtomaticheskaya Svarka, No 6, Jun 70, pp 71-72

Abstract: The presence of practically insoluble impurities in nickel, such as sulfur, bismuth, lead, phosphorus, and an increase in gas concentration may cause the appearance of cracks when the metal is heated in processing or is welded. Soviet industry now produces five brands of nickel with a purity of from 99.5 to 99.99%. The use of the NP2 and NP2A brands, containing no more than 0.5% impurities, is recommended for use in metal structuring. The purpose of the work described in this article, done at the Perm Polytechnical Institute, is to compare the durability of NP2A nickel and nickel refined by electron-beam remelting. A table of the chemical composition of both of these metals is given. A diagram of the specimens with which the research was made is also shown. The results show that the NP2A has the lower durability.

1/1

USSR

UDC: 621.372.412

KARANTNIK, A. Ye., SHIN, V., SOROKIN, K. V.

"A Method of Making and Tuning a Piezoelectric Resonator"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 22, 1970, Soviet Patent No 275159, Class 21, filed 27 Dec 68, p 39

Abstract: This Author's Certificate introduces a method of making and tuning a piezoelectric resonator which consists in orienting the crystal of the piezoelectric element with respect to the exciting field, marking out the crystal plate with respect to the crystallographic axes, and applying excitation electrodes. The method provides for using a crystal holder which allows for rotation of the piezoelectric element in the horizontal plane, and also a measurement circuit with a standard signal generator and a display device. As a distinguishing feature of the patent, the procedure is designed to suppress oscillations of undesirable types piezoelectrically connected with the working oscillation. A piezoelectric elements of given dimensions is excited on the frequency of the undesirable mode according to the maximum reading of the display device, the piezoelectric element is rotated in the horizontal plane, minimizing the readings of the display device, the element is then fixed in this position, and the outlines of the crystal-holder electrodes are marked off on it with subsequent application of the electrodes by any conventional method.

1/1

- 22 -

USSR

UDC: 621.317.3(088.8)

KARAU'NIK, M. Ye., MAKEYEV, V. I., ALEKSANDROV, A. F., LEBEDEV, B. M.,
METELITSIN, I. V., PLATONOV, F. V., FEDIN, V. F.

"A Device for Measuring the Electrical Parameters of Piezoelectric Resonators"

USSR Author's Certificate No 264547, filed 5 Jul 68, published 17 Jun 70
(from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1A315 P)

Translation: It is pointed out that conventional devices for measuring the electrical parameters of piezoelectric resonators do not allow for direct measurement of piezoelectric current. In the proposed device there is a special coil with an auxiliary indicator whose scale is graduated in piezoelectric current values. The resonator to be tested is placed inside the coil. E. L.

1/1

USSR

K
UDC 621.372.061:538.56

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

"Two-Loop Circuit with Variable Capacitances and Inductances"

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

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

1/1

- 40 -

USSR

K

UDC 621.376.53(088.8)

RUCHKIN, V. V., KARAULOV, B. A.

"A Demodulator for Polarity Modulated Signals"

USSR Author's Certificate No 254585, Filed 3 Jun 68, Published 11 Mar 70 (from RZh-Radiotekhnika, No 10, Oct 70, Abstract No 10D77 P)

Translation: This Author's Certificate introduces a demodulator for polarity modulated signals. The unit is made in the form of two channels with a common input, each of the channels containing keys and pulse expanders for recording the maximum values of the positive and negative half-waves of the polarity modulated signal at the instants of maximum values of the half-waves of the subcarrier frequency signal. The device also contains a gating pulse shaper for controlling the keys. To reduce distortions, the above-mentioned pulse expanders are connected between the lower frequencies, the input signal is fed to the gating pulse shaper through a narrow-band filter (such as a quartz filter) which isolates the subcarrier frequency signal, and through a phase shifter, and the ratio between the gating pulse duration and the subcarrier frequency period is taken as 0.01-0.02.

1/1

USSR

UDC: 628.9.038

KARAULOV, N. N.

"A Flexible Electroluminescent Panel"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 13, May 72, Author's Certificate No 335795, Division H, filed 12 Nov 70, published 11 Apr 72, p 233

Translation: This Author's Certificate introduces: 1. A flexible electroluminescent panel which contains transparent and opaque electrodes between which a phosphor is located. The panel also contains a conductive contact strip of transparent electrode. As a distinguishing feature of the patent, in order to prevent the possibility of electrical breakdown and short circuiting between the conductive contact strip and the opaque electrode, and to improve the reliability of the panel, the conductive contact strip is located beyond the limits of the opaque electrode. 2. A modification of this panel distinguished by the fact that the mechanical strength of the panel is increased and manufacturing technology is improved by using a metallized glass filament as the conductive contact strip.

1/1

- 103 -

Epidemiology

USSR

UDC 616.921.5-07

OBREKHT, S. D., KOVDYSHEV, B. V., PINSKIY, Z. A., and KARAULOV, V. S.

"Clinical and Epidemiological Characteristics of Influenza During the 1972-1973 Epidemic"

Moscow, Voyenno-Meditsinskiy Zhurnal, No 11, 1973, pp 44-46

Abstract: Late in December 1972 an influenza A₂ epidemic broke out among soldiers in coastal units and garrisons who had come from such large cities as Leningrad where an influenza epidemic among the civilian population had already reached substantial proportions. The sick rate peaked during the first 10 days of January and then declined sharply. Most of the personnel were not vaccinated until shortly before the outbreak because the incidence of influenza and other acute respiratory diseases remained low as late as November. The sick rate was highest among the young draftees. In general, the course was mild or moderately severe but complicated by pneumonia (much more frequently than in epidemics of previous years) in about 20% of the cases. The average number of bed-days in uncomplicated cases was 7.5. Treatment with antigrippine proved to be efficacious and the pneumonias yielded quickly to antibiotics. The authors conclude that such prophylactic

1/2

USSR

OBREKHT, S. D., et al., Voenno-Meditsinskiy Zhurnal, No 11, 1973, pp 44-46

measures as anti-influenza serum, sulfanilamides, and oxolin ointment are much less useful than vaccinations if given well in advance of a predicted epidemic.

2/2

Acc. Nr.

AP0042032

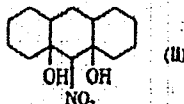
Abstracting Service:
CHEMICAL ABST

4170

Ref. Code

4R0366

89867v Synthesis and some reactions of 9-nitro-8a,9a-dihydroxyperhydroanthracene. Karaulov, E. S.; Tlichenko, M. N. (Dal'nevost. Gos. Univ., Vladivostok, USSR). *Zh. Org. Khim.* 1970, 6(1), 186-7 (Russ). The reaction of MeNO₂ with bis(2-oxocyclohexyl)methylene (I) gave 9-nitro-8a,9a-dihydroxyperhydroanthracene (II). Heating II with S gave 9-nitroanthracene (III). Refluxing II in Ac₂O gave a mixt. of 9-



nitroperhydroanthracene and 9-nitro-1,2,3,4,5,6,7,8-octahydroanthracene. Heating I with HClO₄ gave dicyclohexeno-[2,3:5,6]pyrylium perchlorate, which reacted with MeNO₂ to give III. Reacting II with SOCl₂ gave II sulfite. CPJR

REEL/FRAME

19751929

7

USSR

UDC 612.432+612.45+612.76

KARAULOVA, L. K., Department of Physiology and Anatomy of Man and Animals,
Stavropol State Pedagogical Institute

"The Effect of a Physical Load of Varying Duration on the Function of the
Hypothalmo-Hypophyseal-Adrenal System in Rats"

Leningrad, Fiziologicheskiy Zhurnal SSSR imeni I. M. Sechenov, Vol 59, No 9,
Sep 73, pp 1322-1325

Abstract: The reactions of the hypothalmo-hypophyseal-adrenal system of adult male rats under a physical load (swimming at a temperature of 28-30°) of two different durations were studied. It was observed that a 30 minute swim led to an increase in the corticotropin-releasing factor (CRF) activity of hypothalamus extracts, and a decrease in the concentration of ACTH in the hypophysis and ascorbic acid in the adrenals. This is said to indicate that this muscular activity leads to activation of all the components of the hypothalmo-hypophyseal-adrenal system. With a prolonged swim, for 1 hour 40 minutes to 1 hour 50 minutes, a sharp decrease in CRF activity of the hypothalamus against a background of further decrease in the concentration of ACTH in the hypophysis and lower than normal amounts of ascorbic acid in
1/2

- 50 -

USSR

KARAULOVA, L. K., Fiziologicheskiy Zhurnal SSSR imeni I. M. Sechenov, Vol 59,
No 9, Sep 73, pp 1322-1325

the adrenals were noted. It was suggested that fatigue leads to a depression
of the hypothalamic mechanism of regulating the adenohipophysealadrenal
complex.

2/2

Acc. Nr: **AP0049123** - Abstracting Service:
CHEMICAL ABST. 5-70

Ref. Code:
UR 0366

K

99839b Mechanism of the rearrangement of secondary acetylenic alcohols in an acid medium. II. Nature of the carbocation formed during the rearrangement of aliphatic-aromatic acetylenic alcohols. Plekhotkina, M. M.; Karavan, V. S.; Favorskaya, I. A. (Leningrad. Gos. Univ., Leningrad, USSR). *Zh. Org. Khim.* 1970, 6(1), 45-7 (Russ). The isomerization of $p\text{-XC}_6\text{H}_4\text{CH}(\text{OH})\text{C}:\text{CCMe}_2$ (I) (X is Cl, H, Me, OMe) to $p\text{-XC}_6\text{H}_4\text{CH}:\text{CHCOCCMe}_2$ in acid solns. may involve either $p\text{-XC}_6\text{H}_4\text{CH}(\text{OH})\text{CH}:\text{C}^+\text{CMe}_2$ (II) or $p\text{-XC}_6\text{H}_4\text{CH}(\text{O}^+\text{H}_2)\text{C}:\text{CCMe}_2$ (IIa). There is only inductive interaction between X and the reactive center in II. In IIa there is, besides inductive interaction, also conjugation between X and O^+H_2 . The exptl. rate detn. for I isomerization in dioxane- HCO_2H showed that IIa is the carbocation species actually formed.

CPJR

1/1

REEL/FRAME
19800929

di: 7

1/2 CID UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--REACTIONS OF ALPHA HALO KETONES. XXIII. CORRELATION BETWEEN
REACTIVITY AND SENSITIVITY IN THE SOLVOLYSIS OF TERTIARY ALPHA BROMO
AUTHOR--(C3)-KARAVAN, V.S., TIMOFEYEVA, L.A., TEMNIKOVA, T.I.

COUNTRY OF INFO--USSR *K*
SOURCE--ZH. ORG. KHIM. 1970, 6(5), 958-61.

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL REACTION KINETICS, SOLUBILITY, KETONE, BENZENE
DERIVATIVE, BROMINATED ORGANIC COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/1315 STEP NO--UR/0866/70/006/005/0958/0961

CIRC ACCESSION NO--AP0134689

UNCLASSIFIED

2/2 C10

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--4P0134989

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SOLVOLYSIS KINETICS WERE STUDIED AT 25DEGREES IN 100, 98, 95, OR 90PERCENT ETOH OF PH SUB2 CBR00C SUB6 H SUB4 X,P (I) AND (P,SC SUB6 H SUB4) PHC0R02 (II) (X IS OME, ME, PH, H, OR CL). THE REACTIVITIES OF I AND II OBEY THE WINSTEIN EQUATION (E. GRONWALD, ET AL., 1948). THERE IS A LINEAR RELATION BETWEEN THE SOLVOLYSIS RATE CONST. AND THE PARAMETER M. THE INCREASE IN REACTIVITY (IN MORE POLAR SOLVENTS) IS ASSOCD. WITH A DECREASE IN THE REACTIVITY PARAMETER P. FACILITY: LENINGRAD. GOS. UNIV., LENINGRAD, USSR.

UNCLASSIFIED

L/2 008 UNCLASSIFIED PROCESSING DATE--ZONOV70
TITLE--CYCLIZATION REACTIONS WITH THE PARTICIPATION OF EPOXIDES -U-
AUTHOR--(C3)-YANDOVSKIY, V.N., KARAVAN, V.S., TEMNIKOVA, T.I.
COUNTRY OF INFO--USSR
SOURCE--USP. KHIM. 1970, 39(4), 571-607 K
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--CYCLIZATION, EPOXIDE, DIMERIZATION, HETEROCYCLIC BASE COMPOUND
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3002/1133 STEP NO--UR/0074/70/039/004/0571/0607
CIRC ACCESSION NO--AP0128560
UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0128560

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A REVIEW WITH 307 REFERENCES THROUGH 1968, COVERING INTRA, AND INTERMOLECULAR CYCLIZATION REACTIONS OF EPOXIDES, INCLUDING THEIR DIMERIZATION AND CYCLOMERIZATION AND SYNTHESIS OF CARBOCYCLIC AND HETEROCYCLIC COMPOUNDS. BY MEANS OF SUCH REACTIONS. FACILITY: Leningrad. Gos. Univ., Leningrad, USSR.

