4

6

Acc. Nr.: AP0042569 Ref. Code: UR0293

JPRS 52162

Measurement of Low-Energy Ions

(Abstract: "Measurement of Low-Energy Ions," by Yu. I. Gal'perin, V. A. Gladyshev, I. D. Ivanov, I. N. Kurpinskiy, T. M. Mulyarchik, B. V. Polenov, V. V. Temnyy, B. I. Khazanov, A. V. Shiffrin and F. K. Shuyskaya; Moscow, Kosmicheskiye Issledovaniya, Vol VIII, No 1, 1970, pp 120-126)

[Text] This is part of a sectionalized article "Study of Geoactive Corpuscles and Photoelectrons on the Satellite 'Kosmos-261'," Kosmicheskiye Issledovaniya, Vol VIII, No 1, 1970, pp 104-116]

The RIP-801 low-energy ion spectrometer is described; it was used on the "Kosmos-261" satellite for measuring ions in the range 0.04-6 keV. It is a modulation trap with magnetic protection of the ring collector; this suppresses the currents of secondary electrons and photoelectrons from the collector. The ion flux is modulated by a voltage in the form of a rectangular wave with a frequency of 300 cps and voltage amplitudes of 0.5 and 2 kV over threshold voltages from 0.04 to 6 kV. The electric electric current of the central collector and the positive current of the ring collector are measured. This paper gives the first results of measurements on the "Kosmos-261" satellite. In regions close to the auroral zone it is common to register fluxes of ions with energies of several keV, at-

12

Reel/Frame
19760549

taining 10^7 ions·cm^{-2}·sec^{-1}keV^{-1}. After midnight these particles are situated in the northern hemisphere near the southern boundary of the region of injection of electrons in the form of a "hydrogen arc." In addition, in the southern and northern polar caps in the region of invariant latitudes 70-80° ions were registered simultaneously with soft electrons in the so-called "second" or "soft" auroral zone. The ion energy spectra in the northern hemisphere (nighttime, altitude about 220 km) and in the southern hemisphere (daytime, altitude about 600 km) are different. In the northern auroral zone the spectrum has a pronounced maximum in the region 1.5-2 keV, whereas in the southern auroral zone and in the south pole cap the spectrum in the region 0.04-8 keV is rather flat (without taking into account the charge exchange of protons during passage through the atmosphere). The pitch-angle distribution usually has a maximum near 70°. The authors given an example of an ion intensity burst in the low latitudes over the USSR at L $\approx$ 2.

AP0042569

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1/2 021 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--ANION RADICALS OF NITROAROMATIC COMPOUNDS CONTAINING A DIFLUOROMETHYLENE GROUP -U-

AUTHOR-(04)-POLENOV, YE.A., KAZAKOVA, V.M., AFANASYEV, YU.N., SYRKIN, YA.K.

COUNTRY OF INFO--USSR

SOURCE--ZH. STRUKT. KHIM. 1970, 11,1, 142-5

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--FREE RADICAL, ORGANIC NITRO COMPOUND, FLUORINATED ORGANIC COMPOUND, METHYLENE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0731 STEP NO--UR/0192/70/011/001/0142/0145

CIRC ACCESSION NO--AP0119638

UNCLASSIFIED

2/2 021 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0119638

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE UNPAIRED ELECTRON OF F SUB2 C(NO SUB2 SUB2 TIMES NEGATIVE PRIME (CA 69 IS TO 82188D) WAS DELOCALIZED OVER THE WHOLE MOL. IN ANALOGS OF I IN WHICH THE CF SUB2 AND NO SUB2 MOIETIES ARE SEPD. BY AN AROMATIC RING THE UNPAIRED ELECTRON IS LOCALIZED IN NITRO AROMATIC MOIETY ONLY. DATA OF POLAROGRAPHIC AND EPR ANALS. FOR THE ANION RADICALS OF F SUB2 C(C SUB6 H SUB4 NO SUB2-P) SUB2, PHCF SUB2 C SUB6 H SUB4 NEGATIVE NO SUB2-P, AND HCF SUB2 C SUB6 H SUB4 NO SUB2-P ARE DISCUSSED. FACILITY: MOSK. INST. TONKOI KHIM. TEKHNOL. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

SOFRONOV, B. N., VIKHMAN, A. A., KARASIK, O. A., OBREZUA, G. N., and POLENOVA, I. M., Institute of Experimental Medicine, Academy of Medical Sciences, USSR, Leningrad

"Modern Aspects of Nonspecific and Specific Suppression of Immunological Reactivity," pp 75-88

Abstract: Various ways and means of suppressing immunogenesis are discussed in the article. Of the many methods studied, the most important are surgical methods -- extirpation of such immunocompetent organs as the spleen, thymus, and some groups of lymph nodes; physical methods -- application of radiation; chemical methods -- administration of chemical preparations; and biological methods -- based on the action of antisera against antigens in lymph tissue. Investigations established, however, that removal of immunocompetent organs from young animals tends to hinder the further development of the lymph system -- the main source of lymphocytes, and causes dysfunction of the lymph system and prolonged suppression of the immunological reactivity of the organism. Thymectomy and bursectomy in adult animals

1/2

USSR

SOFRONOV, B. N., et al., "Modern Aspects of Nonspecific and Specific Suppression of Immunological Reactivity," pp 75-88

tend to weaken considerably the immunological system of the organism and retard the regenerative process of immunological reactivity. The application of ionizing radiation and chemical preparations, while suppressing immunogenesis, tends to interfere also with the development and functions of vitally important proteins and nucleic acids. The most promising method is the application of antilymphocyte sera. The use of these sera is based on the premise that antilymph antibodies while affecting lymph cells will not disturb the functions of non-lymphatic tissue cells. There are, however, some well-grounded apprehensions with respect to the utilization of antilymphocyte sera because of their possible toxic properties and content of impurities. Work done on these problems by Soviet and foreign authors is discussed.

2/2

1/2 018 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--CHANGE IN THE THERMODYNAMIC FUNCTIONS DURING THE FORMATION OF NITROLOTRIACETATE COMPLEXES OF RARE EARTH ELEMENTS -U-

AUTHOR-(02)-MILYUKOV, P.M., POLENOVA, N.V.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., KHIM. KHIM. TEKHNOL. 1970, 13(2), 284-6

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--THERMODYNAMIC FUNCTION, ACETATE, RARE EARTH COMPOUND, COMPLEX COMPOUND, ENTROPY, IONIC BONDING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/0839 STEP NO--UR/0153/70/013/002/0284/0286

CIRC ACCESSION NO--AT0137867

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--27NOV70

2/2 018

CIRC ACCESSION NO--AT0137867

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DATA ARE PRESENTED FOR THE TOTAL HEAT CONTENT, ENTROPY, AND GIBBS FREE ENERGY OF THE MONO AND BIS(NITRIOLTRIACETATE) COMPLEXES OF DY, HO, ER, AND YB AT 25DEGREES IN NITRATE SOLNS. AT 0.2 IONIC STRENGTH. FACILITY: IVANOV. KHIM. TEKHNOL. INST., IVANOVO, USSR.

UNCLASSIFIED

POLES YA, A.F.

JPRS 58691 (2)

6 April 1973

UDC (669.24'65:548.5:(54-165+620.18)

PHASE COMPOSITION OF Ni-Sn ALLOYS HARDENED FROM THE LIQUID STATE

[Article by A. F. Poleva, L. S. Slipchenko, Dnepropetrovsk State University, Department of Metal Physics; Izvestiya Vysshikh Uchebnykh Zavedeniy, Tsvetnaya Metallurgiya, Russian, No 1, 1972, submitted 7 September 1971, pp 128-131]

The Ni-Sn system is important for analysis of the formation of structure during rapid cooling of melts for several reasons. The components of the given system differ substantially in electron structure and character of bond forces. The presence of several intermediate phases in the system [1] is evidence of an inhomogeneous concentration dependence of reaction between the components. Certain phases, i.e., α-Ni, Ni_3Sn, ζ, have variable composition, which is one of the conditions of expansion of the range of their existence during hardening from the liquid state [2, 3]. The range of these existence during hardening from the liquid state [2, 3].

The structure of rapidly crystallizing alloys basically in the range of compositions corresponding to the two-phase states in equilibrium, is analyzed in this article.

The alloys were made from electrolytic nickel and spectrally pure tin. Briquettes of the corresponding composition, weighing 25 g, were melted in a high-frequency furnace in a vacuum. Since weight losses were 0.1-0.2 g, the composition of the alloys was practically the same as the theoretical. Thin, rapidly crystallizing films were obtained by shooting small droplets of the melt (0.5 g) onto the inner surface of a copper cylinder, rotating at 5,000 rpm. Films with a thickness to 10 micron were used for the investigation. X-rays were taken in filtered CoK_α-emission in x-ray diffraction chamber and URS [expansion unknown]. The periods of the α-Ni, ζ and Ni_3Sn (LT) phases were computed according to the lines arranged in the interval of angles from 43 to 72°. Taylor's graphic interpolation method [4] was used to exclude errors.

In alloys 1, 2 and 3 (Table 1), during hardening from the molten state, tin saturated nickel base solid solution crystallites first.

lattice periods of metastable α-solid solution lie on the straight line of the dependence of period on composition of the alloy (Figure 1), found by extrapolating the corresponding dependence for alloys hardened in the solid state [5]. This indicates expansion of the range of existence of the solid solution (α-Ni) and also indicates the coincidence of the composition of the metastable solid solution and the initial alloys. The maximum concentration of Sn which we established in (α-Ni)-solid solution is 16.8% atomic (alloy 3), which is significantly higher than the maximum equilibrium solubility (10.4% atomic) of Sn in Ni [1, 5]. Since the interval from 16.8 to 19.2% Sn was not investigated, the maximum saturation of α-solid solution with tin may be somewhat higher than 16.8%.