UNCLASSIFIED

USSR

UDC 616.981.551-085.373.6-084

KOVTUNOVICH, L. G., KARAVANOV, A. G., and NAZARCHUK, L. V., Kiev Scientific Research Institute of Hematology and Blood Transfusion

"Obtaining Antitetanus Gamma-Globulin From Plasma of Immunized Donors"

Kiev, Vrachebnoye Delo, No 8, 1971, pp 140-144

Abstract: Since sera of noninoculated persons surviving tetanus contain no antitoxin, only the plasma from persons immunized with tetanus antitoxin can be used in preparing antitetanus gamma-globulin. In this study the first series of antitetanus gamma-globulin was prepared from plasma donors taken every 3, 5, 10 months after single inoculation of chemical sorbed thphoid-paratyphoid tetanus vaccine. The antitoxin level was determined in 38 individual sera at the same time by titration in white mice. Data showed that the antitoxin level in the sera was low, and in 21 out of 38 sera (in 55.4%), titers were below the protective level, that is, lower than 0.01 IU/ml. To prepare the next series of gamma-globulin, plasma was used from servicemen donors, taken during the first two months after the regular annual polyvalent inoculation. The induction of tetanus antitoxin in response to regular inoculation was fairly low. The titer was higher than 5 IU/ml in only 27.6% of sera tested, while most sera -- 60.6% -- contained antitoxin in a titer 1/2

USSR

KOVTUNOVICH, L. G., et al., Vrachebnoye Delo, No 8, 1971, pp 140-144

higher than 0.01, but less than 5 IU/ml. To obtain gamma-globulin of higher quality, plasma of inhabitants of Petropavlovskiy Rayon, Dnepropetrovskaya Oblast (twice immunized with sorbed tetanus antitoxin during 1965-1966, followed by revaccination after one year) was used. Individual sera and plasma for gamma globulin preparation were taken from 90 subjects in this group after a second revaccination. In 49.45%, the antitoxin level varied from 0.01 to 5 IU/ml, and in the same percentage -- from 5 to 100 IU/ml. It was found that the best antitetanus toxin levels are obtained upon re-vaccinating only persons with an initial high antitoxin level.

2/2

- 53 -

USSR

UDC 547.26'118'222.07

GRUZDEV, V. G., IVIN, S. Z., and KARAVANOV, K. V.

"A Method of Making Alkyldichlorophosphines"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obratzsy, Tovarnyye Znaki,
No 27, 1970, Soviet Patent No 279618, Class 12, filed 1 Aug 64, p 29

Abstract: This Author's Certificate introduces a method of making alkyl-dichlorophosphines by reducing complex compounds of alkyltetrachlorophosphines with aluminum chloride. As a distinguishing feature of the patent, the method is simplified by using metal carbides such as calcium carbide to carry out the reduction in the presence of potassium chloride.

1/1

1/2 026 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--SYNTHESIS AND PROPERTIES OF TERTIARY MESITYLETHYL PHOSPHINES -U-
AUTHOR--(05)-ILINA, L.K., KARAVANOV, K.V., KARPOVA, YE.N., BOKANOV, A.I.,
STEPANOV, B.I.
COUNTRY OF INFO--USSR
SOURCE--Zh. CBSHCF. KHIM. 1970, 40(3), 581-4
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ORGANIC SYNTHESIS, ORGANIC PHOSPHORUS COMPOUND,
ORGANIC MAGNESIUM COMPOUND, OXIDATION, ORGANIC OXIDE, BENZENE DERIVATIVE,
ISOTOPE, ORGANIC NITRO COMPOUND, IMINE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3002/1069 STEP NO--UR/0079/70/040/003/0581/0584
CIRC ACCESSION NO--AP0128496

UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0128496

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MESITYLMAGNESIUM BROMIDE FROM 2.4 G MG AND 12.5 G ET SUB2 PCL MIXED AT MINUS 10DEGREES IN THF AND REFLUXED 0.5 HR GAVE 59PERCENT MESITYLDIETHYLPHOSPHINE (I); B SUB1 100-20DEGREES, D PRIME20 C.959, N PRIME20 SUBD 1.5500; ETHIODIDE M. 132-30DEGREES, WITH NA PICRATE GAVE THE CORRESPONDING PICRATE, M. 78.5-80DEGREES. SIMILARLY ETPCL SUB2 AND RMGBR GAVE 70PERCENT DIMESITYLETHYLPHOSPHINE (II), B SUB1 176-80DEGREES, M. 116-17DEGREES; ETHIODIDE, M. 278-80DEGREES, GAVE THE PICRATE, M. 170-10DEGREES. OXIDN. OF R SUB3 P WITH 4PERCENT H SUB2 O SUB2 GAVE 74PERCENT MESITYLDIETHYLPHOSPHINE OXIDE, B SUB1 150-20DEGREES, 1.040, 1.5480, AND 91PERCENT DIMESITYLETHYLPHOSPHINE OXIDE, M. 143-40DEGREES. I AND P, O SUB2 NC SUB6 H SUB4 N SUB3 IN ET SUB2 O AT 0-5DEGREES, FINALLY AT REFLUX 1 HR, GAVE I P NITROPHENYLIMINE (III), M. 118-19DEGREES; II ANALOG (IV), M. 188-90DEGREES. THE FORMER WAS UNSTABLE IN AIR, THE LATTER STABLE. IN MEND SUB2, III GAVE THE IONIZATION CONST. BY TITRN. (KOROLEV AND STEPANOV, (1968) PKA 15.95, AND COMPARED WITH 14.43 FOR IV, AND 15.72 FOR P, MEC SUB6 H SUB4 PET SUB2:NC SUB6 H SUB4 NO SUB2,P. THE CHEM. SHIFT OF PRIME31 P IN I WAS 19 PPM AND IN TRIMESITYLPHOSPHINE 39. THUS, THE EXCHANGE OF MESITYL FOR ET DOES NOT LEAD TO ANGLE DEFORMATIONS IN R SUB3 P. FACILITY: MOSK. KHIM.-TEKHNL. INST. IM. MENDELEEVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

KARAVANS'KA, N. O., Kiev Medical Institute, Kiev

"Antibody Formation by Lymphoid Cells Upon Immunization Under Conditions of Exposure to Different Temperatures"

Kiev, Mikrobiologicheskii Zhurnal, Vol 33, No 6, Nov/Dec 71, pp 779-780

Abstract: Rats were immunized by a subcutaneous injection into the lower part of the thigh of the left hind leg of 0.5 ml of a 30 percent suspension of ram erythrocytes. Immunization was carried out after the animals had been kept for seven days at 16.5-18.5°C (control group), at temperatures fluctuating from minus 5 to plus 6°C, or 31-2°C. The plasmacyte reaction in lymph nodes, the amount of antibody-forming cells, and the content of hemolysins and hemagglutinins in the blood serum of rats were determined. In rats subjected to the action of low temperatures, differentiation of lymphoid cells into those of the plasmacyte series proceeded much more intensively after immunization both in the lymph node closest to the site of introduction of the antigen (the left transverse node) and more distant nodes (the left inguinal and axillary nodes) than in rats of the control group or those that had been exposed to the high temperature of 31-2°C. For rats that had been kept at low temperatures, the amount of antibody-forming cells in the left transverse node on the third

1/2

USSR

KARAVANS'KA, N. O., Mikrobiologicheskiy Zhurnal, Vol 33, No 6, Nov/Dec 71, pp 779-780

day after immunization was 2.2 times higher than that for rats of the control group and 6.3 times higher than that for rats that had been kept at the high temperature. There was a direct relationship between the amount of antibody-forming cells and the titers of hemolysins and hemagglutinins. It had been established by N. A. Kraskina, et al., that small lymphocytes, regardless of temperature conditions, do not participate in the formation of antibodies in the productive stage of this process; one may therefore ascribe to cells of the plasmacyte series the principal role in the formation of antibodies.

2/2

- 12 -

USSR

DYACHENKO, S. S., and KARAVANS'KA, N. O., Kiev Medical Institute, Kiev

"Comparative Characteristics of Some Immunobiological Reactions Under the Effect of ACTH and Prednisolone"

Kiev, Mikrobiologicheskii Zhurnal, Vol 33, No 6, Nov/Dec 71, pp 777-778

Abstract: Rats were immunized by an injection of a 30 percent suspension of ram erythrocytes into the thigh of the left hind leg after intramuscular injections of ACTH in doses of 5 mg/100 g or prednisolone in doses of 5 units/100 g had been given to them for 6 days into the thigh of the opposite hind leg. The plasmacyte reaction in the left transverse, left inguinal, and left axillary lymph nodes was investigated after immunization. In a cell suspension prepared from the lymph nodes, the amount of antibody-producing cells was determined by local hemolysis in a gel. Under the effect of the antigen, the amount of cells of the plasmacyte series in the left transverse lymph node and to a lesser extent in the other two lymph nodes increased markedly in control animals not treated with either hormone, with the maximum count being reached on the 5th day after immunization. This increase was much less pronounced for rats treated with hormones; the number of cells of the plasmacyte series in the left transverse lymph node at the maximum on the 5th day

1/2

USSR

DYACHENKO, S. S., and KARAVANS'KA, N. O., Mikrobiologicheskiy Zhurnal, Vol 33, No 6, Nov/Dec 71, pp 777-778

after immunization was reduced by a factor of 4.3 and 4.1 after treatment with ACTH and prednisolone, respectively, vs. that for immunized control animals not treated with either hormone. The variation in the number of antibody-forming cells in the lymph nodes corresponded to that in the number of cells of the plasmacyte series. The hemolysin and hemagglutinin titers of the blood serum changed in direct relation to the amount of antibodies that formed. In experiments in which rats were immunized by three injections of heated corpuscular typhoid vaccine, administration of ACTH or prednisolone for 6 days prior to immunization did not inhibit the antibody-forming activity of the lymph nodes. When the hormones were administered during the period of immunization, formation of antibodies was inhibited.

2/2

1/2 031 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--SUPPRESSION OF THE SPIRAL INSTABILITY OF S SEMICONDUCTOR PLASMA IN
STRONG MAGNETIC FIELDS -U-
AUTHOR-(02)-TSIPIVKA, YU.I., KARAVAYEV, G.G.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TEKH. POLUPROV. 1970, 4(3), 508-11

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--STRONG MAGNETIC FIELD, PLASMA INSTABILITY, SEMICONDUCTOR
PLASMA, ELECTRIC FIELD, GERMANIUM SEMICONDUCTOR

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0106

STEP NO--UR/0449/70/004/003/0508/0511

CIRC ACCESSION NO--AP0105192

UNCLASSIFIED

2/2 031

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0105192

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CONDITIONS FOR THE ONSET OF THE SPIRAL INSTABILITY OF A SEMICONDUCTOR PLASMA IN A STRONG MAGNETIC FIELD IS DISCUSSED, ASSUMING FINITE SAMPLE DIMENSIONS, WHICH IMPOSE CERTAIN LIMITATIONS ON VALUES OF THE WAVE VECTOR, X . IN THIS CASE THERE EXIST, FOR A GIVEN ELEC. FIELD, 2 VALUES OF THE MAGNETIC FIELD LIMITING AN INTERVAL IN WHICH THE SPIRAL INSTABILITY TAKES PLACE. A THRESHOLD ELEC. FIELD, E_{SUBTH} , EXISTS, BELOW WHICH THE SPIRAL INSTABILITY SHOULD NOT BE OBSERVED AT ANY MAGNETIC FIELD. THE E_{SUBTH} INCREASES WITH INCREASING X AND WITH DECREASING DEGREE OF INJECTION, Δ . EXPTL. RESULTS OBTAINED WITH N-GE (ELECTRON AND HOLE MOBILITIES 2100 AND 1500 CM PRIME²-V-SEC, RESP., AT 300DEGREESK) AT SIMILAR TO 20 KG AND Δ SIMILAR TO 0.3 AGREE REASONABLY WITH THEORETICAL CONCLUSIONS.

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE---17JUL79

TITLE--REMOVAL OF NITROGEN CONTAINING COMPOUNDS FROM METHANOL. I.
PHYSICOCHEMICAL PROPERTIES OF SOME CATION EXCHANGERS IN METHANOL -U-
AUTHOR--KARAVAYEV, N.M., PETRISHCHEV, K.P.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(1), 145-50

DATE PUBLISHED-----7C

9
5
14

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--CHEMICAL SEPARATION, PHYSICAL CHEMISTRY PROPERTY, METHANOL,
CATION EXCHANGE PROPERTY, CHEMICAL STABILITY, ABSORPTION, ORGANIC
NITROGEN COMPOUND(U)KUL CATION EXCHANGE RESIN, (U)KUS CATION EXCHANGE
RESIN, (U)K84 CATION EXCHANGE RESIN, (U)SG1 CATION EXCHANGE RESIN,
(U)SBS1 CATION EXCHANGE RESIN, (U)KU2 BCH CATION EXCHANGE RESIN, (U)KU6G

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1580/0980

STEP NO--UR/0080/70/043/001/0145/0150

CIRC ACCESSION NO--AP0045173

UNCLASSIFIED

Acc. Nr: **AP0049173** — Abstracting Service:
CHEMICAL ABST. 5-70

Ref. Code:
4R0080

104226f Removal of nitrogen-containing compounds from methanol. I. Physicochemical properties of some cation exchangers in methanol. Karavaev, M. M.; Petrislichev, K. P. (USSR). *Zh. Prikl. Khim. (Leningrad)* 1970, 43(1), 145-50 (Russ). Degree of swelling in H₂O and MeOH, chem. stability in MeOH, and absorption capacity of NH₃, MeNH₂, Me₂NH, Me₃N, and 1-methylpyrrolidone for cation resins KU-1, KU-6g, KB-4, SG-1, SBS-1, KU-2-8ch, and KU-2-8 were detd. Chem. stability was detd. by extn. of resins with boiling MeOH for 3 hr and dissoln. was followed. High acidic exchangers KU-2-8, KU-2-8ch, and low acidic SG-1 were sufficiently stable but only KU-2-8 and KU-2-8ch were recommended to use for MeOH purification. The absorption capacity of resins with respect to the N-contg. compds. decreases in the same order they are mentioned. The lowest capacity was that one found for 1-methylpyrrolidone; the highest value was only 0.85 for SBS-1 and the lowest one 0.10 mequiv/g for KU-6g. J. Havel -J

1/1

REEL/FRAME
13800980

714

1/2 021 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--REMOVAL OF ZINC FROM NICKEL BRASSES -U-
AUTHOR--(03)-MARSHAKOV, I.K., KARAVAYEVA, A.A., SARYAN, S.A.
COUNTRY OF INFO--USSR
SOURCE--ZASHCH. METAL. L970, 6(2), 241-3
DATE PUBLISHED-----70

K

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--BRASS, NICKEL CONTAINING ALLOY, ZINC CONTAINING ALLOY,
CORROSION RATE, ELECTROCHEMISTRY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/1898

STEP NO--UR/0365/70/005/002/0241/0243

CIRC ACCESSION NO--AP0118860

UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0118860

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN STUDIES OF CU-NI BRASSES, THE CORROSION RATE IN 0.5N HCL AND IN 0.1N HCL PLUS 0.01N CUCL SUB2 WAS MEASURED BY LOSS OF WT. AND THE AMT. OF THE COMPONENTS WHICH ENTERED THE SOLN. THE KINETICS OF THE ELECTROCHEM. REACTIONS WERE STUDIED UNDER STATIC CONDITIONS AND ON ROTATING ELECTRODES BY GALVANOMETRIC METHODS. THERE IS A CONCN. POLARIZATION DURING ANODE DISSOLN. OF THE ALPHA AND BETA PHASES OF BRASS. INTRODUCTION OF NI PARTIALLY STOPS THE ANODE DISSOLN. AND RAISES THE CORROSION POTENTIAL. THIS UPSURGE OF POTENTIAL DECREASES THE ZN REMOVAL OF BRASS. FACILITY: VARONEZH, GOS. UNIV., VORONEZH, USSR.

USSR

UDC 632.95

REVEL'SKIY, I. A., TOONSON, V. A., IL'MOYA, K. A., BELOV, V. M., ~~KARAVAYEVA,~~
V. G., LOOG, E. P., SOVAKOVA, T. M.

~~The Sensitivity of a Flame-Photometric Detector to Certain Pesticides as a
Function of Temperature"~~

Tr. 2-ro Vses. soveshch. po issled. ostatkov pestitsidov i profilakt. zagryaz-
neniya imi produktov pitaniya, kornov i vnesn. sredy (Works of the Second All-
Union Conference on the Investigation of Pesticide Residues and Preventive
Contamination of Food Products, Fodder and Environment), Tallin, 1971, pp 102-
107 (from RZh-Khimiya, No 12, Jun 72, Abstract No 12N448)

Translation: On a chromatograph of the Malpar Company, a Study was made of the behavior of a single and double-channel flame photometric detector as a function of the temperature of the detector and the thermostat of the columns. The separation of the artificial mixture of pesticides is carried out in a glass column 2 meters long with an inside diameter of 4 mm filled with KR chromosorb with a 3% phase of OV-1. The column was heated for 50 hours in advance at 250°. The evaporator temperature was 250°, the thermostat temperature of the columns and the detector was 75-220°. The flow rates of N₂ (the gas-carrier), H₂O₂ and air are 80, 150, 20 and 10 cm³/min respectively. In checking the sensitivity of the flame photometric detector, a mixture of methyl parathion, parathion, methylthion and ethion in hexane was used. The amount
1/2

USSR

REVEL'SKIY, I. A., et al., Tr. 2-go Vses. soveshch. po issled. ostatkov nes-titsidov i profilakt. zacrvaeniya imi produktov titaniva, kormov i vnesh. sredv. Tallin, 1971, pp 102-107

of each component was 10^{-9} in a microliter of solution. For a decrease in background current and the noise level it was necessary to operate at low temperatures of the flame-photometric detector (but not less than $20-100^{\circ}$ to avoid condensation of moisture), or with additional cooling of the photomultiplier and filter. It is expedient to study the dependence of the background current and noise level for each new column. The phosphorus channel is more sensitive than the sulfur channel to temperature variations of the detector and columns. The background current and noise level for it are 10 times higher than for the sulfur channel. For the two-channel flame photometric detector, the background current and noise level as functions of the column temperature were somewhat greater than for the single channel, and as functions of the detector temperature, somewhat less. The basic deficiencies of the investigated flame photometric detector are as follows: the filters and photomultipliers are under the effect of the detector housing temperature; as a result of internal reflections of light, variation in the parameters is observed on transition to operation with a two-channel detector. The detector developed at the Special Design Office of the Estonian SSR Academy of Sciences does not have these deficiencies,

2/2

- 58 -

2

USSR

UDC 632.95

REVEL'SKIY, I. A., IOONSON, V. A., IL'MOYA, K. A., KARAVAYEVA, V. G., LOOG,
E. P., SIROTA, T. S.

"Sensitivity of Flame Photometric Detector for Phosphorus-Containing Pesticides
as a Function of the Experimental Parameters"

Tr. 2-go Vses. soveshch. po issled. ostatkov pestitsidov profilakt. zagrvaz-
neniya imi produktov pitaniya, kormov i vnesh. sredy (Works of the Second All-
Union Conference on the Investigation of Pesticide Residues and Preventive
Contamination of Food Products, Feeds and Environment), Tallin, 1971, pp
108-111 (from RZh-Khimiya, No 12, Jun 72, Abstract No 12N422)

Translation: In studying the dependence of the sensitivity of the two-channel
flame-photometric detector to phosphorus-containing pesticides on the experi-
mental parameters, a solution of triethyl phosphate (I) in alcohol is used.
The optimal O_2 flow rate (20-40 cm^3/min), N_2 and H_2 flow rates were found from
the point of view of sensitivity of the two-channel flame photometric detector.
For an amount of I on the order of 10^{-7} grams, the signal of the phosphorus
channel exceeds the signal of the sulfur channel approximately 400 fold.

1/1

1/3 - 027 UNCLASSIFIED PROCESSING DATE--2300170
TITLE--TEMPERATURE DEPENDENCE OF DEFORMATION RESISTANCE IN NICKEL
MOLYBDENUM AND NICKEL TUNGSTEN ALLOYS -U-
AUTHOR-(03)-SUKHOVAROV, V.F., KARAVAYEVA, V.V., KHARLOVA, R.P.
COUNTRY OF INFO--USSR
SOURCE--IZV. VYSSH. UCHEB. ZAVED., FIZ. 1970, 13(1), 89-93
DATE PUBLISHED-----70
SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, MATERIALS
TOPIC TAGS--NICKEL ALLOY, TUNGSTEN ALLOY, MOLYBDENUM ALLOY, REFRACTORY
METAL, METAL DEFORMATION, DEFORMATION RESISTANCE, TEMPERING, METAL
AGING, METAL COMPRESSIBILITY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAHE--1997/1367 STEP NO--UR/0139/70/013/001/0039/0093
CIRC ACCESSION NO--AT0120162
UNCLASSIFIED

2/3 027

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AT0120162

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ALLOYS DIFFERING IN THE LEVEL OF K STATE EFFECT WERE STUDIED TO DET. WHAT PROCESSES ARE RESPONSIBLE FOR THE CREATION OF THE ANOMALOUS DEPENDENCE OF DEFORMATION RESISTANCE ON TEMP. AND RATE. ALLOYS OF NI WITH 5 AND 10PERCENT MO AND 5PERCENT W WERE HOMOGENIZED 50 HR AT 1200DEGREES AND FORGED INTO RODS, FROM WHICH WIRE AND COMPRESSION SPECIMENS WERE PREPD. THE FOLLOWING EFFECTS WERE STUDIED: (A) THE DEPENDENCE OF ELEC. RESISTANCE ON THE TIME OF TEMPERING AT 400DEGREES, (B) THE DEPENDENCE OF RESISTANCE TO COMPRESSION ON TEMP. AND RATE AT 20-600DEGREES, AND (C) DEFORMATION CHARACTERISTICS DURING TENSION AT 20-600DEGREES. TWO COMPRESSION DEFORMATION RATES WERE USED: 20 AND 2400PERCENT-HR, WHILE THE TENSION RATE WAS ONLY 48PERCENT-HR. BEFORE TESTING, THE SPECIMENS WERE HELD 3 HR IN VACUUM AT 950DEGREES AND THEN HARDENED IN WATER. DURING TEMPERING THE NI MO 10PERCENT ALLOY SHOWED THE HIGHEST INCREASE OF ELEC. RESISTANCE OF ALL THE ALLOYS, THE ALLOY NI MO 5PERCENT SHOWED ONLY A SLIGHT INCREASE, AND THE ALLOY NI 5PERCENT W HAD A DECREASE OF ELEC. RESISTANCE; ONLY THE NI MO 10PERCENT UNDERWENT I STATE TRANSFORMATION TO A SIGNIFICANT DEGREE. FROM THE DEPENDENCE OF RESISTANCE TO COMPRESSION DEFORMATION ON TEMP. ALL THE ALLOYS UNDER WENT DEFORMATION AGING AT GREATER THAN 150DEGREES. THIS IS CONFIRMED BY THE OCCURRENCE OF AN ANOMALOUSLY HIGH RESISTANCE TO COMPRESSION DEFORMATION FOR NI MO 10PERCENT AT HIGH DEFORMATION RATES (2400PERCENT-HR). DEFORMATION AGING WAS REDUCED CONSIDERABLY BY DECREASING THE CONC. (BY HEATING THE SPECIMEN 25 HR AT 1150DEGREES IN ATM. OF H₂).

UNCLASSIFIED

3/3 027 UNCLASSIFIED PROCESSING DATE--239CT70
CIRC ACCESSION NO--AT0120162
ABSTRACT/EXTRACT--THE PREFERENTIAL FORMATION OF K STATE IN TH ALLOY NI
PLUS MO 10PERCENT TO A LARGER EXTENT THAN IN OTHER ALLOYS WAS CONFIRMED
BY THE LARGER DEGREE OF STEP-WISE CHARACTERISTIC OF DEFORMATION THAN
WITH ALLOYS CONTG. 5PERCENT MO OR W.

USSR

UDC 622:242+553

KARAVAYKO, G. I., KUZNETSOV, S. I., GOLOMZYK, A. I.

"The Role of Microorganisms in Leaching of Metals from Ores"

Rol' Mikroorganizmov v Vyshchelachivanii Metallov iz Rud. [English Version Above], Nauka Press, Moscow, 1972, 248 pages.

Translation of Introduction: The leaching of nonferrous metals from ores includes oxidation of sulfide minerals and washing of the soluble salts of these metals thus formed from the ores. Leaching is easiest for metals present in the ore in the form of oxides. In this process, weak solutions of sulfuric acid are most frequently used as the solvent. As we know, rare elements are present in the crystalline lattices of many sulfides, isomorphically replacing such elements as copper, zinc, lead, etc. The actual sulfides of the rare elements are rarely encountered. During oxidation of sulfide minerals, their crystalline lattice is broken down, the rare elements go over into solution if the conditions are favorable, and are extracted from the ore.

Thus, leaching of nonferrous and rare metals is based on two processes: oxidation of the sulfide mineral and washing out of the metals with solutions.