Table 1. Phase Composition of Rapidly Crystallized Films and Lattice Periods of Phases

1) № сплава	2) ат %	3) Фазовый состав	4) Периоды решетки, Å: a	b	c
1	10,4	α-Ni 5) (тип A1)	[illegible]	—	—
2	14	α-Ni	3,6370	—	—
3	16,8	α-Ni	3,6611	—	—
4	19,2	6) Следы α-Ni	3,6500	—	—
		7) ε'' (ромбическ.)	4,451	4,251	2,618
		8) Следы Ni3Sn (ВТ) (тип Fe3Al)	5,57	—	—
5	21,03	ε''	4,475	4,270	2,668
		6) Следы Ni3Sn (ВТ)	5,87		
		9) Отжиг 730° 10 мин: Ni3Sn (НТ) (DO19)	5,2?? ± 0,001	—	4,245 ± 0,002
6	24,8	α-Ni	3,571	—	—
		ε''	4,19	4,273	2,675
		6) Следы Ni3Sn (ВТ)	5,87	—	—
		Следы Ni3Sn (НТ)	—	—	—
		9) Отжиг 730° 10 мин: Ni3Sn (НТ)	5,310 ± 0,001	—	4,252 ± 0,002
7	28,8	10) ε' (тип NiAs, B8₁)	4,1?0	—	5,23
		Ni3Sn (ВТ)	5,87	—	—
8	33,1	ε'	4,132	—	5,23
		11) Следы Ni3Sn (ВТ)	—	—	—
9	37,6	ε'	4,108	—	5,102
10	45,7	ε'	4,0825	—	5,158
11	54,8	ε'	4,070	—	5,135
12	50,73	12) Следы δ	—	—	—
		ε' + δ	—	—	—

KEY:
1. Number of alloy
2. Atomic %
3. Phase composition
4. Lattice periods, Å
5. (type A_1)
6. Traces of
7. (rhombic)
8. Traces of Ni_3Sn (HT)(Fe_3Al type)
9. Annealed at 730° for 10 min
10. ε' (type NiAs, $D8_2$)
11. Traces of Ni_3Sn (HT)
12. Traces of δ

[BT=HT (high temperature); HT=LT (low temperature)]

The range of α-solid solution is expanded to 12% Sn in [6] by hardening from the molten state. The difference between our data and the

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POLESYA, A.F.

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4. Title and Subtitle: PHASE COMPOSITION OF Ni-Sn ALLOYS HARDENED FROM THE LIQUID STATE			5. Report Date: 6 April 1973
7. Author(s): A. F. Polesya, L. S. Shpyrenko			8. Performing Organization Rept. No.
9. Performing Organization Name and Address: Joint Publications Research Service, 1000 North Glebe Road, Arlington, Virginia 22201			10. Project/Task/Work Unit No.
12. Sponsoring Organization Name and Address: As above			11. Contract/Grant No.
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			14.

15. Supplementary Notes: IZVESTIYA VUZ, TSVETNAYA METALLURGIYA, No 3, 1972

16. Abstracts: The report contains an analysis of the structure of rapidly crystallizing alloys basically in the range of compositions corresponding to the two-phase state in equilibrium.

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POLESHCHUK, I. P.

JPRS 56,495

14 July 72

CHANGES IN THE BALLISTOCARDIOGRAM OF HEALTHY AND SICK PERSONS WHEN BREATHING OXYGEN AT INCREASED INTRAPULMONARY PRESSURES

/Article by I. P. Poleshchuk, Moscow, Aktual'nyye Voprosy Kosmicheskoy Biologii i Meditsiny (Current Problems in Space Biology and Medicine), Russian, 1971, pp 130-132/

The breathing of oxygen at excess intrapulmonary pressure is now firmly entrenched in the medical expert examination of flight personnel as an effective methodological procedure for evaluating the physiologic capabilities of the pulmonary heart both in clinically healthy persons and in individuals with initial and latent pathologic phenomena in the condition of the cardiovascular system.

This paper gives the results of investigations of 161 persons, of which 24 were healthy, 27 had hypertonia in the first stage (phase A), 69 had initial symptoms of myocardial dystrophy of metabolic origin, and 41 had neurocirculatory dystonia of the hypertensive type.

Fig. 1

1/2 013 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--HEAT STABLE POLISHING ABRASIVE CLOTHS -U-

AUTHOR-(05)-POPENKOVA, Z.N., ZAYTSEVA, M.A., KOGAN, L.A., DREBENTSOVA, A.A., POLESHCHUK, I.P.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 265,752

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,

DATE PUBLISHED--09MAR70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--ABRASIVE, CORUNDUM, LATEX, PATENT, POLYMER BINDER/(U)SKS30 STYRENE RUBBER, (U)SVKH7 SYNTHETIC RUBBER, (U)FM3 RESIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/1761 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0137001

UNCLASSIFIED

2/2 013 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AA0137001

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HEAT STABLE ABRASIVE POLISHING CLOTH CONSISTS OF A FIBER BASE FINISHED WITH SKS-30 AND SVKH-I LATEXES IN A 1:1 RATIO. ABRASIVE MATERIAL CONSISTING OF WHITE "MICROPOWDER" AND CR ELECTROCORUNDUM WITH A COARSE FRACTION CONTENT OF SMALLER THAN OR EQUAL TO 7PERCENT IS APPLIED TO THE BASE. SYNTHETIC RESIN FM-3 WITH A LOWERED STICKINESS OF 140-5 SEC IS USED AS A BINDER.

USSR

UDC 576.851.553.097.29.083.3

PREGER, S. M., AL'BITSKAYA, N. B., and POLESHCHUK, L. N., Tomsk Institute of Vaccines and Sera

"Change in Cobalt, Iron, and Copper Levels in Culture Medium During Toxin Formation by A and B Botulism Agent"

Moscow, Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, No 2, 1973, p 139

Abstract: Concentrations of metallic ions in Gluzman broth, used industrially in producing A and B botulism antigens, were determined prior to and up to 7 days after seeding with botulism agent, and 21 days after 2-week storage of 7-day cultures at 4-5°C. Iron, copper, and cobalt concentrations decreased significantly during the 7 days after seeding. Cold storage had no effect on iron and copper concentrations. Experiments indicated that cobalt is utilized in vitamin B_{12} synthesis particularly intensively during toxin formation. Reduction of metallic ion concentrations was accompanied by increases in toxicity and rate of antigen formation. These results indicate that iron, copper, and cobalt are necessary in maintaining normal vital processes of botulism agents.

1/1

USSR

UDC 632.95

POLESHCHUK, V. D., LATYSHEV, V. I., KAMENNOV, N. A., DREMOVA, V. P., SMIRNOVA, S. N., STOLBOV, D. N.

"Repellent Activity of Diethylamide and Dibutylamide of Valeric Acid with Respect to Various Types of Ticks"

Sb. nauch. tr. Mosk. NII vaktsii i syvorotok (Collection of Scientific Works of Moscow Scientific Research Institute of Vaccines and Serums), No 22, 1972, pp 209-211 (from RZh-Khimiya, No 15, Aug 72, Abstract No 15N504)

Translation: According to field and laboratory tests, diethylamide and dibutylamide of valeric acid have high repellency with respect to the Hyalomma plumbeum plumbeum tick which carries hemorrhagic Crimean fever. The tissue treated with these repellents calculated at 7 grams/m^2 remained repellent for 5 days. For Alectrolobius tholorani papillipes these materials were not repellent. The five-day repellency of tissue for Ixodes persulcatus ticks, Dermacentor pictus and D. marginatus was achieved from a dibutylamide dose of 55-65 g/m^2. The DETA had no repellency with respect to N. p. plumbeum, A. th. papillipes and D. marginatus, but tissue treated with DETA calculated at 40-50 g/m^2 remained repellent for 20 days for I. persulcatus and D. pictus.

Microbiology

USSR UDC 616.981.553-036.21(476)

POLESHKO, D. V., DOLBIK, M. I., NOVIKOV, P. L., and LINNIKOVA, G. D., Chair of Infectious Diseases, Minsk Medical Institute, and Minsk Municipal Hospital for Infectious Diseases

"Clinical and Epidemiological Data on Botulism in Belorussia"

Moscow, Sovetskaya Meditsina, Vol 33, No 7, Jul 70, pp 137-139

Abstract: During the last 4 years, 30 persons suffering from botulism have been treated at the Minsk Municipal Hospital; 26 of these patients had become ill after ingestion of domestically prepared mushrooms. All of the cases were caused by Type B Clostridium botulinus. The most pronounced symptoms were ophthalmic and pharyngeal paresis, with ensuing disturbed vision and severe dryness of the mouth. Gastrointestinal disorders developed in 17 cases. Cardiac complications were observed in patients suffering from the moderate and severe forms of the disease. No significant hematological changes were found. Administration of antibotulinas sera and penicillin was effective. To prevent botulism, mushrooms must be thoroughly cleaned to remove soil particles. They should also be properly sterilized. For marinated stocks, adequate amounts of preservatives must be added.

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USSR

UDC: 621.316.933.1

LISIN, V. N., POLESHUK, I. A.

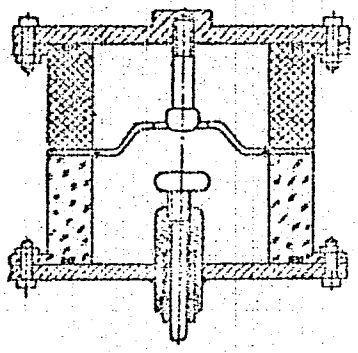
"A Three-Electrode Discharger"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 7, Mar 72, Author's Certificate No 329613, Division H, filed 8 Oct 70, published 9 Feb 72, p 212

Translation: This Author's Certificate introduces a three-electrode discharger which contains a cylindrical housing filled with compressed gas. The housing is made of an insulation material and accommodates two electrodes fastened on metal flanges, and an ignition electrode made in the form of a metal ring surrounding one of the electrodes and fastened to the insulation housing. As a distinguishing feature of the patent, synchronization accuracy and operating stability are improved by making the insulation housing from two cylinders with equal permittivity touching where the ignition electrode is fastened.

USSR

LISIN, V. N., POLESHUK, I. A., USSR Author's Certificate No 329613



2/2

Acc. Nr: AP0043740 Abstracting Service: 5/70 INTERNAT. AEROSPACE ABST. Ref. Code: UR0370

A70-23786 # Phase diagram of rapidly crystallized Al-Cu-Mn alloys (Diagramma sostoianii bystro zakristallizovannykh splavov Al-Cu-Mn). A. F. Polasia and V. V. Kovalenko. *Akademiia Nauk SSSR, Izvestiia, Metally*, Jan.-Feb. 1970, p. 173-177. 11 refs. In Russian.

Study of the structure of rapidly crystallized alloys of the Al-Cu-Mn system, showing that a high rate of cooling of the melt during crystallization leads to the formation of ternary solid solutions supersaturated with manganese and copper. It is found that during rapid crystallization of the melt the formation of a ternary phase T-Al12Mn2Cu in the Al-Cu-Mn system is suppressed. Phase diagrams of supersaturated ternary solid solutions are plotted for two cooling rates (1000 and 10,000 deg/sec). A nonequilibrium phase diagram of rapidly crystallized alloys is also plotted, showing a broad region of a homogeneous alpha solid solution, two-phase alpha + theta and alpha + A16Mn regions, and a ternary alpha + theta + A16Mn region. A.B.K.