In the leaching of nonferrous and other metals, great significance is given to the activity of microorganisms. The sulfide ores of nonferrous

1/7

USSR

KARAVAYKO, G. I., KUZNETSOV, S. I., GOLONZIK, A. I., Rol' Mikroorganizmov v Vyshchelachivanii Metallov iz Rud., Nauka Press, Moscow, 1972, 248 pages.

metals are most suitable for bacterial leaching; therefore, in studying processes of bacterial leaching of these metals, primary attention is given to thiogenic bacteria.

The approach to determination of the suitability of the bacterial method for leaching of nonferrous metals from ores of a given deposit consists of three aspects: analysis of data characterizing the deposit (reserves of ore, geology, degree of exploitation, geochemical situation, etc.), presence of the corresponding groups of microorganisms in the deposit itself, and laboratory and pilot-scale studies of individual types of ore. This allows efficient selection of the corresponding technology and object of leaching of the metals.

TABLE OF CONTENTS

Foreword	5
Introduction	7
Chapter 1	
Characteristics of Basic Groups of Microorganisms in Mineral Deposits	
Microorganisms Which Reduce Sulfates	8
Microorganisms Which Participate in the Oxidation of Reduced Sulfur Compounds	12

2/7

USSR

KARAVAYKO, G. I., KUZNETSOV, S. I., GOLOMZYK, A. I., Rol' Mikroorganizmov v Vyshchelachivanii Metallov iz Rud., Nauka Press, Moscow, 1972, 248 pages.

Microorganisms Which Participate in the Reduction of Iron and Manganese	25
Chapter 2	
Geochemical Activity of Microorganisms in Sulfide or Deposits	
Geochemical Characteristics of Sulfide or Deposits	28
Geochemical Activity of Thiogenic Bacteria in Deposits of Sulfide Ores and Basic Regularities of Their Placement	34
Significance of Microorganisms in Deposition of Metals and Formation of Sulfides in Ore Deposits	38
Significance of Microorganisms in the Geochemistry of Uranium	46
Chapter 3	
Tasks and Methods of Field Microbiological Studies of Mineral Deposits	
Standardization of Methods of Analysis	49
Chapter 4	
Leaching of Nonferrous, Rare, and Noble Metals from Ores Under Laboratory Conditions	
Bacterial Oxidation of Ferrous Oxides	58
Bacterial Oxidation of Pyrite	60
Bacterial Oxidation of Sulfide Minerals of Copper	62

3/7

USSR
KARAVAYKO, G. I., KUZNETSOV, S. I., GOLOMZYK, A. I., Rol' Mikroorganizmov
v. Vyshchelachivanii Metallov iz Rud., Nauka Press, Moscow, 1972, 248 pages.

Bacterial Oxidation of Sulfide Minerals of Zinc, Nickel, Antimony, Lead, Tin, Molybdenum, and Arsenic	65
Leaching of Nonferrous Metals from Wastes of Enrichment Plants and Concentrates	70
The Role of Thiogenic Bacteria in Leaching of Rare Metals	71
The Role of Microorganisms in the Hydrometallurgy of Gold	76
The Role of Microorganisms in the Leaching of Manganese from Ores	81
The Mechanism of Bacterial Oxidation of Sulfide Minerals, Sulfur, and Ferrous Oxide	85
Chapter 5	
Basic Factors Regulating Processes of Chemical and Bacterial Oxida- tion of Sulfide Minerals and Leaching of Metals from Ores	
Energy of the Crystalline Lattice	95
Potential of Sulfides	96
Composition of Ores	100
Dimensions of Sulfide Particles	101
Active Acidity	102
Temperature	102
Influence of Aeration and Mixing	103
Influence of Solid to Liquid (s:l) ratio on Rate of Bacterial Oxidation of Sulfide Minerals	104

4/7

USSR
KARAVAYKO, G. I., KUZNETSOV, S. I., GOLOMZIK, A. I., Rol' Mikroorganizmov
v Vyshchelachivanii Metallov iz Rud., Nauka Press, Moscow, 1972, 248 pages.

Effects of Surface-Active Agents	107
Influence of Mineral Salts	108
Effects of Magnetic Fields	108
Selection of Bacteria	109
Separation of New Strains of Bacteria Capable of Utilizing the Energy of Oxidation of Individual Minerals	110
Chapter 6	
Tasks and Methods of Laboratory and Large-Scale Studies of the Technology of Leaching of Nonferrous Metals from Ores in Order to Produce Initial Data for Planning of Industrial Installations	
Leaching of Nonferrous and Rare Metals from Small Charges of Sul- fides or Ores	114
Leaching of Nonferrous Metals from Various Types of Ores in Perco- lators	115
Studies in Large-Scale Percolators	118
Pilot-Scale Testing in Columns	120
Use of Methods of Mathematical Planning to Clarify Conditions of Bacterial Leaching of Nonferrous Metals from Ores	124
Development of Bacterial Method of Leaching of Nonferrous Metals in Vats	133

USSR
KARAVAYKO, G. I., KUZNETSOV, S. I., GOLOMZYK, A. I., Rol' Mikroorganizmov
v Vyshchelachivanii Metallov iz Rud., Nauka Press, Moscow, 1972, 248 pages.

What Should be the Mode of Regeneration of an Installation? 136

Chapter 7

Examination of Deposits to Determine the Possibility of Pile or
Underground Leaching of Metals 137

Basic Problems to be Studied During Examination of a Deposit 138

Composition of Technical and Economic Basis for Leaching

Chapter 8

Organization of Pile and Underground Leaching of Copper from Ores
(domestic and foreign experiments) 150

Preparation of the Object for Pile Leaching 155

Preparation of the Object for Underground Leaching 158

Technology of Leaching of Copper from Ores 180

Pile and Underground Leaching of Uranium 182

Microbiological and Chemical Testing During Leaching

Some Examples of Purification of Waste Waters from Hydrometallurgical
Installations 186

Chapter 9

Methods of Counting and Separation of Bacterial Cultures

Counting of Microorganisms by the Method of Series Dilutions 191

Method of Quantitative Accounting for Primary Physiological Groups

6/7

USSR

KARAVAYKO, G. I., KUZNETSOV, S. I., GOLOMZYK, A. I., Rol' Mikroorganizmov
v Vyshchelachivanii Metallov iz Rud., Nauka Press, Moscow, 1972, 248 pages.

of Bacteria	192
Microscopic Counting of Bacteria	200
Separation of Pure Cultures of the Basic Microorganisms	202
Recipe for Nutrient Media	208
Chapter 10	
Physical-Chemical and Chemical Analysis of Waters and Ores	
Methods of Physical-Chemical Analysis	222
Determination of Temperature	225
Determination of Consumption of Solutions	226
Chemical Analysis of Ore Water	227
Sampling of Ores and Water	228

7/7

USSR

UDC 669.721.472(088.8)

REZNIKOV, I. L., ZUYEV, N. M., IVANOV, A. B., POLYAKOV, YU. A., FRANTAS'YEV, N. A., TATAKIN, A. H., SOLYAKOV, S. P., and KARAVAYEV, A. I., All-Union Scientific Research and Design Institute of Aluminum, Magnesium, and Electrode Industry, Solikamskiy Magnesium Plant

"Method of Preparing Refined Electrolyte for Magnesium Production"

USSR Author's Certificate No 259401, filed 4 Sep 68, published 15 May 70 (from RZh-Metallurgiya, No 11, Nov 70, Abstract No 11 G134 P)

Translation: A method is proposed for preparing a refined electrolyte for magnesium production, which includes enrichment of a reversible electrolyte with chlormagnesium initial raw material and refining by means of electrolytic and heat treatment, and also with the help of reducing agents and gases. To increase the degree of refining of the electrolyte and improve the technological indicators, the reversible electrolyte is separated into several streams, one of which is fed to the beneficiation with chlor-magnesium raw material, and the remaining ones are added to the obtained chloride melt enriched with $MgCl_2$ after refining. The enrichment of reversible electrolyte with chlormagnesium raw material produces 25-50% concentration of $MgCl_2$ at melt temperatures of 450-650°. The concentration of $MgCl_2$ in the refined electrolyte is maintained at 10-25%. 1/1

USSR

UDC 632.95

UNTERBERGER, V. K., FADEYEV, YU. N., YURLOVA, M. N., KARAVAYTSEVA, Z. D., BLIZNYUK, N. K., KVASHA, Z. N., KLIMOV, G. V., All-Union Scientific Research Institute of Phytopathology, Moscow, Ministry of Agriculture USSR

"Insectoacaricide"

USSR Author's Certificate No 249399, filed 11 Dec 67, published 7 Jan 70 (from RZh-Khimiya, No 18, 25 Sep 70, Abstract No 18N625, by P. V. Popov)

Translation: Compounds with the general formula $(Me)(RS)P(S)SCH_2CH_2-N(R^I)(R^{II})$ (R = C₁-C₆ -- alkyl; R^I and R^{II} = lower alkyl or Ph) exhibit properties of insecticides and acaricides.

1/1

- 121 -

USSR

UDC 632.95:633.426

~~KARAVYANSKIY, N. S.~~, and CHERNYKH, N. M., All-Union Scientific Research
Institute of Feeds imeni V. R. Vil'yams

"Application of Granulated Insecticides for the Protection of Fodder Root
Crops From Pests"

Moscow, Khimiya v Sel'skom Khozyaystve, Vol 10, No 5, 1972, pp 38-39

Abstract: Leaf damage from various types of fleas was measured as 45-66% of the root crop weight; damage increases at low levels of soil moisture. Following limitations on use of DDT and hexachlorocyclohexane, new insecticides which left little or no harmful residue were sought. Rogor and anthio, both in 40% starch equivalent concentrations, were mixed with superphosphates, then with various turnip seeds and immediately planted. Production tests were conducted in Khar'kovskaya and Moscow Oblasts, in the Georgian SSR and the Komi ASSR, and repeated 4 times. The treated plots remained practically untouched while the control suffered 100% plant damage. Twenty days after planting there were 2-40% more sprouts on the treated plots. In 1968-1969 the treated crops were 12-13% greater than the control, and in 1970, 40-51% greater. Residue was insignificant by the 4 leaf stage of growth, and by the 6 leaf stage no residue at all was observed. None of the insecticide was found in either the root crops or the soil.

1/1

USSR

UDC 621.382.3

AVAK'YANTS, G. M., KARAYAN, G. S., DZHEREDZHIAN, A. A., Institute of Radio
Physics and Electronics, Armenian SSR Academy of Sciences

"Inversion Phenomenon in Five-Layer Structures"

Yerevan, Izvestiya Akademii Nauk ArmSSR: Fizika, Vol 8, No 3, 1973, pp
205-212

Abstract: The authors find the current-voltage characteristic of a PNPNP structure when $\beta_2 + \beta_3 > 1$, and they study the condition of formation of sections with negative resistance on the current-voltage characteristic. It is shown that inversion of the sign of voltage displacement occurs on the central collector junction. Formulas are derived for the extremum points of the function $V(I)$, and the existence of an intermediate interval with positive differential resistance is demonstrated. A new mechanism is suggested for the formation of negative resistance on the current-voltage characteristic of the fourth junction.

1/1

1/2 019

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--UREA DEPARAFFINATION OF DIESEL FUEL FROM MIXTURES OF HIGHER SULFUR
PETROLEUM OILS BEFORE AND AFTER HYDROREFINING -U-

AUTHOR--(02)-BEREZYUK, F.A., KARAYBOG, YE.V.

COUNTRY OF INFO--USSR

SOURCE--NEFTEPERERAB. NEFTEKHIM. (MOSCOW) 1970, (3), 42-3

DATE PUBLISHED--70

SUBJECT AREAS--PROPULSION AND FUELS, MATERIALS

TOPIC TAGS--DIESEL FUEL, PETROLEUM REFINING, HYDROREFINING, PETROLEUM
DEWAXING, UREA, LOW TEMPERATURE EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/2080

STEP NO--UR/0318/70/000/003/0042/0043

CIRC ACCESSION NO--AP0127453

UNCLASSIFIED

2/2 019

CIRC ACCESSION NO--AP0127453

UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A DIESEL FUEL MIXT. OF HIGH S
 PETROLEUM OILS, BEFORE AND AFTER HYDROREFINING, WAS VEGOROUSLY MIXED FOR
 30 MIN WITH 60-120PERCENT UREA CRYSTALS AT MINUS 45 TO MINUS 55DEGREES
 IN THE PRESENCE OF 2PERCENT ACTIVATOR (MEOH PLUS 200 WT. PERCENT
 PETROLEUM NAPHTHA, B. 80-120DEGREES), FOLLOWED BY PRESSURE FILTRATION
 AND SOLVENT NAPHTHA WASHING OF THE WAX CAKE TO PRODUCE A WINTER GRADE
 DIESEL FUEL WITH 40PERCENT YIELD. THE YIELD OF PARAFFINS (M.
 16-22.5DEGREES) FROM THE UNREFINED OIL CHARGE WAS 12-4.5PERCENT, WHEREAS
 THE YIELD OF PARAFFINS (M. 19-24DEGREES) FROM THE HYDROREFINED CHARGE
 WAS 10.4-3.8PERCENT. SEVERAL TOWER TEMP. TREATMENS OF THE UNREFINED OIL
 RESULTED IN STILL LOWER YIELDS OF PARAFFINS DUE TO THE INHIBITING ACTION
 OF THE TARS AND AROMATIC COMPOS. PRESENT IN THE UNREFINED OIL. THESE
 IMPURITIES ALSO CAUSED AN INDUCTION PERIOD OF 4-5 MIN FOR COMPLEX
 FORMATION FROM THE UNREFINED OIL, WHEREAS PRACTICALLY NO INDUCTION
 PERIOD OCCURRED WHEN TREATING THE HYDROFINED OIL. MICROSCOPIC EXAMN. OF
 THE UREA COMPLEX SHOWED AROUND OR OVAL PARTICLES OF 0.08-0.015 MM DIAM.
 FROM THE UNREFINED OIL AND 0.09-0.030 MM FROM THE HYDROREFINED OIL. AN
 INDUSTRIAL APPLICATION OF THE PROCESS IS DESCRIBED, WHERE MIXING IS
 ACHIEVED BY USE OF VENTURI SCRUBBERS FOR IMPROVED EFFICIENCY.

UNCLASSIFIED

USSR

UDC 591.185.3.633.88

KARAYEV, A. I., KHANUKAYEV, E. M., and AKHMEDOVA, E. R., Institute of Physiology, Academy of Sciences, Azerbaydzhan SSR

"The Effect of Essential Oils From Oleander Flowers on the Electrical Activity of Some Structures in the Rabbit Brain"

Baku, Doklady Akademii Nauk Azerbaydzhanskoy SSR, No 5, 1970, pp 86-89

Abstract: Five alert rabbits with implanted brain electrodes were exposed to the aroma from oleander flowers, which is known to have a rather stupefying effect when inhaled for some time. Analysis of the EEG revealed desynchronization in the sensorimotor cortex, an ordered theta rhythm in the reticular formation and limbic cortex, and bursts of electrical activity (40 oscillations per sec with a periodicity of 4 to 5 sec) in the olfactory bulb. This reaction continued briefly even after the cessation of stimulation, after which electrical activity gradually returned to normal. It is pointed out that emotional stress in the rabbit triggers the same cortical reaction.

1/1

- 39 -

1/2 013 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--PREPARATION OF METHANOL WITH LOW ELECTRICAL CONDUCTIVITY -U-
AUTHOR--(03)-PETRISHCHEV, K.P., KARAYEV, M.M., DAVYDOV, A.T.
COUNTRY OF INFO--USSR
SOURCE--K^HIM. PROM. UKR. 1970, (2), 22-4
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--METHANOL, ELECTRIC CONDUCTIVITY, FILTRATION, CATION EXCHANGE
RESIN, ANION EXCHANGE RESIN/(U)KUZ ION EXCHANGE RESIN, (U)AV17 ION
EXCHANGE RESIN

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/0750 STEP NO--UR/0436/70/000/002/0022/0024
CIRC ACCESSION NO--AP0119657
UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119657

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MEOH OF HIGH PURITY AND LOW ELEC. COND. WAS OBTAINED BY FILTRATION OF COM. MEOH THROUGH H, FORM CATIONITE KU,2, AND THEN THROUGH THE OH, FORM OF ANIONITE AV,17 OR THROUGH A MIXT OF BOTH. THE COND. DECREASED FROM 8 TIMES 10 PRIME NEGATIVE7 TO 5.0 TIMES 10 PRIME NEGATIVE8 OHM PRIME NEGATIVE1 CM PRIME NEGATIVE1. THE ESTER AND ALDEHYDE CONTENT DIMINISHED BY 50PERCENT, THE AMT. OF N CONTG. COMPS. WAS REDUCED FROM 0.68 TO 0.01 MG-L. AND OF VOLATILE FE COMPS. FROM 0.038 TO 0.012 MG-L. FACILITY: SEVERODONETSK, FILIAL, GIAP. SEVERODONETSK, USSR.

UNCLASSIFIED

USSR

UDC: 539.3:534.231.1

GEL'CHINSKIY, B. Ya., KARAYEV, N. A., KOGAN, L. D.

"On the Use of Hilbert Transformation for Group Correlation of Seismic Waves"

V sb. Vopr. dinamich. teorii rasprostr. seysmich. voln. No 10 (Problems in the Dynamics of Seismic Wave Propagation Theory--collection of works. No 10), Leningrad, "Nauka", 1970, pp 121-128 (from RZh-Mekhanika, No 9, Sep 70, Abstract No 9V198)

Translation: For the purpose of finding the envelope of a seismic signal of complex form, the authors propose use of the Hilbert transformation, which is extensively employed in radio engineering for the same goal. The envelope calculating procedure is programmed on a computer, which is used to process seismograms for two-dimensional models with corrugated curvilinear boundaries. The results of the analysis were used for group correlation of waves showing the applicability of the proposed method to the study of dispersion of the group and phase velocities of a seismic signal.

P. V. Krauklis.
1/1

USSR

UDC 622.24.054.322:622.24.051.64

KHUBOV, A. N., VOSKANOV, T. G., GEVORKOV, G. S., KARAYEV, S. K., MDIVANI, A. G., SIMONYAN, A. A., SHAKHRAMANOV, A. Kh., Baku Division of the All-Union Scientific Research Institute for Drilling Techniques, All-Union Scientific Research Institute for Drilling Techniques and "Kaspmorneft" Combine

"Effectiveness of Applying Slow-Speed Turbodrills in Drilling With Diamond Chisels"

Dzerzhinsk, Bureniye, No. 4, 1972, pp 3-7

Abstract: The results of experimental boring with diamond chisels of diameter 241 mm in combination with slow-speed and high-revolution turbodrills when approximately the same power is supplied to the chisel are analyzed. It is shown that the highest economic and technical operating indices for diamond chisels are achieved by applying a slow-speed low-pressure turbine of precision casting, namely the 3TSSh-190TL turbodrill and the 33/11 turbine. This turbine can operate consistently at revolutions of 250-400 per minute and can take axial loads of 12 tons or more. Data are presented on the consumption of DRS241S2 diamond chisels, the nature of their wear, and the change in mechanical rate during drilling. It is shown that a

1/2

USSR

KHUBOV, A. N., et al, Bureniye, No. 4, 1972, pp 3-7

decrease in the number of revolutions to 300-400 per minute had a favorable effect on the wear and an increase in cutting capacity by a factor of 2 is achieved at the same mechanical rate.

2/2

USSR

KARAYEV, S. F., Candidate of Medical Sciences, GUSEYNOV, D. Ya., Candidate of Medical Sciences, Department of Petrochemical Synthesis of the Azerbaydzhan Institute of Petroleum and Chemistry, the Laboratory of Psychopharmacology, Department of Pharmacology and Toxicological Chemistry of the Azerbaydzhan State Medical Institute im. N. Narimanov

"Study of the Psychotropic Action of Aminoderivatives of Dibutyneoxyethane and Propynoxybutyl Xanthogenate"

Baku, Azerbaydzhanskiy Meditsinskiy Zhurnal, Russian, No 7, 1972, pp 69-72

Acetylene derivatives have long attracted the attention of investigators because of their potential pharmacological properties [1-4].

Earlier [5], after having studied the pharmacological properties of dialkylaminoacetates of halogen-containing acetylenic alcohols, we demonstrated that several of them can be used successfully in the clinic instead of the well-known sedatives methylpentynol and meprobanate.

As an extension of previous investigations, we set as our purpose the investigation of the pharmacological properties of several nitrogen-containing derivatives of dibutyneoxyethane and propargyl butylxanthogenate. The chemical structural similarity of the latter to the well-known alkyne tranquilizers

1/10

- 38 -

USSR

KARAYEV, S. F. and GUSEYNOV, D. Ya., Azerbaydzhanskiy Meditsinskiy Zhurnal;
No 7, 1972, pp 69-72

(methylpentenyl carbamate, placidyl, merinax) allowed us to hope for a positive result.

The experiment was conducted on mice of both sexes, weighing 18-20 g using tests which allowed us to make a preliminary evaluation of the psychotropic activity of the substances under study [6].

The hypno-sedative effect was determined by potentiation of hexenal sleep and the net-crawling test:

a) hexenal sleep potentiation: determinations were made of the number of mice put to sleep. Mice were given one of the compounds under study forty minutes before the injection of hexenal; the obtained results were compared with indices of control mice to which hexenal alone was administered;

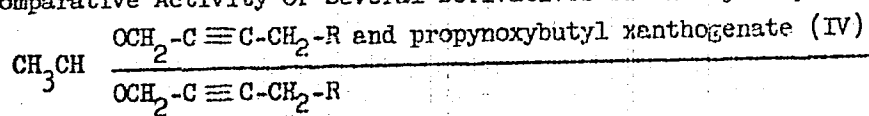
b) the net-crawling test was utilized for the purpose of studying orientation reaction; the mice placed in a special chamber were lifted for five minutes in a wire cage held at a 60° angle to the upper darkened section of the chamber: the absence of a net-crawling reaction under the influence of the substance under study was considered to be an indication of orientation reaction suppression.

2/10

USSR


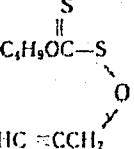
KARAYEV, S. F. and GUSEYNOV, D. Ya., Azerbaydzhanskiy Meditsinskiy Zhurnal,
No 7, 1972, pp 69-72

Comparative Activity of Several Derivatives of Dibutyneoxyethane



3/10

USSR
 KAFAYEV, S. F. and GUSEYNOV, D. Ya., Azerbaydzhanskiy Meditsinskiy Zhurnal, No 7,
 1972, pp 69-72

№	Формула (1) R	Потенцирование гексеналового сна (2)			Нарушение ориентиро- вочных реакций (3)		
		Доза, мг/кг (5)	% эф. (6)	Едсо. мг/кг (7)	Доза, мг/кг (5)	% эф. (6)	Едсо. мг/кг (7)
I	$N(C_2H_5)_2$	50	16,6	78 (62,4+97,5)	100	16,6	400 мг/кг -40% (11)
		80	66,6		200	16,6	
		100	66,6		400	40	
II	$N(C_2H_5)_2$	10	33,3	21,0 (9,5+46,2)	100	0	200 мг/кг -50% (12)
		25	50		200	50	
		50	83,3				
		100	83,3				
III		25	40	35,0 (30,4+40,3)	100	0	200 мг/кг -30% (15)
		50	50		200	30	
		100	83,3				
IV		50	16,6	105 (70+157,5)	100	0	180 (144+224)
		100	50,0		150	16,6	
		150	66,6				
		200	100		200	66,6	

4/10

USSR
 KARAYEV, S. F. and GUSEYNOV, D. Ya., Azerbaydzhanskiy Meditsinskiy Zhurnal, No 7 (1)
 1972, pp 69-72

Нарушение координации движений (4)			(8) Антагонизм с коразолом	(9) Устранение максимального электросуд. припада	Токсичность (10)
Доза, мг/кг (5)	% эф. (6)	Ед.со. мг/кг (7)			
100 200 400	16,6 50 66,6	240 (232+247,6)	—	400 мг/кг —40% (11)	400 мг/кг —80%
200 400	0 30	400 мг/кг —30% (13)	400 мг/кг — нет эффекта (14)	400 мг/кг — нет эффекта (14)	400 мг/кг
200 400	0 16	400 мг/кг —16% (16)	400 мг/кг — нет эффекта	200 мг/кг —10% (17)	400 мг/кг
100 150 200	0 16,6 83,3	185 (92,5+370)	—	—	—

5/10

USSR

KARAYEV, S. F. and GUSEYNOV, D. Ya., Azerbaydzhanskiy Meditsinskiy Zhurnal, No 7, 1972, pp 69-72

Key:

1. Formula
2. Hexenal sleep potentiation
3. Orientation reaction disruption
4. Movement coordination disturbance
5. Dose, mg/kg
6. % ester
7. 50% effective dose, mg/kg
8. Antagonism to corazole
9. Elimination of maximum electrode tremor
10. Toxicity
11. 400 mg/kg-40%
12. 200 mg/kg-50%
13. 400 mg/kg-30%
14. 400 mg/kg-no effect
15. 200 mg/kg-30%
16. 400 mg/kg-16%
17. 200 mg/kg-10%

6/10

USSR

KARAYEV, S. F. and GUSEYNOV, D. YA., *Azerbaydzhanskiy Meditsinskiy Zhurnal*, No 7, 1972, pp 69-72

The tranquilizing effect was determined by the corazole antagonism test, described by Swinyard and Brown [7], and the anti-tremor effect--by the maximum electric shock method, described by Tolman and associates [8].