ALS

1/1

REEL/FRAME
19770146

18

I. Probability Theory and Mathematical Statistics
A. Probability Theory

USSR

LOMONOSOV, M. V., POLESSKIY, V. P.

"The Maximum Probability of Connectedness"

Probl. Peredachi Inform. [Problems of Information Transmission], 1972, Vol 8, No 4, pp 68-73 (Translated from Referativnyy Zhurnal Kibernetika, No 4, 1973, Abstract No 4V9, by V. Prelov).

Translation: Suppose G is a full graph with n points. Let us assume that each rib u of this graph, regardless of the others is eliminated with probability x_u. It is proven that in the case when $\prod_u x_u = \xi > 0$ is fixed, the probability of connectedness of the graph produced after this operation of rib elimination is maximal if all ribs of full graph G are eliminated with identical probability $x_u = \xi^{1/C_n^2}$.

USSR UDC 621.395.74

POLESSKIY, V. P.

"One Lower Boundary of Reliability of Information Nets"

Moscow, Problemy Peredachi Informatsii, Vol 7, No 2, 1971, pp 88-96.

Abstract: The net studied is a random graph, for which the lower bound of probability of connectedness is studied, based on the use of the maximum system of skeletons of the graph not having common lines.

1/1

USSR UDC 669.245'71+669.245'871:536.421.4

POLESYA, A. F., and GUDZENKO, V. N., Dnepropetrovsk State University, Chair of Physics of Metals

"Phase Composition of Ni-Al and Ni-Ga Alloys Obtained From the Molten State by Hardening"

Ordzhonikidze, Tsvetnaya Metallurgiya, No 2, 1973, pp 143-148

Abstract: A study was made of the structures of rapidly crystallized alloys of Ni-Al and Ni-Ga systems, possessing similar structural diagrams. The initial materials of these alloys were electrolytic Ni, A99 Al, and Ga of 99.98% purity. The rapid crystallization of the alloy Ni-21 at%Al gives rise to the formation of a Ni-base α-solid solution with the composition of the initial liquid. The rapidly crystallized layer Ni-22at%Ga has a single-phase structure of α-solid solution of Ga in Ni. The existence of a high-temperature δ-phase with In (A6) type lattice in the 35.2-38.2 at%Al concentration interval was verified. A metastable phase ζ^m with rhombic lattice develops with rapid crystallization of Ni-Al and Ni-Ga alloys containing 30-35 at%Al, or 30-35 at%Ga. The metastable phase ζ^m develops both by crystallization with lamination of the melt and also without change of the composition, if the composition of the alloy corresponds to the homogeneity range of the ζ^m - phase. Four figures, one table, fourteen bibliographic references.
1/1

UDC 539.21:536.42

USSR

KOVALENKO, V. V., POLESYA, A. F., and STEPINA, A. I.

"Effect of Crystallization Conditions on the Kinetics of Disintegration of Supersaturated Solid Solutions"

V sb. Kristallizatsiya i faz. prevrashcheniya (Crystallization and Phase Transformations--collection of works) Minsk, "Nauka i Tekhn." 1971, pp 164-171 (from RZh-Fizika, No. 9, 1971, Abstract No. 9E366)

Translation: An x-ray investigation was made of the effect of the temperature of the tempering process from the fluid state, and the cooling rate, on the composition and the kinetics of disintegration of the solid solutions of the following alloys: 1) Al, 3% Mn; 2) Al, 3.1% W; 3) Al, 2.8% Cr; 4) Al, 3.5% Mn, 3% W; 5) Al, 3% Cr, 3% W; 6) Al, 4% Cu, 3% Mn; 7) Al, 5% Cu, 1.2% Cr. Quickly crystallized films were obtained by the Duvets method. The composition of the solid solution was determined roentgenographically. In crystallization on copper and steel substrates of alloys 1-4, supersaturated solid solutions with the composition of

USSR

KOVALENKO, V. V. et al, Kristallizatsiya i faz. prevrashcheniya, Minsk, "Nauka i Tekhn." 1971, pp 164-171

the original fluid were formed independent of the tempering temperature (830-980° C). However, their temperature stability depends on the crystallization conditions: a reduction in the cooling rate and the tempering temperature leads to an increase in the temperature at the beginning of the disintegration and an increase in the commencement time and duration time of the disintegration. In the crystallization of the alloys 6 and 7, the Mn and Cr are completely fixed in the solid solution, while the Cu content depends on the crystallization conditions. The low-temperature tempering is accelerated with a reduction in the melting point and an increase in the thermal conductivity of the substrate. With an increase in the annealing temperature to 350° C (alloy 6) the disintegration of the solid solution is accelerated with an increase in the tempering temperature of the melt. Author's abstract.

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1/2 020 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--COMPOSITION OF SOLID SOLUTIONS OF ALUMINUM MANGANESE IRON, ALUMINUM MAGANGANESE COLBALT, AND ALUMINUM MANGANESE NICKEL ALLOYS AFTER RAPID

AUTHOR-(02)-POLESYA, A.F., STEPINA, A.I.

COUNTRY OF INFO--USSR

SOURCE--IZVEST. V.U.Z., TSVETNAYA MET., 1970, (1), 117-120

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--SOLID SOLUTION, NICKEL ALLOY, ALUMINUM ALLOY, MANGANESE ALLOY, IRON ALLOY, COBALT ALLOY, METAL CRYSTALLIZATION, SOLUBILITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1555 STEP NO--UR/0149/70/000/001/0117/0120

CIRC ACCESSION NO--AP0125181

UNCLASSIFIED

2/2 020 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125181

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF MN ON THE SOLUBILITY OF FE, CO, AND NI IN AL ALLOYS WAS STUDIED. THUS BY COOLING THE MELT AT 10 PRIME6 DEGC-SEC 0.5 WT. PERCENT FE OR 0.15 WT. PERCENT CO OR NI MAY BE FIXED IN THE CORRESPONDING BINARY ALLOYS; IN THE PRESENCE OF 1 WT. PERCENT MN, HOWEVER, THE NONEQUILIBRIUM SOLUBILITY OF FE, CO, AND NI IS INCREASED BY 50PERCENT. ON RAPIDLY COOLING TERNARY ALLOYS CONTG. 3-4 WT. PERCENT MN TOGETHER WITH FE, CO, OR NI, SUPERSATURATED SOLID SOLUTIONS DIFFERING FUNDAMENTALLY IN COMPOSITION FROM THE ORIGINAL MELT ARE FORMED. THE DECOMPOSITION OF AL-ME-FE SOLID SOLUTIONS TAKES PLACE IN TWO STAGES, THE FE SEPARATING FIRST AND LATER THE MN.

UNCLASSIFIED

USSR

UDC 546.621:75,77:620.181

POLESYA, A. F., and STEPINA, A. I., Dnepropetrovsk State University

"Kinetics of Decomposition of Supersaturated Binary and Trinary Solid Solutions of Aluminum With Cr and Mo Produced by Hardening of Alloys From the Liquid State"

Moscow, Fizika Metallov i Metallovedeniye, Vol 30, No 5, 1970, pp 928-935

Abstract: A study was made of the kinetics of the decomposition of metastable binary and trinary solid solutions Al-Cr, Al-Mo, and Al-Cr-Mo produced by solidification of melts. It is demonstrated that the binary solid solutions Al-Mo containing up to 4 wt.% Mo do not decompose at up to 600°C. During the process of decomposition of the Al-Cr and Al-Cr-Mo solid solutions at 475°, chromium is separated from them, as well as some molybdenum in the alloy Al-3 wt.% Cr-4 wt.% Mo. At 600 and 625°, molybdenum is separated from the binary and trinary solid solutions in two stages, the beginning of separation being accompanied by an anomalous increase in electrical resistance. Spheric segregations measuring 80-100 Å in diameter are detected in the second stage of the decomposition in the area of the anomalous increase in electrical resistance by electron microscope techniques.

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UDC 669.71

USSR

POLESYA, A. F., and STEPINA, A. I., Dnepropetrovsk State University, Department of Metal Physics

"Structure of Quickly Crystallized Films of Aluminum Alloys"

Ordzhonikidze, Izvestiya Vysshikh Uchebnykh Zavedeniy -- Tsvetnaya Metallurgiya, No 5, 1970, pp 122-125

Abstract: A study was made of the structure of quickly crystallized film across its thickness in order to clarify certain features of the crystallization mechanism of alloys at large deviations from the equilibrium state. Films 0.1-0.2 mm thick were obtained by the Duwez method. The chemical composition of the films is given in a table. Quickly crystallized films 0.1-0.2 mm thick of aluminum alloys with large amounts of Mn, Cr, and W, obtained by the Duwez method, were shown to be heterogeneous across their thickness, so that the microstructure of a selected section cannot be characteristic of the entire film. The gradual increase in grain size and the enlargement of boundaries with increasing distance from the contact surface, points to the substantial role in the formation of saturated solid solutions of alloys, of the relationship between the transposition speed of the growing grain face and the diffusion mobility of atoms of the alloying metal in the

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202510004-5"

USSR

POLESYA, A. F., and STEPINA, A. I., Izvestiya Vysshikh Uchebnykh Zavedeniy -- Tsvetnaya Metallurgiya, No 5, 1970, pp 122-125

liquid face. Strongly saturated solid solutions do not form during a preliminary crystallization of the intermetallic phase. A relatively sharp transition from the first crystallization of the solid solution toward the initial formation of the Al-Cr phase is observed with a decrease in cooling rate in alloys with Cr. This transition is smoother in alloys with Mn. The variation of film microstructure with the distance from the contact layer is shown.

2/2

USSR UDC [621.362:538.4].06

POLETAVKIN, P. G.