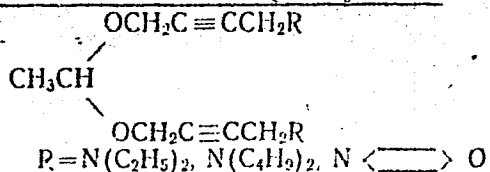
The addition, the daily toxicity was determined by the constant temperature of the environment.

A statistical treatment of the results with a computation of the 50% effective doses (ED_{50}) and their reliable intervals (at $P=0.05$) was conducted by the Litchfield-Wilcoxon method [9].

The substances being tested were administered to mice intrabdominally 45 minutes before the start of the experiment.

The table cites the comparative activity of the compounds in all tests in relation to dose.

Derivatives of dibutynoxyethane



7/10

- 41 -

USSR

KARAYEV, S. F. and GUSEYNOV, D. YA., Azerbaydzhanskiy Meditsinskiy Zhurnal, No 7, 1972, pp 69-72

The spectrum of the pharmacological activity of dibutyneoxyethane derivatives is characterized by a combination of both hypno-sedative and myorelaxant properties with mild antispasmodic effects. In comparison to monoacetylenic derivatives, the presence of two identical oxabutynyl chains in the structure of the compounds under study enhances somewhat different characteristics in pharmacological activity changes in relation to nitrogen-containing radicals in the quaternary position (R). Thus, the diethylamino derivative of dibutyneoxyethane (I), in contrast to compounds with an analogous radical in the series with one such acetylene chain, exhibits the lowest activity in hypno-sedative effect and the greatest toxicity in comparison to dibutylamino (II) and morpholine (III) derivatives.

The most active compound in the dibutyneoxyethane series is the derivative with the dibutylamino radical (II) after which in order of decreased activity (according to tests for hexenal sleep potentiation and orientation reaction disruption) are the compounds with morpholine (III) and diethylamino (I) radicals.

Propargyl butyl xanthogenate (IV) exhibits moderate sedative and myorelaxant effects. Hexenal sleep potentiation, orientation reaction and movement coordination disruption are noted approximately at the identical administered

8/10

USSR

KARAYEV, S. F. and GUSEYNOV, D. YA., *Azerbaydzhanskiy Meditsinskiy Zhurnal*, No. 7, 1972, pp 69-72

dose level (100--180 mg/kg) which indicates the absence of selectivity for any one particular type of action. That ester in terms of its activity (IV) is inferior in that respect to the dialkylamino derivatives of dibutyneoxyethane.

Conclusion

Investigation of the dialkylamino derivatives of dibutyneoxyethane and propargyl butyl xanthogenate has permitted us to establish in those compounds the presence of a moderate sedative action; combined with a myorelaxant effect with weak tranquilizing and antispasmodic properties.

The compounds studied are of specific interest in the theoretical sense since they expand our concept of the psychotropic activity in those series.

BIBLIOGRAPHY

1. I. L. Kotlyrevskiy, M. S. Shvartsberg, L. B. Fisher, Reaktsii Atsetilenovykh Soyedineniy (Reactions of Acetylene Compounds), Izd. "Nauka.", Siberian Branch, Novosibirsk, 1967.
2. W. McIlamore, M. Hargenist, A. Bavley, J. Org. Chem., Vol. 19, No 4, p 570. 1954.

9/10

USSR

KARAYEV, S. F. and GUSEYNOV, D. YA., *Azerbaydzhanskiy Meditsinskiy Zhurnal*, No 7, 1972, pp 69-72

3. D. C. Bishop, S. Meacock, W. Williamson, Ibid, Vol 7, p. 670, 1966.
4. J. L. Shapiro, H. Solowey, L. Freedman, J. Am. Chem. Soc., Vol. 77, p. 4375, 1955.
5. S. F. Karayev, Candidate Dissertation, Issledovaniye v Oblasti Sinteza i Prevrashcheniy Nekotorykh Khlorsoderzhashchikh Atsetilenovykh Spirtov i Ikh Proizvodnykh (Research on the Synthesis and Conversion of Certain Chlorine-Containing Acetylene Alcohols and Their Derivatives), AzINEFTEKHIM (Azerbaijani Institute of Petroleum Chemistry), Baku, 1970.
6. Yu. Vikhlyayev, T.A. Klygul', V. N. Pronudin, S. A. Andronati, Farmakol. i Toksikol. (Pharmacology and Toxicology), Vol. 1, p. 30, 1971.
7. E. A. Swinyard, W. C. Brown, J. Pharmacol. Exp. Therap., Vol. 106, p 319, 1952.
8. J. E. Tolman, E. A. Swinyard, L. Goodman, J. Neurophysiol., Vol. 9, p. 231, 1946.
9. J. T. Litchfield, F. Wilconox, J. Pharmacol. Exp. Therap., Vol. 96, p. 99, 1949.

10/10

USSR

UDC 615.787:612.014.46

KARAYEV, S. F., Candidate of Chemical Sciences, VIKHLYAYEV, YU. I., Cand
KLYGUL', T. A., Candidates of Medical Sciences, and SHIKHIYEV, I. A., Doctor
of Chemical Sciences, Chair of Petroleum Synthesis, Institute of Petroleum and
Chemistry imeni M. Azizbekov, and Laboratory of Psychopharmacology, Moscow
Institute of Pharmacology and Chemotherapy

"Synthesis and Psychotropic Properties of 1,1,1-trichloro-4-pentyn-2-ol and
Some of its Derivatives"

Baku, Azerbayzhanskiy Meditsinskiy Zhurnal, No 5, May 71, pp 19-23

Abstract: A study was made of the neuropharmacological spectrum of action of
compounds I-V (see table). The neuropharmacological properties of the pre-
parations were determined in mice, using the following tests: subcutaneous
corazole; subcutaneous strychnine' maximum electric shock (MES); reticulum
deposit; potentiating hexenal sleep; acute toxicity. The preparations were
intraperitoneally administered to the animals in doses of 0.2 ml per 20 of
body weight. The experiments established that all of the preparations with
the exception of V have a definite effect on the central nervous system, com-
bining sedative, antispasmodic, myorelaxant, and sleep-inducing properties,
with the antispasmodic action particularly effective in spasms induced by
1/2

1/2 007 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--PRESENCE OF METABORIC ACID IN THE METABORIC ACID-SULFURIC
ACID-WATER SYSTEM AT 25, 30 AND 35DEGREES. III -U-
AUTHOR-(03)-BEREMZHANOV, N.A., NAYMUSHINA, R.F., KARAZHANOV, N.A.
COUNTRY OF INFO--USSR
SOURCE--IIV. AKAD. NAUK KAZ. SSR, SER. KHIM. 1970, 20(2), 6-12
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--SULFURIC ACID, BORIC ACID, SOLUBILITY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1998/1330 STEP NO--UR/0360/70/020/002/0006/0012
CIRC ACCESSION NO--AP0121823
UNCLASSIFIED

2/2 007

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121823

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CONDITIONS WERE DETD. FOR THE EXISTENCE OF HBO SUB2 IN AQ. SOLNS. OF H SUB2 SO SUB4 AT DIFFERENT TEMPS. BY THE ISOTHERMAL SOLN. METHOD. THE SOLY. WAS DETD. IN SOLNS. OF 0-70PERCENT H SUB2 SO SUB4 AT 25, 30, AND 35DEGREES. IN SOLNS. CONTG. LARGER THAN 30PERCENT SO SUB3, HBO SUB2 IS THE STABLE SOLID PHASE. AT SIMILAR TO 48PERCENT SO SUB3, HBO SUB2 CRYSTALS BECOME VERY FINE. AS THE TEMP. INCREASES THE POINT FOR THE TRANSITION OF THE HBO SUB2 AND INTO H SUB3 SO SUB3 SHIFTS TOWARDS LOWER SO SUB3 CONCNS.: AT 25DEGREES, 30.10PERCENT AND AT 30DEGREES, 18.89PERCENT. IN CONCD. SOLNS. THE HBO SUB2 REACTS WITH THE H SUB2 SO SUB4 TO FORM A COMPD. IN THE SOLID PHASE WITH THE COMPN. 4HBO SUB2 .H SUB2 SO SUB4 .7H SUB2 O. FACILITY: KAZ. GOS. UNIV. IM. KIROVA, ALMA-ATA, USSR.

UNCLASSIFIED

1/2 011 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--EXISTENCE OF METABORIC ACID IN THE HBO SUB2.NH SUB4 SUB2 SO SUB4.H
SUB2 D SYSTEM AT 20 AND 35DEGREES. II -U-
AUTHOR--(04)-BOCHKAREVA, I.V., YERIMBETOVA, I.D., KARAZHANDY, N.A.,
BERIEMZHANOV, B.A. ^K
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK KAZ. SSR, SER. KHIM. 1970, 20(1), 21-5
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--BORIC ACID, WATER, CRYSTALLIZATION, ISOTHERM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1997/1507 STEP NO--UR/0360/70/020/001/0021/0025
CIRC ACCESSION NO--AP0120238
UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0120288

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SOLY. ISOTHERM OF THE TITLE SYSTEM CONSISTS OF 3 BRANCHES OF CRYSTN. OF WHICH ONE BELONGS TO H SUB3 BO SUB3, ANOTHER TO HBO SUB2, AND THE 3RD TO (NH SUB4) SUB2 SO SUB4; THERE ARE 2 ISOTHERMAL INVARIANT POINTS ON THE ISOTHERM. THE LIQ. PHASE OF THE 1ST ISOTHERMAL INVARIANT POINT CONTAINS (NH SUB4) SUB2 SO SUB4 14.81 AND B SUB2 O SUB3 4.85PERCENT, WHILE THE SOLID PHASE CONTAINS ORTHO AND METABORIC ACID. THE LIQ. PHASE OF THE 2ND ISOTHERMAL INVARIANT POINT CONTAINS (NH SUB4) SUB2 SO SUB4 38.95 AND B SUB2 O SUB3 5.06PERCENT, WHEREAS THE SOLID PHASE CONSISTS OF HBO SUB2 AND (NH SUB4) SUB2 SO SUB4. THE CRYSTN. OF H SUB3 BO SUB3 EXTENDS FROM O CONC. OF (NH SUB4) SUB2 SO SUB4 TO THE 1ST ISOTHERMAL INVARIANT POINT. THE CRYSTN. OF HBO SUB2 EXTENDS FROM THE POINT AT WHICH H SUB3 BO SUB3 CHANGES TO HBO SUB2 TO THE 2ND ISOTHERMAL INVARIANT POINT. THE CRYSTN. OF (NH SUB4) SUB2 SO SUB4 EXTENDS FROM O CONC. OF H SUB3 BO SUB3 TO ITS INTERSECTION WITH THE HBO SUB2 CRYSTN. BRANCH OF THE ISOTHERM. AT 20-35DEGREES, THE AMT. OF HBO SUB2 INCREASES WITH TEMP, THE CONC. OF (NH SUB4) SUB2 SO SUB4 AT WHICH HBO SUB2 IS STABLE AT 20DEGREES IS 22.40PERCENT AND AT 35DEGREES IT DROPS TO 14.81PERCENT. FACILITY: KAZ. GOS. UNIV. IM. KIROVA, ALMA-ATA, USSR.

UNCLASSIFIED

1/2 G13 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--NEOPLASTIC VIRUSES OVERCOME SPECIES SPECIFIC CELLULAR RESISTANCE
-U-
AUTHOR-(CZ)-SHEVLYAGIN, V.YA., KARAZHAS, N.V. **K**
COUNTRY OF INFO--USSR
SOURCE--VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR, VOL 25, NO 3, 1970, PP
87-93
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--EMBRYOLOGY, ADENOVIRUS, DNA, RNA, SARCOMA, VIRUS, NEOPLASM,
PARAINFLUENZA VIRUS
CENTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/0581 STEP NO--UR/0248/70/025/003/0037/0093
CIRC ACCESSION NO--AP0136121
UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0135121

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE PRESENT ARTICLE WE REPORT ON THE TRANSFORMATION OF NATURALLY RESISTANT HUMAN EMBRYONIC MYODERMAL TISSUE BY POLYOMA VIRUS AND TYPE 12 HUMAN ADENOVIRUS (DNA CONTAINING VIRUSES) AND ROUS SARCOMA VIRUS (RNA CONTAINING VIRUS). TYPICAL VIRUS INDUCED TRANSFORMATION OF RESISTANT TISSUES BY NEOPLASTIC VIRUSES OCCURRED UNDER THE EFFECT OF THESE NEOPLASTIC VIRUSES AND INACTIVATED TYPE I PARAINFLUENZA VIRUS (SENDAI STRAIN). FACILITY: INSTITUTE OF EPIDEMIOLOGY AND MICROBIOLOGY IMENI N. F. GANALEYA, USSR ACADEMY OF MEDICAL SCIENCES, MOSCOW.

UNCLASSIFIED

USSR

UDC 539.3

KARBALEVICH, I. N., Belorussian State University imeni V. I. Lenin

"Bending of an Infinite Plate With a Soldered-in Circular Spring Washer"

Minsk, Izvestiya Akademii Nauk BSSR, Seriya Fiziko-Matematicheskikh Nauk, No 1, 1972, pp 115-120

Abstract: The article studies the problem of the bending of an isotropic thin infinite plate under uniform stress at infinity with a spring washer soldered into its round hole. The study is based on a refined theory of the bending of thin plates which makes allowance for the influence of shearing strain. The problem is solved by the method of linear conjugation of the boundary values of functions. The solution is expressed through cylindrical functions of an imaginary argument. The cases of pure cylindrical bending, uniform torsion, and pure bending are considered.

1/1

- 78 -

USSR

UDC 542.91:541.69:547.1'118:547.9

VOLKOVA, R. I., KARDANOV, N. A., BRESTKIN, A. P., GODOVI'KOV, N. N., and KABACHNIK, M. I., Institute of Organoelemental Compounds, Academy of Sciences USSR and Institute of Evolutionary Physiology and Biochemistry imeni I. M. Sechenova, Academy of Sciences USSR

"Reaction of S-(ω -Ethylmercaptoalkyl)diphenylthiophosphinates, O-(ω -Ethylmercaptoalkyl)diphenylphosphinates and Their Methyl Iodates With Cholinesterase From the Serum of Horse Blood"

Moscow, Seriya Khimicheskaya, 9, 1973, pp 2114-2119

Abstract: The kinetic constants were determined for the combined inhibition of butyrylcholinesterase by the diphenylthiophosphinates $(C_6H_5)_2P(O)S(CH_2)_nSC_2H_5$ and their methyl iodates $(C_6H_5)_2P(O)S(CH_2)_nS^+(CH_3)C_2H_5 \cdot I^-$ for $n = 2$ to 6. The constant for the reversible inhibition by the analagous oxygen ethers was also determined. The ability of the diphenylthiophosphinates, diphenylphosphinates and their methyl iodates to reverse the sorption on the active sites of the increases with increasing number of (CH_2) units. The rate constant for the nonreversible inhibition does not change significantly as n increases for the sulfide thioethers but in the sulfonium thioethers, it decreases with a decrease in the rate constant for their base hydrolyses.

1/1

1/2 -.016 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--PRESSURE, TEMPERATURE, COMPOSITION PHASE DIAGRAMS OF GERMANIUM AND
SULFUR, GERMANIUM AND SELENIUM, AND GERMANIUM AND TELLURIUM SYSTEMS -U-
AUTHOR--KARBANOV, S.G., ZLOMANOV, V.P., NOVOSELOVA, A.V.
COUNTRY OF INFO--USSR *K*
SOURCE--VESTN. MOSK. UNIV., KHIM. 1970, 11(1), 51-5
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--PHASE DIAGRAM, VAPOR PRESSURE, THERMAL EFFECT, GERMANIUM,
SULFUR, SELENIUM, TELLURIUM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1989/0612 STEP NO--UR/0189/70/011/001/0051/0055
CIRC ACCESSION NO--AP0107209

UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0107209

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TOTAL PRESSURE WAS DETD. AS A FUNCTION OF TEMP. FOR THE 3 PHASE EQUIL. IN THE GE AND S, GE AND SE, AND GE AND TE SYSTEMS. THE COORDINATES FOR THE CHARACTERISTIC POINTS (MAX. TEMP., MAX. PRESSURE) ARE TABULATED. THE DIAGRAMS CAN BE USED TO DFT. THE REQUIRED TEMP. AND PRESSURE RANGE WITHIN WHICH THE COMPN. OF THE PHASES CAN BE CONTROLLED.

0123

UNCLASSIFIED

1/2 010 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--HIGH TEMPERATURE MODIFICATIONS OF GERMANIUM MONOSULFIDE AND
MONOSELENIDE -U-
AUTHOR--(03)-KARBANDV, S.G., ZLOMANOV, V.P., UKRAYNSKIY, YU.M.
COUNTRY OF INFO--USSR
SOURCE--IZV AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(1), 125-6
DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--X RAY DIFFRACTION ANALYSIS, QUARTZ, HIGH TEMPERATURE,
GERMANIUM SULFIDE, SELENIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1984/0072

STEP NO--UR/0363/70/005/000/0125/0126

CIRC ACCESSION NO--AP0054869

UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--A00054869

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PRESENT WORK WAS UNDERTAKEN TO STUDY THE PHASE COMPN. OF GES AND GESE AT 25-600DEGREES. SAMPLES OF STOICHOEMTRIC COMPN. WERE PREPD. FROM THE ELEMENTS BY MELTING IN EVACUATED QUARTZ AMPULS AT 1000DEGREES BY USING VIBRATION AGITATION. THE LATTICE PARAMETERS WERE DETD. BY X RAY DIFFRACTION. UPON HEATING TO 590DEGREES THERMAL EXPANSION OF THE CRYSTAL LATTICE OCCURS. HEXAGONAL PHASES OF GES AND GESE ARE STABLE AT TEMPS. GREATER THAN 590DEGREES. THESE HIGH TEMP. PHASES OF THE 2 COMPOS. BELONG TO SPACE GROUP, D PRIME6 SUB6- C6 SUB3 2.

UNCLASSIFIED

USSR

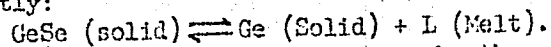
UDC 546.289+546.23

KARBANOV, S. G., STATNOVA, YE. A., ZLOMANOV, V. P., and NOVOSELOVA, A. V.,
Chair of Inorganic Chemistry

"Study of the System Germanium-Selenium in the Proximity of Germanium Mono-
selenide and the Growth of Its Monocrystals"

Moscow, Vestnik Moskovskogo Universiteta, Vol 13, No 5, Sep-Oct 72, pp 531-534

Abstract: The system Ge-Se has been studied by directed crystallization in the
composition range 49.99-51.00% Se. Germanium monoselenide has been found to
melt incongruently:



Monocrystals of germanium selenide were grown by the sublimation method in a
closed system with movement of the ampule and under static conditions. Follow-
ing parameters were obtained for the elementary nucleus by x-ray analysis:
a = 4.42± 0.02, b = 3.87±0.02, and c = 10.85±0.05 Å.

1/2 025 UNCLASSIFIED PROCESSING DATE--11DEC70
TITLE--EFFECT OF TEMPERATURE ON THE HEIGHT OF THE ANODIC PEAK IN STRIPPING
ANALYSIS -U-
AUTHOR--(03)-STROMBERG, A.G., KARBAYNOV, YU.A., KARBAINOVA, S.N.
COUNTRY OF INFO--USSR
SOURCE--ZAVOD. LAB. 1970, 36(3), 257-60
DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, CHEMISTRY

TOPIC TAGS--MATHEMATIC EXPRESSION, THERMAL EFFECT, ELECTROLYSIS, CADMIUM,
ANTIMONY, CHEMICAL ANALYSIS, ETHANOL, AMMONIUM NITRATE

CONTROL MARKING--NO RESTRICTIONS.

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/0908

STEP NO--UR/0032/70/036/003/0257/0260

CIRC ACCESSION NO--AP0131494

UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AP0131494
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. ON THE BASIS OF STRIPPING ANAL. THEORY, MATH. EXPRESSIONS FOR THE EFFECT OF TEMP. ON THE HEIGHT OF THE ANODIC PEAK ARE PRESENTED FOR THE CASE WHEN DEPLETION OF THE SOLN. DOES NOT TAKE PLACE DURING PRELIMINARY ELECTROLYSIS. THE DATA WERE USED TO DEVELOP A RAPID, HIGHLY SENSITIVE METHOD FOR DETG. TRACES OF CD PRIME2 POSITIVE AND SB PRIME3 POSITIVE IN 0.2N NH SUB4 NO SUB3 IN ETOH. THE PROCEDURE IS BASED ON THE PRELIMINARY CONCEN. OF METALS IN HG DROP AT TEMPS. NEAR THE B.P. OF THE SOLN. (YU. A. KARBAINOV AND A. G. STROMBERG, 1967). FACILITY: TOMSK. POLITEKH. INST., TOMSK, USSR.

UNCLASSIFIED

1/2 025 UNCLASSIFIED PROCESSING DATE--11DEC70
TITLE--EFFECT OF TEMPERATURE ON THE HEIGHT OF THE ANODIC PEAK IN STRIPPING
ANALYSIS -U-
AUTHOR--(03)-STREMBERG, A.G., KARBAYNOV, YU.A., KARBAINOVA, S.N.
COUNTRY OF INFO--USSR
SOURCE--ZAVOD. LAB. 1970, 36(3), 257-60
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, CHEMISTRY
TOPIC TAGS--MATHEMATIC EXPRESSION, THERMAL EFFECT, ELECTROLYSIS, CADMIUM,
ANTIMONY, CHEMICAL ANALYSIS, ETHANOL, AMMONIUM NITRATE
CONTROL MARKING--NO RESTRICTIONS.
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3004/0908 STEP NO--UK/0032/70/036/003/0257/0260
CIRC ACCESSION NO--AP0131494
UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AP0131494

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

ABSTRACT. ON THE BASIS OF STRIPPING ANAL. THEORY, MATH. EXPRESSIONS FOR THE EFFECT OF TEMP. ON THE HEIGHT OF THE ANODIC PEAK ARE PRESENTED FOR THE CASE WHEN DEPLETION OF THE SOLN. DOES NOT TAKE PLACE DURING PRELIMINARY ELECTROLYSIS. THE DATA WERE USED TO DEVELOP A RAPID, HIGHLY SENSITIVE METHOD FOR DETG. TRACES OF CD PRIME2 POSITIVE AND SB PRIME3 POSITIVE IN 0.2N NH SUB4 NO SUB3 IN ETDH. THE PROCEDURE IS BASED ON THE PRELIMINARY CONCEN. OF METALS IN HG DROP AT TEMPS. NEAR THE B.P. OF THE SOLN. (YU. A. KARBAINGV AND A. G. STROMBERG, 1967).

FACILITY: TOMSK. POLITEKH. INST., TOMSK, USSR.

UNCLASSIFIED

Measuring, Testing, Calibrating, Control

USSR

UDC: 533.6.08.082.6

KARBE, Yu. V."Investigation of Encapsulated Hot-Wire Anemometer Pickups"

Sb. tr. Projektn. i n.-i. in-t Ural'skiy Promstroyniprojekt (Collected Works of the Ural State Scientific Research Institute for the Design and Planning of Sanitary Engineering and General Construction of Industrial Establishments), 1970, No 25, pp 10-18 (from RZh-Metrologiya i Izmeritel'naya Tekhnika, No 9, Sep 70, Abstract No 9.32.766)

Translation: The author investigates the problem of improving the sensitivity of hot-wire anemometer transducers in the high-velocity region (up to 300 m/s). Basic relationships are discussed for hot-wire anemometer transducers encapsulated in hollow adapters with holes at the ends. Experimental data are given on the variation in calibration characteristics for various ratios between the inlet and outlet apertures of the capsules. An investigation is made into the thermophysical parameters of the transducer, and the effect which high temperatures and radiation from external sources have on the operation of the pickup. Three illustrations, bibliography of nine titles.

1/1

USSR

UDC 553.411+553.068.5(571.66)

KARBIVNICHYI, I. N., Kamchatka Geological Administration

"Ore and Placer Shows of Gold on Kamchatka"

Moscow, Sovetskaya Geologiya, No 7, Jul 70, pp 59-70

Abstract: Data are presented for the first time on the ore and placer gold-bearing capacity of Kamchatka, an area covering about half a million square kilometers. The most intimate connection has been established between gold mineralization and the elongated linear structure formation zones differing from one another by characteristics of stratified deposits and specific complexes of dike and veined formations which had caused various genetic structural and morphological types of gold-ore shows. Four epochs of gold-ore mineralization are outlined: Pre-Upper Cretaceous, Upper Cretaceous, Paleogenic, and Neogenic. Described are the conditions which made possible the formation of placers following two-stage glaciation and Quaternary lava outflows. The complexity of the geological structure and the scales of the ore and placer gold-bearing capacity enabled the author to class this territory with the

1/2

USSR

KARBIVNICHYI, I. N., Sovetskaya Geologiya, No 7, Jul 70, pp 59-70

highly potential (with respect to gold-bearing capacity) areas of the Far East, Transbaykal'ye, and North and South America. Establishing a raw-material base for the recovery of gold on Kamchatka is a major economic task in the light of over-all utilization of natural resources.