"Cycle and Thermal Schematics of Magnetohydrodynamic Devices without Heat Regeneration"

Novyye skhemy i tsikly v teploenergetike — V sb. (New Schematics and Cycles in Thermal Power Engineering — Collection of Works), Sverdlovsk, 1971, pp 135-145 (from RZh-Elektrotekhnika i energetika, No 7, Jul 71, Abstract No 7A90)

Translation: The schematic of an open cycle magnetohydrodynamic device the basic part of which is the disc magnetohydrodynamic generator in a nonequilibrium plasma of combustion products without an alkaline additive is described. Nonuniform ionization is insured by high expansion in the channel —up to 0.001 bars. Here, the Hall number >> 1, and in spite of the large inelasticity parameter, the electron theory is found to be quite high by laminar theory. If we consider that the internal efficiency of this generator is high, the cycle efficiency with an upper temperature of 2,100° K will reach 50%. The method of starting a supersonic channel under accelerator conditions is investigated. There are 4 illustrations. [High Temperature Institute of the USSR Academy of Sciences]

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USSR UDC: 681.128

KIYASHEV, A. I., Engineer, PIVTSAYEV, I. I., Engineer, POLETAYEV, B. K., Engineer, SHAROV, V. A., Engineer

"A Resonance Level Indicator for Measuring the Level of the Interface Between Two Media"

Moscow, Pribory i Sistemy Upravleniya, No 1, Jan 72, pp 46-48

Abstract: The paper describes a resonance level indicator for measuring the level of the interface between a "light" dielectric liquid and a "heavy" electrically conductive liquid. The instrument is based on a resonance method of measurement developed at the Institute of Control Problems, Academy of Sciences of the USSR. The device is designed for use with a dielectric liquid having a permittivity of 1.8-2.5 and a conductive liquid with conductivity of more than 2 mho/m. The pickup is a section of nonhomogeneous long line shorted at the end with a resonance frequency which changes in proportion with the level of the liquid interface. The pickup parameters are calculated and a block diagram of the level indicator is

USSR UDC 543.422+543.424+546.183

POLETAYEV, E.V., TOKMAN, I. A. and BUKHALOVA, G. A., Institute of Chemical Sciences, Academy of Sciences Kazakh SSR, Alma-Ata

"Vibrational Spectra of Trimetaphosphates in $M^{I}PO_3$-$M^{II}(PO_3)_2$ Systems"

Alma-Ata, Seriya khimicheskaya, No 5, Sept-Oct 71, pp 6-11

Abstract: Earlier research on $M^{I}M^{II}P_3O_9$ (M^{I}= monovalent alkaline metal, M^{II}= divalent) compounds indicate the existence of various forms of trimetaphosphate anions. This study concerns the variations of the vibrational spectrum of the anion as a function of its conformability. The experiment involved $M^{I}PO_3$-$M^{II}(PO_3)_2$ binary systems. Paper chromatography confirmed the presence of $(P_3O_9)^{3-}$ cycles in the metaphosphates $Na_4Ca(P_3O_9)_2$, $Na_4Sr(P_3O_9)_2$, $Na_4Ba(P_3O_9)_2$, $KCaP_3O_9$, $CsCaP_3O_9$ and $CsSrP_3O_9$. Interpretation of the IR spectra of these metaphosphates presented in curves in the original article indicates that the form of the anion in $Na_4Ca(P_3O_9)_2$ and $Na_4Sr(P_3O_9)_2$ trimetaphosphates is similar to that of anhydrous sodium trimetaphosphate. The existence of non-plane P_3O_9 anions with C_{3v}-type symmetry in $CsCaP_3O_9$ and $CsSrP_3O_9$ trimetaphosphates is suggested. The stretching vibration frequencies of the trimetaphosphates are identified and the classification of PO_2 and POP groups by symmetry type for various P_3O_9 configurations is presented in tables. (2 illustrations, 3 tables, 8 biblio. references)

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1/2 022 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--MECHANISM OF IMIDAZOLE ACTION ON THE FUNCTION OF THE MYONEURONAL JUNCTION IN FROG -U-

AUTHOR--POLETAYEV, G.I.

COUNTRY OF INFO--USSR

SOURCE--FIZIOL. ZH. SSSR IM. I. M. SECHENOVA 1970, 56(1), 64-9

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--IMIDAZOLE, NERVOUS SYSTEM, FROG, ELECTROPHYSIOLOGY, ACETYLCHOLINESTERASE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1986/1739 STEP NO--UR/0239/70/056/001/0064/0069

CIRC ACCESSION NO--AP0103503

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--090CT70

2/2 022

CIRC ACCESSION NO--AP0103503

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IMIDAZOLE AT 9M M-L. INCREASED THE AMPLITUDE OF POTENTIALS IN THE END PLATES OF FROG SARTORIUS NERVE MUSCLE PREPN. AND INCREASED THE FREQUENCY BUT DID NOT CHANGE THE AMPLITUDE OF MINIATURE POTENTIALS EXCEPT FOR SOME "GIGANTIC" POTENTIALS. IMIDAZOLE DID NOT AFFECT THE TEMPORARY PARAMETERS OF END PLATE POTENTIALS BUT INCREASED THE AMPLITUDE DURING PROSERINE BLOCKING OF ACETYLCHOLINESTERASE AND THE QUANTUM COMPN. OF END PLATE POTENTIALS. THE EFFECT OF IMIDAZOLE ON THE AMPLITUDE OF END PLATE POTENTIALS WAS RETAINED IN THE PRESENCE OF EXCESS CA PRIME2POSITIVE IN THE MEDIUM. IMIDAZOLE SEEMS TO ACT DIRECTLY ON THE MECHANISMS OF TRANSPORT AND EJECTION OF MEDIATOR QUANTUMS FROM THE PRESYNAPTIC ENDINGS OF NERVE IMPULSES.

UNCLASSIFIED

USSR

UDC 632

BEKKER, E. E., DOVLETMURADOV, I. D., PUSHKAREVA, I. D., POLETAYEVA, V. F., SHILINA, S. G., and YASAKOVA, E. I., Institute of Botany, Academy of Sciences Turkmen SSR

"The Nature and Biosynthesis of the Toxin of Fusarium Wilt Pathogen, the Mechanism of Its Action, and Its Possible Transformation in the Cotton Plant"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Biologicheskaya, No 5, Sep/Oct 71, pp 749-754

Abstract: Analysis of purified extracts of Fusarium oxysporum f. vasinfectum culture liquid confirmed that the toxin of fusarium wilt of the fine-fibered cotton plant is fusaric acid. The severity of wilt depends mainly on the rate of production of fusaric acid by the pathogen. Biosynthesis of this toxin appears to proceed through formation of tryptophan and is inhibited by substances participating in transmethylation, such as cobalt or methionine. Plant resistance is augmented in the presence of cobalt, vitamin P, and pyridine alkaloids, and is considerably reduced in the presence of thiamine. The mechanism of action of fusaric acid probably involves competition between the product of its decarboxylation, 3-n-butylpyridine, and dehydrogenase co-factors. Immunity may be due to detoxification of fusaric acid through its transformation into methylamide

USSR

UDC 582/288

POLETAYEVA, V. F., Institute of Botany, Academy of Sciences, Turkmen SSR

"Effect of Cobalt on Fusarium Wilt of Cotton"

Ashkhabad, Izvestiya Akademii Nauk Turkmenskoy SSR, No 3, pp 73-74

Abstract: Cobalt chloride added to infested soil at the rate of 1-2 mg/kg of soil markedly limited the injury to cotton by fusarium wilt. Cobalt chloride delayed the onset of the disease by over two weeks. The first symptoms appeared by May 29-June 6, as compared with May 13 in controls, and by September 13, 46.2% of the experimental plants survived, as compared with 13.6% of the controls. A total of 144 cultures of Fusarium oxysporum were isolated from 4 soil samples, whereas only 55 cultures were isolated from soil treated with 1 mg of cobalt. The result of cobalt treatment is ascribed to the antagonism to Fusarium oxysporum of microorganisms whose multiplication is intensified by the trace element.

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1/2 012 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--NUCLEOPHILIC REARRANGEMENT WITH 1,2,MIGRATION OF CHLORINE DURING THE DEAMINATION OF 2,CHLOROETHYLAMINE -U-

AUTHOR-(03)-REUTOV, O.A., SMOLINA, T.A., POLEVAYA, O.YU.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(2), 366-8 (CHEM)

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHLORINATED ORGANIC COMPOUND, AMINE, CARBON ISOTOPE, THIONYL CHLORIDE, CHEMICAL REACTION MECHANISM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0700 STEP NO--UR/0020/70/191/002/0366/0368

CIRC ACCESSION NO--AT0124372

UNCLASSIFIED

2/2 012 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AT0124372

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DEAMINATION OF 2,CHLOROETHYLAMINE,1, PRIME14 C IN HCL AT ODEGREES WITH 1 MOLE NANO SUB2 WAS FOLLOWED BY RADIOTRACING OF THE PRODUCTS FORMED FROM THE AMINE PREPD. EITHER VIA N PRIME14 CCH SUB2 OH TREATMENT WITH LIALH SUB4, OR IWTH PCL SUB5. THE 1ST METHOD RESULTED IN SOME 3-4PERCENT MORE REARRANGED PRODUCT IN THE DEAMINATION REACTION THAN FOUND IN THE PRODUCTS FROM THE 2ND METHOD OF SYNTHESIS. IT WAS SHOWN THAT CONVERSION OF HOCH SUB2 CH SUB2 NH SUB2 WITH SOCL SUB2 TO CICH SUB2 CH SUB2 NH SUB2 RESULTS IN 9PERCENT MIGRATION OF THE NH SUB2 GROUP, SO THAT THE PRIME14 C TAG APPEARS TO THAT EXTENT IN THE POSITION ADJACENT TO THE CL ATOM. TWO ALTERNATE GENERAL SCHEMES OF REACTION WERE SUGGESTED.

FACILITY: MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

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POLEVAYA V.S.

UNCLASSIFIED

SECTION V

SOI SELECTED AEROSPACE MEDICAL FACILITIES
PCS-89
SEPT 71

biology

Name: Institute of Photosynthesis, Pushchino

Description:

(U) During this quarterly reporting period, four new articles were located from the Institute of Photosynthesis at Pushchino. On the basis of these articles, it was possible to identify five new personalities with the Institute. These personalities, the subjects of the articles, and the dates are given below:

all- biology/photosynthesis

Gins, V. K.	effect of illumination	1970 (61)
Kuznetsov, V. P.	phosphorylation	1970 (62)
Lebedeva, A. I.	phosphorylation	1970 (62)
Polevaya, V. S.	plant pigment	1970 (63)
Shvedova, T. A.	chlorophyll	1971 (64)

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UNCLASSIFIED

USSR

UDC 629.7.036.2

POLEVICHEK, Ye. P., ZHDANOV, V. V.

"Calculation of the Pressure in the Combustion Chamber of a Pulsating Jet Engine During the Process of Filling"

Samoletostr. i Tekhn. Vozd. Flota. Resp. Mezhved. Temat. Nauch.-Tekhn. sb. [Aircraft Construction and Air Industry Technology. Republic Interdepartmental Thematic Scientific and Technical Collection], No 28, 1972, pp 10-15, (Translated from Referativnyy Zhurnal, Aviatsioynnye i Raketnye Dvigateli, No 8, 1972, Abstract No 8.34.79, from the Resume).

Translation: The process of filling of the combustion chamber of a pulsating jet engine is studied, and the laws of thermodynamics are used as a basis to produce an equation for calculation of the pressure in the chamber as it is filled with fresh working fluid. An approximate formula convenient for calculation is produced, allowing the desired pressure to be determined with good accuracy. Results of calculations using the precise and approximate formulas are compared. Results of experimental cold blowing of air through a model chamber are presented and compared with the calculated results. 3 Figures; 3 Biblio. Refs.

1/1

USSR UDC: 621.375.024(088.8)

POLEVIK, Yu. A., GASPAROV, R. G., MALOLETNEV, A. V.

"A Reversible Half-Wave DC Amplifier"

USSR Author's Certificate No 259165, filed 5 May 68, published 23 Apr 70 (from RZh-Radiotekhnika, No 11, Nov 70, Abstract No 11D139 P)

Translation: This Author's Certificate introduces a reversible half-wave DC amplifier which contains two diodes connected in parallel opposition, and a choke. To simplify the control circuit and maintain linearity of the output characteristic when it passes through zero, connected in parallel with the load is a network made up of a resistor and the controlling winding of the choke. The working winding of the choke is connected through a diode to the controlling electrode of a controlled rectifier, and a half-wave pulse duration modulator is connected to the input of a second rectifier. E. L.

1/1

USSR UDC: 621.375.4

USSR UDC 621.314.58(088.8)

POLEVIK, YU. A., GASPAROV, R.G., MOIN, V.S.

"Device For A-C Voltage Regulation"

USSR Author's Certificate No 261536, filed 19 Jun 68, published 25 May 70 (from RZh--Elektronika i yeye primeneniye, No 12, December 1970, Abstract No 12B518P)

Translation: For simplification and an increase of efficiency, a series network [tsepochka] is connected into the diagonal of an a-c rectifying bridge. The network consists of a choke coil and the primary winding of a pulse transformer, the secondary winding of which is connected into the control circuit of a thyristor. The network forms a control pulse for the thyristor in the negative half-cycle of the feed voltage, which assures equality of the conduction angles in both half-cycles and absence of d-c components in the load. 1 ill. A. Tarasov.

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USSR

UDC 536.252

BERKOVSKIY, B. M. and POLEVIKOV, V. K., Institute of Heat and Mass Exchange, Academy of Sciences, Belorussian SSR, Minsk

"Influence of the Prandtl Number Upon Structure and Heat Exchange During Natural Convection"

Minsk, Inzhenerno-Fizicheskiy Zhurnal, Vol 24, No 5, May 1973, pp 842-849

Abstract: An investigation is made of the spectrum of thermoconvective structures within a wide range of Prandtl parameters. Consideration is given to the two-dimensional steady convective motion of a viscous incompressible fluid within a square region bounded by hard, impermeable walls. An empirical formula is obtained, which makes it possible to find, for arbitrary Prandtl numbers, regions of values of the Rayleigh criterion in which heat exchange and the temperature fields can be described only by the Rayleigh number. The conclusion is arrived at, that for any fixed Prandtl number Pr_1 there exists such a critical Rayleigh number $Ra_*(Pr_1)$ that within the range of $Pr > Pr_1$, subject to the condition of $Ra < Ra_*$, heat exchange and the temperature distribution can be described by the Rayleigh parameter alone. Consequently for small values of Pr, heat exchange and the temperature distribution are functions of Ra only within a very narrow region of small values of the Rayleigh parameter. Within

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BERKOVSKIY, B. M. and POLEVIKOV, V. K., Inzhenerno-Fizicheskiy Zhurnal, Vol 24, No 5, May 1973, pp 842-849

the range of high Prandtl numbers, these processes are determined only by the Ra number within a considerably wider range. 4 figures. 16 references.

2/2

Acc. Nr.: AR0105428

Ref. Code: UR0000

JPRS 49937

Automatic Nephelometer

(Abstract: "Automatic Nephelometer," by K. K. Polevitskiy and Ye. N. Shadrina; Leningrad, Trudy Glavnoy Geofizicheskoy Observatorii, No 40, 1969, pp 85-94)

/From: Moscow, Referativnyy Zhurnal, Geofizika, Svodnyy Tom, No 1, 1970, 1B667

A new automatic nephelometer developed at the Main Geophysical Observatory is described. The authors give the theoretical basis, functional electric diagram and instrument desing. The instrument is designed for measuring atmospheric transparency in an unlimited range of change, in an open volume and at any time of day and does not require a long measuring base or the construction of large supports for setting up the instrument. Bibliography of 15 items.

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12

USSR UDC: 621.375.4

POLEVOY, O. Z., SKUBACHEVSKAYA, T. G.

"On Determining the Current in the Load in Calculating Circuits Based on Thyristors"

Tr. Mosk. aviats. in-ta (Works of the Moscow Aviation Institute), 1970, vyp. 220, pp 8-11 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5D142)

Translation: An amplifier circuit based on thyristors is considered for the case of a sinusoidal voltage supply; symmetric control of the thyristors is assumed. An expression is derived for calculating the shape of the current in a complex load. Two illustrations, bibliography of one title. N. S.

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USSR

UDC 539.385

CHERNYAK, N. I., POLEVOY, V. A.

"Low-Cycle Strength of Steel Under Repeated Elastic-Plastic Deformation in Plane Stressed State Conditions"

Sb. nauch. tr. Kiyev. in-t inzh. grazhd. aviatsii (Collection of Scientific Works of the Kiev Institute of Civil Aviation Engineers), 1971, No. 1, pp 63-72 (from RZh-Mekhanika, No 12, Dec 71, Abstract No 12V1475)

Translation: An experimental study of low-cycle strength of thin-walled tubular samples under axial tension-compression and internal pressure was conducted. Samples of 1Kh18N10T steel were tested under relationships of longitudinal and transverse stresses of 0, 0.5, 1.0, 1.75, 3.0 on a base of $0.5 \cdot 10^4$ cycles with a frequency of 25 cycles per minute. Measures were taken to ensure an approximately proportional change in the stress component. Values of the limiting static deformations are given and the kinetics of cyclic deformations under low-cyclic loading were traced as a function of the relationship of the stresses. A considerable change was noted in the shape of the samples and the region of quasistatic, fatigue and the transition character of the fracture is shown, and the effect of distortion on the character of the load diagram

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CHERNYAK, N. I., POLEVOY, V. A., Sb. nauch. tr. Kiyev. in-t inzh. grazhd. aviatsii, 1971, No. 1, pp 63-72

and the form of the rupture is analyzed. Longevity curves under low-cyclic loading are constructed and limiting state curves are shown in longitudinal and transverse stress coordinates in terms of the number of cycles to breakdown. It is noted that it is impossible to obtain a single curve for low-cyclic breakdown when the data is expressed in terms of the intensities of the stresses. 13 ref. A. P. Gusenkov.

2/2

UDC 620.17

USSR

CHERNYAK, N. I., POLEVOY, V. A.

"Device for Testing Pipe Samples under Conditions of Repeated Proportional Loading under an Axial Force and Internal Pressure"

Sb. nauch. tr. Kiev. in-t inzh. grazhd. aviatsii (Collection of Scientific Works of the Kiev Institute of Civil Aviation Engineers), 1971, vyp. 1, pp 107-114 (from RZh-Mekhanika, No 11, Nov 71, Abstract No 11V1210)

Translation: A description is presented of a hydraulic and electric schematic of a device providing for proportional loading of pipe samples with respect to two main areas (static and cyclic loading with a frequency of up to 25 cycles per minute), axial loading to 1.5 tons, and an internal pressure up to 500 kg/cm^2. Clamping of the sample is used in the device. The deformation diagrams were recorded by electronic potentiometers. The bibliography has 11 entries.

1/1

USSR UDC 621.382.11:621.382.345.029.62

NIKOLAYEVSKIY, I. F., POLEVOY, V. V., SOROKIN, Ye. P.

"On the Parameters of a Substitution Circuit for Microwave Power Transistors at High Injection Levels"

Moscow, Poluprovodnikovyye Pribory i ikh Primeneniye, No 24, Izd-vo "Sovetskoye Radio", 1970, pp 42-51

Abstract: The authors consider a simplified physical equivalent circuit for a high-frequency drift-type power transistor in a common-emitter connection. The parameters of the circuit are found by measuring the absolute values of the input impedance, current gain, slope of the transfer characteristic, time constant of the collector circuit, output impedance of the transistor and capacitance of the collector circuit, and the frequency dependences of these quantities. It is pointed out that the inductances of the base, emitter and collector circuits and parasitic reactive elements of the measurement circuits have an appreciable effect on determination of the low-signal parameters of planar power transistors at high injection levels. Eight figures, bibliography of two titles.

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USSR

UDC 621.382.3

NIKOLAYEVSKIY, I.F., POLEVOY, V.V., SORCKIN, YE.P.

"On The Parameters Of The Equivalent Circuits Of Microwave Power Transistors With High Injection Levels"

V sb. Poluprovodn. pribory i ikh primeneniye (Semiconductor Devices And Their Application--Collection Of Works), Issue 24, Moscow, "Sov.radio," 1970, pp 42-51 (from RZh--Elektronika i yeye primeneniye, No 4, April 1971, Abstract No 4B258)

[No abstract]

1/1

Pesticides

USSR UDC 632.934:633.31

POLEVSHCHIKOVA, V. N., Head of the Laboratory for Studying Food Crop Pests, and STEPANOV, P. A., Head of the Chemicotoxicological Laboratory of the Central Asian Plant Protection Institute

"Granulated Phosphamide (Rogor) to Control Alfalfa Shoot Pests"

Moscow, Zashchita Rasteniy, No 12, 1971, pp 17-18

Abstract: A procedure was developed at the Central Asian Plant Protection Institute for controlling sitona and aphids which are harmful to alfalfa shoots. Ten systemic preparations were tested including phosphamide, intrathion, siphos, keelval, and so on, of which the most effective was phosphamide. The method of preparing the compound, granulating it and applying it is described. Chemical and biological studies of the stability of the granulated phosphamide demonstrated that the amount of phosphamide in the granules after 9 months of storage drop insignificantly, and field testing showed that the stored granules were only 2 percent inferior to granules prepared immediately before application. The toxicity of the phosphamide stored in the plants lasted 40 to 45 days, but no residual phosphamide was detected during the harvest period.
1/1

USSR

UDC 51.330.115

POLEZHAYEV, A. P., CHISTOV, V. K.