7710

CSO: 1842-W

- END -

2/2

KARCHAVA, A. I.

ACHIEVEMENTS IN GEORGIAN PUBLIC HEALTH CARE IN 50 YEARS

So: JPaS 55A04
6 Feb 74

UIC: 014-21279-22(091)

Article by Professor N.R. Shashikashvili, Doctor (Public Health) A.I. Karchava, Chair of Social Hygiene and Public Health Organization (Institute of Professor N.R. Shashikashvili), Tbilisi Institute for the Advanced Training of Physicians; Moscow, Sovetskoye Zdravookhraneniye, Russian, No 1, 1972, submitted 31 March 1971, pp 54-57

On 23 February 1921 the working people of Georgia, under the guidance of the Communist Party, obtained national and social freedom, and Soviet rule was established. This day marked the start of a period of unprecedented growth of spiritual and material forces of the Georgian people. Thanks to the wise Leninist national policy of the Soviet Government, to the aid of all of the people of the USSR, and first of all the Russian people, Georgia was transformed into a republic with a well developed industry and mechanized agriculture yielding excellent harvests, like in the legendary land of plenty, and into a republic with a high cultural level.

At the same time as the economy and culture of Georgia developed, so did its true public health service, the offspring of the Great October Socialist revolution. Soviet rule, which created all the necessary conditions for an upsurge of all branches of science, including medicine, to a level unheard of and impossible in a capitalist society, implemented the solutions to all of the major public health problems, and public health care became the most important function of a Soviet Socialist nation.

In Georgia, from the time of inception of public health it was based on the abundant knowledge, forms, and methods of health care of Soviet Russia. The very first edicts of the Revolutionary Committee nationalized the pharmacies and therapeutic institutions on a national scale, provided for regulation of medical and pharmaceutical assays, introduced social insurance for blue and white collar workers etc. This enabled the newly formed public health agencies of the republic to overcome all difficulties, to deploy a war against epidemics, to direct medical care for the people on the right course.

1/2 024 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--SOUND ABSORPTION IN A SUPERFLUID LIQUID UNDER CONDITIONS OF DAMPING
OF THE NORMAL COMPONENT -U-
AUTHOR--(02)-KARCHAVA, T.A., SANIKIDZE, D.G.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL EKSPERIMENTAL'NOY I TEORETICHESKOY FIZIKI, 1970, VOL 58,
NR 5, PP 1843-1847
DATE PUBLISHED--70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--SOUND ABSORPTION, ABSORPTION COEFFICIENT, SUPERFLUIDITY,
HELIUM, SOUND PROPAGATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/0021

STEP NO--UR/0056/70/058/005/1843/1847

CIRC ACCESSION NO--AP0127671

UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0127671

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ABSORPTION COEFFICIENTS OF FIRST AND SECOND SOUND IN SUPERFLUID HELIUM CONNECTED WITH SURFACE AND VOLUME DISSIPATIVE EFFECTS, UNDER THE SPECIFIC CONDITIONS OF PROPAGATION OF SOUND IN NARROW CHANNELS INVOLVING DAMPING OF THE NORMAL COMPONENT OF THE LIQUID, ARE CALCULATED. IT IS SHOWN THAT THE CONTRIBUTION OF VARIOUS DISSIPATIVE PROCESSES TO SOUND ABSORPTION DEPENDS ON THE DEGREE OF DAMPING OF THE NORMAL COMPONENT. FACILITY: INSTITUT KIBERNETIKI, AN GRUZINSKOY SSR.

UNCLASSIFIED

USSR

UDC: 681.2.087.92-932

VYZHELEVSKIY, B. V., FOMYKAYEV, I. I., VLASOV, Ye. N., LEVAKIN, V. E.,
GOL'DENBERG, F. M., KARCHEVSKIY, A. A., ZELENKOV, S. V.

"A Sine-Cosine Converter"

USSR Author's Certificate No 316110, filed 24 Apr 70, published 9 Nov 71
(from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 7,
Jul 72, Abstract No 7A111 P)

Translation: A patent has been granted for a sine-cosine converter distinguished by the fact that one end of each output winding of the rotor is connected to the input of an auxiliary phase-sensitive rectifier, while the other end is connected through a resistor to the input and output of the same rectifier. Laid around the perimeter of the back edge of the rotor is an excitation winding which is connected to a source of alternating current. The device acts as a vector plotter and coordinate transformer with DC and AC input signals. Either DC or AC output signals may be obtained as desired. The device can serve two servosystems simultaneously, one working on AC and the other on DC. Two illustrations.
O. S.

1/1

USSR

UDC 533.99

KARCHEVSKIY, A.I., STRAKHOV, YU.I."Thresholds Of Beam Instability Of Current In Direct Discharge"

Pis'ma v ZhETF (Letters To The Journal Of Experimental And Theoretical Physics), 1971, 13, No 11, pp 595-599 (from RZh--Elektronika i yeye primeneniye, No 11, Nov 1971, Abstract No 11A41)

Translation: Excitation of the beam instability of current in a forward discharge was investigated on an ACPA [expansion unknown] unit. Parameters of discharge circuit [kontur]: Current to 30 ka, period 1.6 microsecond, capacitance 0.2 microfarad, cross section of current channel 80 cm², initial density of plasma $1 \cdot 10^{12}$ -- $3 \cdot 10^{13}$ cm⁻³. The discharge was excited in a homogeneous field with the spacing between electrodes 5 and 28 cm. The electron beam from the discharge zone was lead out via a meshed anode and the propagation of the beam lengthwise of the magnetic field in the equipotential spaced filled with plasma was investigated. The density of the beam current and the energy of the electrons were measured at a distance of 20 cm from the meshed anode along the braking Roentgen radiation from the target. Parameters of the electron beam: total current to 25 ka, energy of electrons to 30 kv, duration of beam existence amounts to 0.2--1.5 microsecond, area of cross section ~ 100 cm². The results of the work show that in a direct discharge during a change of the initial

1/2

USSR

KARCHEVSKIY, A. I., STRAKHOV, YU. I., Pis'ma v ZhETF (Letters To The Journal Of Experimental And Theoretical Physics), 1971, 13, No 11, pp 595-599 (from RZh--Elektronika i yeye primeneniye, No 11, Nov 1971, Abstract No 11A41)

density of the plasma of $1 \cdot 10^{12}$ to $2.5 \cdot 10^{13} \text{ cm}^{-3}$ an instability in the drift speed of the electrons close to thermal is excited. The result of the development of this instability is a collapse [sryv] of the discharge current and a transformation into a regime where the total discharge current is transmitted by electrons with an energy which corresponds well with the effective drop of the voltage at the discharge gap. A considerable portion of the energy of the discharge circuit (20--80 percent) is spent during the short time interval (0.2--1.5 microsecond) at the creation of a power pulse beam of ions. The instability threshold agrees with computed data in the literature. 6 ref.
R. Sh.

2/2

- 109 -

1/3 030

UNCLASSIFIED

PROCESSING DATE--23OCT70

TITLE--BEAM INSTABILITY OF A CURRENT, AND PLASMA HEATING BY AN ELECTRON
BEAM PRODUCED IN A LINEAR DISCHARGE -U-

AUTHOR--(03)-KARCHEVSKIY, A.I., AVERIN, V.G., BEZMELNITSYN, V.N.

COUNTRY OF INFO--USSR

K

SOURCE--ZHURNAL EKSPERIMENTAL'NOY I TEORETICHESKOY FIZIKI, 1970, VOL 58,
NR 4, PP 1131-1145

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--ELECTRIC FIELD, PLASMA INSTABILITY, CURRENT DENSITY, ELECTRON
BEAM, PLASMA HEATING, HIGH FREQUENCY DISCHARGE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1988/1714

STEP NO--UR/0056/70/058/004/1131/1145

CIRC ACCESSION NO--AP0106250

UNCLASSIFIED

2/3 030

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0106250

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IT IS DEMONSTRATED EXPERIMENTALLY THAT IN A LINEAR STRONG CURRENT DISCHARGE (CURRENT I APPROXIMATELY EQUAL TO 15 KA, FREQUENCY 640 KHZ) WITH A PLASMA DENSITY BETWEEN 1 TIMES 10 PRIME13 AND 7 TIMES 10 PRIME13 CM PRIME NEGATIVE3 IN STRONG ELECTRIC FIELDS E SMALLER THAN OR SIMILAR TO 500 V-CM A BEAM CURRENT INSTABILITY DEVELOPS, THE CURRENT IS CARRIED BY A SMALL FRACTION (SIMILAR TO 10 PRIME NEGATIVE3) OF THE PLASMA ELECTRONS AND THE MAIN PART OF THE DISCHARGE CURRENT IS CARRIED BY THE BEAM OF ACCELERATED ELECTRONS. THE ELECTRON BEAM MAY BE PASSED THROUGH THE ANODE OF THE SYSTEM AND IS OF INTEREST FROM THE VIEWPOINT OF CARRYING OUT, FOR EXAMPLE, PHYSICAL INVESTIGATIONS OF PLASMA HEATING IN THE PLASMA BEAM SYSTEM. THE PARAMETERS OF THE ELECTRON BEAM PASSING THROUGH THE ANODE ARE THE FOLLOWING: TOTAL BEAM CURRENT 10-15 KA, BEAM ELECTRON DENSITY N PRIME APPROXIMATELY EQUAL TO 10 PRIME11 CM PRIME NEGATIVE3, ENERGY OF ELECTRONS IN THE BEAM E PRIME VARIES BETWEEN 3 AND 20 KEV, DURATION OF BEAM SIMILAR TO 0.6 MU SEC, ELECTRON BEAM POWER SIMILAR TO 100 MW, BEAM ELECTRON CURRENT DENSITY SIMILAR TO 70 A-CM PRIME2. INTERACTION BETWEEN THE ELECTRON BEAM AND A COLD PLASMA WITH A DENSITY BETWEEN A TIMES 10 PRIME13 AND 7 TIMES 10 PRIME13 CM PRIME NEGATIVE3 LEADS TO STRONG BEAM HEATING OF THE PLASMA TO A PRESSURE NT APPRIMIMATELY EQUAL TO 10 PRIME16 EV-CM PRIME3 AND A HOT PLASMA CONFINING TIME IN A MIRROR TRAP DEVICE OF THE ORDER OF 20 MU SEC.

UNCLASSIFIED

3/3 030

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0106250

ABSTRACT/EXTRACT--IT IS SHOWN THAT THE ANOMALOUS OHMIC RESISTANCE OF THE LINEAR DISCHARGE (WHICH IN THESE EXPERIMENTS IS THE ELECTRON GUN) CAN BE OBSERVED DURING THE FIRST HALF PERIOD OF THE CURRENT AND IS DUE TO RESTRICTION OF THE NUMBER OF CARRIERS IN THE TURBULENT ZONE OF THE DISCHARGE, ELECTRON ACCELERATION AND TRANSFER OF ENERGY BY ACCELERATED ELECTRONS TO THE SYSTEM ANODE.

UNCLASSIFIED

USSR

UDC 517.948

KARCHEVSKIY, M. M., Kazan'

"Iteration Schemes for Equations with Monotonic Operators"

Kazan', Izvestiya Vysshikh Uchebnykh Zavedeniy: Matematika,
No 5 (108), 1971, pp 32-37

Abstract: The author studies variable direction and running calculation type iteration methods for solving equations with nonlinear, strongly monotonic operators in Hilbert space. Values are shown in the case of constant iteration parameters which ensure the highest rate of convergence of iteration processes. Conditions for terminating iterations are also considered. The methods studied can be used for solving difference schemes for quasilinear, elliptical equations.

Orig. art.: 16 formulas and 10 bibliographic entries.

1/1

USSR

UDX 632.951:635.63

FEDOROVA, Yu. N., and KARCHIK, O. N., All-Union Scientific Research Institute of Plant Protection

"Dynamics of Resorption by the Root System of Sevin and Its Distribution in Cucumber Plants"

Moscow, Khimiya v Sel'skom Khozyaystve, Vol. 9, No 7, 1971, pp 45-47

Abstract: Cucumber plants were grown on a Knop solution containing a suspension of the insecticide sevin (1-naphthyl-N-methylcarbarate) labeled with ^{14}C in the alpha-position. The resorption of sevin by the roots and its subsequent distribution in the plants were studied by determining the radioactivity in plant parts. The study showed that sevin accumulated rapidly in the root system and then was distributed within a short time throughout the plant, so that ^{14}C was present in the leaves 5-10 min after contact of the plants with the suspension containing radioactive sevin. Accumulation of sevin in the roots proceeded at the highest rate during the first 24 hrs, whereupon sevin was transferred at a high rate to the leaves and accumulated there in the maximum concentration found in the plants. Notwithstanding the low solubility of

1/2

- 48 -