"Control of Development of Complex Systems Under Conditions of Uncertainty"

Mat. Vopr. Upr. Proiz-vom. Vyp. 2 [Mathematical Problems of Production Control, No. 2 -- Collection of Works], Moscow, Moscow University Press, 1970, pp 605 (Translated from Referativnyy Zhurnal Kibernetika, No. 4, April, 1971, Abstract No. 4, V605).

No Abstract.

1/1

USSR

UDC 539.6.01:536:24.

GORSKIY, V. V. and POLEZHAYEV, Yu. V.

"Heat and Mass Exchange on the Surface of Fiberglass-Reinforced Graphite Materials in a High-Temperature Gas Stream"

Moscow, Izvestiya Akademii Nauk SSSR, Mekhanika Zhidkosti i Gaza, No 6, Nov-Dec 72, pp 71-87

Abstract: The mutual influence of evaporation and combustion during the destruction of fiberglass-reinforced graphite materials in a hypersonic gas stream is dealt with. It is shown that fiberglass-reinforced plastics have three regimes of destruction (ablation) when acted upon by a high-temperature airstream. In the first regime, at low rates of destruction, SoO_2, SiO, and CO_2 predominate among the components containing carbon and silicon in the composition of the gas in the boundary layer. In the second regime, at moderate rates of destruction (ablation), only SiO, CO_2, and CO are significant among the components of the above-mentioned type. In the third regime, at high rates of ablation, the components containing the above-mentioned elements are restricted to SiO, CO, and Si.

The features of the first regime are common to all fiberglass-reinforced plastics, and virtually do not depend upon their elementary composition.

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USSR

GORSKIY, V. V. and POLEZHAYEV?, Yu. V., Izvestiya Akademii Nauk SSSR, Mekhanika Zhidkosti i Gaza, No 6, Nov-Dec 72, pp 71-87

In the second regime of destruction, the presence of free carbon in the boundary layer brings about a sharp intensification of the evaporation of SiO_2, and the dependence of the ablation rate upon the temperature of the heated surface, starting with some specific relationship of the mainstream parameters, becomes ambiguous. The third regime of destruction takes place only in fiberglass-reinforced plastics, the carbon content of which exceeds by 25% the content of glass, by weight.

The thermal effect of the physicochemical interaction of the material with the mainstream is studied, and the relationship of the parameters of coating ablation to the destruction schemes is discussed. The influence of the composition of the material upon the basic processes of its destruction is established, 7 figures, 3 tables, 8 references.

2/2

1/2 027 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--NEW ANTIDEPRESSANT AZAPHENE -U-

AUTHOR-(03)-POLEZHAYEVA, A.I., VERTOGRADOVA, O.P., BAGREYEVA, M.R.

COUNTRY OF INFO--USSR

SOURCE--KHIM.-FARM. ZH. 1970, 4(2), 59-61

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PSYCHOTHERAPEUTIC DRUG, TOXICITY, CHOLINOLYTIC, QUANTITATIVE ANALYSIS, DRUG TESTING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0048 STEP NO--UR/0450/70/004/002/0059/0061

CIRC ACCESSION NO--AP0119044

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202510004-5"

2/2 027 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119044

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PHARMACOL., CLIN., AND CHEM. CHARACTERISTICS OF THE TITLE COMPD. (DI-HCL SALT OF 2,(4,METHYL,1,PIPERAZINYL),10,METHYL,3,4,DIAZAPHENOXAZINE) (I), ARE GIVEN. I IS A LOW TOXIC COMPD., LD SUB50 VALUES FOR MICE BEING 64, 390, AND 700 MG-KG (I.V., S.C., AND ORAL, RESP.), AND PHARMACOL. EFFECTS RESEMBLING THOSE OF TRICYCLIC ANTIDEPRESSANTS. I DID NOT SHOW CHOLINOLYTIC ACTIVITY AND WAS LESS TOXIC THAN IMIZINE. IN CLINICAL TESTS, INITIAL DOSES WERE 25-50 MG-24 HR, MEDIUM 150-200, AND MAX. 500-600 MG-24 HR. A THERAPEUTIC EFFECT WAS OBSD. AFTER 1 WEEK AND INVOLVED TIMIDO ANALEPTIC AND SEDATIVE ACTION. I GAVE COLOR REACTIONS WITH CITRIC ACID IN AC SUB2 O (VIOLET COLOR WHEN HEATED), AND FORMED AN ORANGE PPT. WITH TROPAEOLIN OOO-P. THE FOLLOWING PROCEDURE WAS RECOMMENDED FOR QUANT. DETN. OF I: DISSOLVE 0.1-0.15-G SAMPLE IN 1-1.5 ML HCO SUB2 H, ADD 30 ML AC SUB2 O, AND TITRATE WITH 0.1M HCLO SUB4 USING CRYSTAL VIOLET AS INDICATOR; 1 ML 0.1M HCLO SUB4 CORRESPONDS 0.01851 G I. FACILITY: VSES. NAUCH.-ISSLED. KHIM.-FARM. INST. IM. ORDZHONIKIDZE, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 542.91:547.1'118

AREUZOV, B. A., POLEZHAYEVA, N. A., and VINOGRADOVA, V. S., Chemical Institute Imeni A. M. Butlerov, Kazan' State University Imeni V. I. Ul'yanov-Lenin

"Structure of the Products Obtained in the Reaction of Trimethyl Phosphite With N-Acetyltrichloroacetaldimine"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 5, May 73, pp 1112-1116

Abstract: Several products are obtained from the reaction of N-acetyltrichloroacetaldimine [ATD] with trimethyl phosphite, depending on the reaction conditions. When the reaction is carried out at -13°, two crystalline products are obtained: dimethyl ester of α-(N-acetyl)-amino-β,β,β-trichloroethylphosphonic acid (I), m. p. 150.5-151°, and the dimethyl ester of α-(N-acetyl) amino-β,β-dichlorovinylphosphonic acid (II), m.p. 98-99°. The same reaction carried out without cooling is exothermic, the temperature of the reaction mixture rising to 40-45°, and it yields the phosphonate (I) plus an addition product of 1 mole of trimethyl phosphite to 2 moles ATD. The melting point of this addition product is 153.5-154°. With cooling to -40° the reaction products are (I), (II), and an inseparable mixture of several liquid products.

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USSR

UDC 542.91:547.1'118

ARBUZOV, B. A., ELKIN, YU. V., and POLEZHAYEVA, N. A., Chemical Institute Imeni A. M. Butlerov, Kazan' State University Imeni V. I. Ul'yanov-Lenin

"Reaction of Benzylidenephenylsulfonylacetophenone With Trimethyl Phosphite and tris(Dimethylamino)phosphine"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 5, May 73, pp 1107-1112

Abstract: Benzylidenephenylsulfonylacetophenone (I) reacts with trimethyl phosphite (80°, C_6H_6), yielding 2,2,2-trimethoxy-3,5-diphenyl-4-phenylsulfonyl-1,2-oxaphospholene-4 (II). At high temperatures (160°) two processes take place concurrently: isomerization of the phosphorane (II) with formation of the dimethyl ester of 1,3-diphenyl-2-phenyl-sulfonyl-3-methoxypropene-2-phosphonic acid, and decomposition of the phosphorane (II) to yield the starting materials, accompanied by breaking of the P-C bond. Reaction of the phosphorane (II) with proton donor reagents leads to an opening of the phosphorane ring at the P-O bond, yielding the dimethyl ester of 1-phenyl-2-benzoyl-2-phenylsulfonylethanephosphonic acid. (I) reacts with tris(dimethylamino)-phosphine yielding a 1:1 addition product with a P-C bond and a bipolar structure.

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USSR

UDC 615.216.5.015.45

FISENKO, V. P., POLGAR, A. A., and SMIRNOVA, V. S., Department of Pharmacology, Faculties of Medicine and Public Health, 1st Moscow Medical Institute imeni I. M. Sechenov, and the Laboratory of Infectious Pathophysiology of the Nervous System, Institute of Normal and Pathologic Physiology, Academy of Medical Sciences USSR

"Microelectrophysiologic Investigations on the Mechanisms of Action and Localizations of a Number of New Curariform Drugs"

Moscow, Farmakologiya i Toksikologiya, Vol 36, No 2, 1973, pp 206-209

Abstract: The mechanisms of action of several new curariform drugs, anatruxonium (I), cyclobutonium (II), decadonium (III), and diadonium (IV) were investigated by means of microelectrode recordings of rat phrenic nerve-diaphragm preparations. The studies were conducted with male August rats, with the nerve-diaphragm preparations kept at room temperature in Tyrode's solution saturated with a mixture of oxygen and carbon dioxide (carbogen). The diameters of the tips of the microelectrodes, which were filled with 2.5 M KCl, were 0.5 μ. Control values for the membrane potentials and the end plate potentials were obtained by adding ditiline, decamethonium, or D-tubocurarine to the bath. The results showed that the addition of I to a

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USSR

FISENKO, V. P., et al., Farmakologiya i Toksikologiya, Vol 36, No 2, 1973, pp 206-209

concentration of 6 x 10^{-8} M, II (1.25 x 10^{-7} M), III (1.2 x 10^{-7} M), or IV (1.4 x 10^{-7} M) did not lower the membrane potential and, thus, did not depolarize the postsynaptic membrane. They did decrease the amplitude of the end plate potentials, indicating their effect on the choline receptors at the end plate. The show that these new curariform drugs exert their inhibition of the neuromuscular junction by affecting the receptors on the end plate in such a manner that they cannot react with acetylcholine.

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USSR UDC 612.816.018.014.46:576.851.097.29

KRYZHANOVSKIY, G. N., POZDNYAKOV, O. M., D'YAKONOVA, M. V., POLGAR, A. A., and SMIRNOVA, V. S., Laboratory of the Pathological Physiology of Infectious Intoxications and Electron Microscopy Group, Institute of Normal and Pathological Physiology, Academy of Medical Sciences USSR

"Impairment of Neurosecretion in the Myoneural Junctions of Muscle Poisoned With Tetanus Toxin"

Moscow, Byulleten' Eksperimental'noy Biologii i Meditsiny, No 12, 1971, pp 27-31

Abstract: Electrophysiological and electron-microscopic study was conducted of the neuromuscular synapses in the rat diaphragm locally poisoned with tetanus toxin ($2 \cdot 10^5$ MLD). Injection of the toxin resulted in a progressive decrease in the amplitude of the respiratory burst in the poisoned diaphragm, but it had no effect on the actual nature of the respiratory electrical activity. The animals died in 7 to 9 hours with symptoms of paralysis of the respiratory muscles. A comparison of the histograms for intact neuromuscular preparations isolated from the diaphragm with those for preparations isolated 3 to 3-1/2 hours after injection of the toxin revealed a sharp decrease in the level of spontaneous synaptic activity in the poisoned muscles, an indication

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KRYZHANOVSKIY, G. N., et al., Byulleten' Eksperimental'noy Biologii i Meditsiny, No 12, 1971, pp 27-31

of impairment of the neurosecretory apparatus. Injection of inactivated toxin did not impair neurosecretion. Electron-microscopic examination showed that the neuromuscular synapse in the poisoned muscle retained its structure. Changes were noted only in the axon terminal in the form of swelling of the mitochondria and increased number of synaptic vesicles. There were no changes in the subsynaptic structures.

USSR

UDC 612.826.4.018

POZDNYAKOV, O. M., and POLGAR, A. A., Electron Microscopy Group, Laboratory of the Pathological Physiology of Infectious Intoxications, Institute of Normal and Pathological Physiology, Academy of Medical Sciences, USSR

"Ultrastructural Variations of the Neurosecretory Apparatus of the Neuromuscular Synapse During Its Function"

Moscow, Byulleten' Eksperimental'noy Biologii i Meditsiny, No 3, 1972, pp 112-116

Abstract: A study was made of the neuromuscular synapses of the diaphragm muscles of albino rats weighing 100 to 120 grams. The muscle was frozen at rest and with short-term (1 and 10 seconds) rhythmic (50 hertz) stimulation. It was fixed in formaldehyde and osmium tetrachloride. The method retained the basic structural features of the neuromuscular synapse. This made it possible to detect certain features of the localization of the synaptic vesicles: uniform distribution along the axon terminal in the state of rest and reduced number and redistribution of the vesicles in the presence of stimulation. Vesicles were also encountered in the synaptic cleft.

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UDC 616.74-018.83-02:576.851.551.097.29

POZDNYAKOV, O. M., POLGAR, A. A., SMIRNOVA, V. S. and KRYZHANOVSKIY, G. N., Electron Microscopy Group, Laboratory of Pathophysiology of Infectious Intoxications, Institute of Normal and Pathological Physiology of the Academy of Medical Sciences USSR, Moscow

"Change in the Ultrastructure of the Neuromuscular Junction Under the Action of Tetanus Toxin"

Moscow, Byulleten' Eksperimental'noy Biologii i Meditsiny, Vol 74, No 7, 1972, pp 113-116

Abstract: Changes in the ultrastructure of the neuromuscular junction of the rat diaphragm were studied 3-5 hours after intramuscular injection of $2 \cdot 10^5$ DLM of tetanus toxin. The general relationship of structures remained intact, and changes were noted mainly in the axon terminal, the most marked of which was an increase in the number of presynaptic vesicles, most of which appeared normal. The number of matrix density of mitochondria in axon terminals was increased. Some injury and degeneration of the presynaptic terminals was noted. It is suggested that the observed changes are consistent with damage to the axon membrane leading to a decreased release of neurotransmitter with accumulation in the axon terminal.

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TITLE-FORMATION OF A POLYCONJUGATED POLYMER DURING THE THERMAL DECOMPOSITION OF POLYACENAPHTHYLENE -U-

AUTHOR-(05)-MARKEVICH, I.N., BEYLIN, S.I., TETERINA, M.P., KARPACHEVA, G.P., POLGOPLOSK, B.A.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(2), 362-5

DATE PUBLISHED----------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CONJUGATED POLYMER, THERMAL DECOMPOSITION, NAPHTHALENE, NAPHTHENE, POLYMER STRUCTURE, CHEMICAL KINETICS, PYROLYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/1092 STEP NO--UR/0020/70/191/002/0362/0365

CIRC ACCESSION NO--AT0124749
UNCLASSIFIED

2/2 022 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AT0124749

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE THERMAL DECOMPN. OF POLYACENAPHTHYLENE (I) IN PHCL AND IN BULK STARTS AT 180DEGREES AND 335-45DEGREES, RESP. THE PRODUCTS CONTAIN ACENAPHTHENE, ACENAPHTYLENE (II) A CONJUGATED POLYMER, BUT NO H. ON THE BASIS OF IR AND EPR SPECTROSCOPY THE POLYMER WAS ASSIGNED STRUCTURE III (N EQUALS 5-7). THE FORMATION OF III INVOLVES THE SPLITTING OFF OF II FROM I AND THE REDN. OF II WITH I. THE KINETICS OF I MOL. WT. DECREASE DURING THE PYROLYSIS IS DISCUSSED. FACILITY: INST. NEFTEKHIM. SIN. IM. TOPCHIEVA, MOSCOW, USSR.

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AA0043314

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

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243049 STATIC DIRECT VOLTAGE CONVERTER is made more reliable. At minimum input voltage at terminals (13) and maximum load (14) the triggering of thyristor (4) coincides with that of thyristor (9). Similarly the triggering of thyristor (3) coincides with that of thyristor (8). As a result the current delivered by transformer (12) can flow unimpeded through bridge (10). As load (14) is reduced or the supply voltage is increased the triggering of thyristors (8,9) lags the triggering of thyristors (3,4). As a result the bridge current flows during a part of the period only by which a constant voltage is maintained across the load. Triggering pulses are developed by driver (1) and phase shift between the triggering of the two groups is caused by phase-shifting network (6) and voltage sensor (11).

5.9.66 as 1100128/26-9. V.A. POLIAKOV (25.9.69) Bul 16/ 5.5.69. Class 21d^2. Int.Cl. H 02m.

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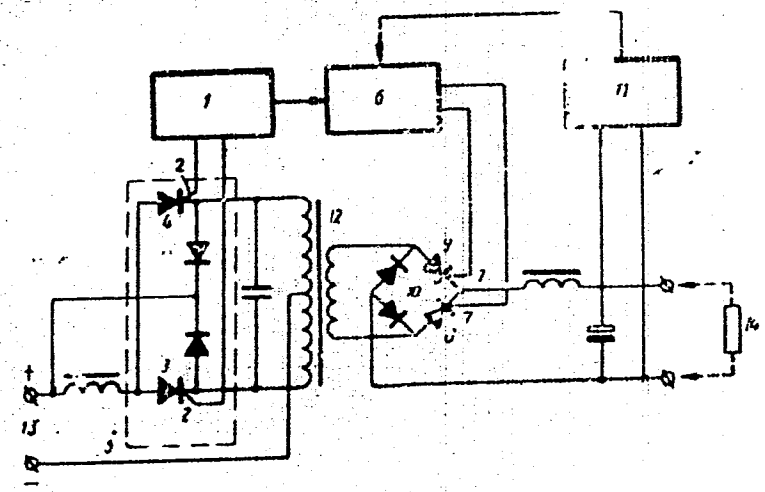

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19761524

USSR UDC 576.852.23.097.29

DALIN, M. V., MIGUNOV, V. N., FISH, N. G., POLIKAR, A. Ch., and IL'NITSKAYA, Ye. A., Moscow Institute of Vaccines and Sera imeni Mechnikov, and Sofia Institute of Epidemiology and Microbiology

"Heterogeneity of a Specific Toxin in a Filtrate of Corynebacterium diphtheriae"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 7, Jul 70, pp 115-118

Abstract: In an earlier study, the authors showed that toxin in filtrates of Corynebacterium diphtheriae strain PW-8 may consist not only of proteins with a sedimentation rate of about 4S, but also of larger components. In the present work, the molecular composition of toxic filtrates from the Weisensee and Massachusetts varieties are compared and the composition of filtrates obtained at different times of culturing is analyzed. C. diphtheriae Strain PW-8 grown in stab culture produced two types of specific toxin in the filtrates: macromolecular, with a sedimentation rate of about 6 to 11S; and low-molecular, with a sedimentation rate of about 4-5S and possessing greater toxicity and antibinding activity (attributed to proteolysis of the molecules of specific toxin during culturing). The macromolecular toxin appeared in the filtrates within a few hours after the start of growth and persisted throughout (36 hours). It is tentatively identified as Ehrlich's "toxon."

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USSR

UDC 550.837.73

BULGAKOV, YU. I., VELIKIN, A. B., GRIGOR'YEV, G. O., POLIKARPOV, A. M.

"Device for Inductive Geoelectric Exploration by the Transient Process Method"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 16, 8 May 70, p 61, Patent No 270122, Filed 2 Mar 63

Translation: This Author's Certificate introduces a device for inductive geoelectric exploration by the transient process method. The device comprises a generator and measuring assembly containing a receiving loop, a commutator, an amplifier and a recorder. It is distinguished by the fact that in order to improve the sensitivity and resistance to low-frequency noise when measuring steady-state low voltages, a level index and two or several synchronous filters connected with it are connected to the output of the pulse amplifier in the measuring assembly.

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USSR UDC 669.71.472(088.8)

POLIKARPOV, A. P.

"Current Lead-In Pin for an Aluminum Electrolyzer with Upper Current Lead-In"

USSR Author's Certificate No 275419, Filed 14 Aug 68, Published 2 Oct 70 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G158P)

Translation: The lead-in pin comprises a steel pin and an Al-rod. In order to simplify the design and lower the consumption of materials and electric power, the steel pin has holes in which cylindrical aluminum trunnions are pressed with radial grooves and a square stem is rigidly connected to the Al-rod. There are 4 illustrations.

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USSR UDC 619:616.988.75-084.47:636.5

LAGUTKIN, N. A., CHERNYSHEV, V. V., BONDARENKO, I. M., KHARLAMOV, V. T., POLIKARPOV, B. V., BOLOT[illegible], B. V., NIZAMETDINOV, F. B., and K[illegible]L'SKAYA, G.A.

"Aerosol Vaccination of Poultry Against Newcastle Disease"

Moscow, Veterinariya, No 1, 1972, pp 54-56

Abstract: One-time aerosol vaccination of poultry against Newcastle disease produced strong and lasting immunity in almost 3 million animals of different ages and breeds and had no adverse effect on their productivity. The procedure required [illegible] and considerably less vaccine than for nasal or intramuscular vaccination. For example, some 80,000 to 90,000 5-day-old chicks could be vaccinated per day by three men. In 5- to 12-day old chicks hatched from the eggs of hens inoculated with live vaccine, transovarian passive immunity interfered with the development of postvaccinal immunity. Such animals required increased doses of the vaccine or revaccination 12 to 14 days later.

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USSR

UDC 621.382.3

KARYAKINA, N.V., POLIKARPOV, E.D., KHENKIN, E.A.

"Investigation Of The Noise Characteristics Of Planar Transistors"

V sb. Poluprovodn. pribory i ikh primeneniye (Semiconductor Devices And Their Application--Collection Of Works), Issue 24, Moscow, "Sov.radio," 1970, pp 52-58 (from RZh--Elektronika i yeye primeneniye, No 4, April 1971, Abstract No 4B234)

Translation: The results are presented of an experimental investigation of the noise characteristics of planar transistors, and a comparison is made with the noise characteristics of transistors produced without using planar technology. 6 ill. 1 ref. Author's abstract.

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USSR

DUSHAUSKENE-DUZH, N.-R. F., MARCHYULENENE, E. -D. P., NYANISHKENE, V. B., SHCHULIYENE, R. I., and POLIKARPOV, G. G.

"The Uptake of Radionuclides by Some Fresh-Water Hydrobionts"

Vil'nyus, Tr. AN LitSSR (Proceedings of the Academy of Sciences Lithuanian SSR), B, No 3 (59), 1972, pp 201-212 (from Referativnyy Zhurnal--Biologicheskaya Khimiya, No 5, 1973, Abstract No 5F1532)

Translation: As a result of investigations conducted under natural conditions in 1967-1968 (10 fresh water ponds in the Lithuanian SSR), it was established that the accumulation coefficients (AC) for ^{90}Sr and ^{210}Pb did not differ in fishes and molluscs, while in the case of plants the AC for ^{210}Pb was an order of magnitude less than that for ^{90}Sr. A definite correlation was found to prevail between the concentrations of ^{90}Sr and ^{210}Pb. The AC for ^{90}Sr and ^{210}Pb were found to depend on the ash content of the hydrobionts. The highest AC for ^{90}Sr, ^{137}Cs, ^{144}Ce, and ^{106}Ru were observed in the case of the phytoplankton and in the silt. Of the various radionuclides, ^{144}Ce had the highest AC in the hydrobionts, and ^{137}Cs in the silt. The AC of ^{90}Sr was relatively low in the hydrobionts and silt. The

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DUSHAUSKENE-DUZH, N.-R.F., et al., Tr. AN LitSSR, B, No 3 (59), 1972, pp 201-212

intense accumulation of ^{137}Cs, ^{144}Ce, and ^{106}Ru in the silt from the aquatic environment serves to decrease the uptake of these radionuclides by chironomid larva. The chironomid larva assimilate radionucleotides in the following quantities from a radioactive meal: ^{90}Sr -- 10%, ^{137}Cs -- 9%, ^{144}Ce -- 11%, and ^{106}Ru -- 6%. Year old carps assimilate 10% of the total quantity of ^{144}Ce in a radioactive meal (chironomids), which pass through their gastrointestinal tract. The uptake of ^{90}Sr, ^{137}Cs, ^{144}Ce, and ^{106}Ru by zebra mussels and chironomid larvae, of ^{90}Sr into the organisms of pond snails, and of ^{144}Ce by the year old carps occurs primarily from the aqueous environment, and in smaller quantities from the food. It was shown that fishes belonging to different trophic levels (carps and predatory fishes) accumulate ^{90}Sr to the same extent. Analogous findings held for ^{210}Pb. The AC for each of these radionuclides does not depend on the type of nutrition of the fish.

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USSR UDC 551.482.2:551.311.21

POLIKARPOV, G. G., YEGOROV, V. N., IVANOV, V. N., TOKAREVA, A. V., and FILIPPOV, I. A., Institute of Biology of the Southern Seas, Academy of Sciences UkSSR

"Oil Fields as an Ecological Niche"

Moscow, Priroda, No 11, 1971, pp 75-78

Abstract: Observations are made on the formation, behavior, distribution and composition of oil "aggregates" collected from the surface and near-surface layers of the Central Atlantic during the 1970 cruise of the research vessel Akademik Vernadskiy. Five size groups were distinguished, ranging from those under 1 mm to 8 mm in diameter, the latter being the most numerous. Many are overgrown with periphyton, blue-green algae, diatoms, and crustaceans. By moving freely over the water in response to wave and wind, these oil aggregates can serve as indicators of currents and processes of horizontal mixing of the surface layers. Experiments on the capacity of the aggregates to concentrate cerium, ruthenium, and zinc from seawater showed them to be excellent adsorbents of these elements. This fact plus the presence of biogenous elements on the surface of the aggregates and maximum exposure to light and oxygen create favorable conditions for the development of periphyton.
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POLIKARPOV, G. G., et al., Priroda, No 11, 1971, pp 75-78

Hence, there will be an increase in the abundance of those hydrobionts which require a floating substrate. The results is likely to intensify the cycle of matter in the pleuston-neuston complex and ultimately determine the fate of the oil aggregates themselves.

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USSR UDC 621.039.8

POLIKARPOV, G. G., Corresponding Member Academy of Sciences UkSSR, Institute of Biology of the Southern Seas, Academy of Sciences UkSSR

"Radioecology of Hydrobionts"

Moscow, Priroda, No 10, 1971, pp 47-55

Abstract: Radiobiology of aquatic organisms, a discipline allied to radiobiology, hydrobiology, and biogeochemistry, is concerned with the interaction between hydrobionts (their populations and communities) and radioactive elements in water. It investigates the accumulation, exchange, and distribution of radionuclides (atoms with radioactive nuclei) in hydrobiological systems and the effects of ionizing radiation on their structure, functions, and productivity. Its objective is to elaborate a theory of the effect of external and especially internal ionizing radiation on populations and communities of organisms. Its practical aim is to be able to provide a scientific basis for predicting radiation levels in the hydrobiosphere in order to substantiate recommendations to ensure radiation safety. The author illustrates the above aspects of radioecology with examples from the literature and his own research.

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POLIKARPOV, I.

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61. USSR

POLIKARPOV, I.

"Methods of Ordering Information Systems Used in Scientific Planning"

Moscow, Nauchno-Tekhnicheskaya Informatsiya, Seriya 1, No 2, 1971, pp 5-7

PUB: CYBERNETICS

UDC 001.89:002.5

Abstract: The ordering and improvement of information systems requires the solution of method-logical, technical, and organizational problems. An important role is played by more efficient classification of documents, based on the division of information into elementary groups and the formation of matrices of elementary information required for specific control process. The basis for the classification of the elementary information must be the generality of the semantic content and its effect on the control system. Several methods of classification of information are suggested. Documents can be divided, according to the degree of their complexity, into orientational, motivational, and instructional groups; in groups reflecting the current, near-future, or long-term prospects of development; or in groups based on the contradictions in the development process (competitors, contra-measures, etc.). The latter is especially important in case of military equipment projects, or in studies involving foreign achievements in specific technology. These principles of organization of elementary information can be applied to different

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USSR

POLIKARPOV, I., Nauchno-Tekhnicheskaya Informatsiya, Seriya 1, No 2, 1971, pp 5-7

Information systems and will make it possible for specialists to work on several information systems simultaneously with a minimum expenditure of labor. Subsequently, they will provide the basis for establishing a state-wide unified information system.

USSR UDC: 629.7.036.3:533.697.4.001.4

SHCHUKIN, V. K., POLIKARPOV, P. A., FILIN, V. A., KHALATOV, A. A., YAKSHIN. A. P.

"Influence of Entry Conditions on Heat Exchange in Nozzles"

Tr: Kaz. Aviats. In-ta [Works of Kazakh Aviation Institute], 1972, No 151, pp 3-10 (Translated from Referativnyy Zhurnal Aviatsionnyye i Raketnyye Dvigateli, No 5, 1973, Abstract No 5.34.59).

Translation: A description is presented of an experimental installation for the study of unstable convective heat exchange in nozzles. Results are presented from an experimental study of the local heat transfer in a nozzle when a heat insulated pipe with a diameter equal to the input diameter of the nozzle and a relative length l/d = 1, 2, 5, 10 or 15 is connected to its input, or when a cylindrical sleeve is placed at the output of the nozzle with various central aperture diameters. 3 figures, 10 biblio. refs.

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USSR UDC: 621.372.41

GERASIMOV, Ye. V., GRIGOR'YEV, L. V., POLIKARPOV, P. I., SACHKOVA, G. A.

"Nomograms for Engineering Calculation of the Equivalent Inductance of Quartz Resonators With Lens-Shaped AT-Section Piezoelectric Elements"

Elektron. tekhnika. Nauch.-tekhn. sb. Radiokomponenty (Electronic Technology. Scientific and Technical Collection. Radio Components), 1970, vyp. 5, pp 3-11 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6V445)

Translation: For engineering calculation of equivalence and electrode diameter of AT-section lens-type piezoelectric elements, nomograms were used which were plotted on the basis of a formula giving the least divergence between theoretical and experimental data. Resumé.

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USSR

UDC: 621.391.19

KATYS, G. P., ZOTOV, V. D., POLIKARPOV, S. P., VINOGRADOVA, Ye. P., "Order of Lenin" Institute of Control Problems (Automation and Remote Control), Academy of Sciences of the USSR

"An Image Converter"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 36, Dec 71, Author's Certificate No 322781, Division G, filed 19 May 70, published 30 Nov 71, p 163

Translation: This Author's Certificate introduces an image converter made in the form of a semiconductor plate to which metal ring electrodes and a central point electrode are applied for a radial field. As a distinguishing feature of the patent, conversion errors which result from rotation and change of image scale are eliminated by using a sawtooth voltage source and by placing an additional electrode on the semiconductor plate inside the ring electrode. This auxiliary electrode is made from a material with conductivity opposite to that of the semiconductor plate and takes the form of one turn of an Archimedes spiral with one end connected to the ring electrode and the other end connected through a load to the source of sawtooth scanning voltage.

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USSR

UDC 621.383.8

ZOTOV, V. D., POLIKARPOV, S. P., Moscow

"Semiconductor Converters Which Analyze Optical Images"

Moscow, Avtomatika i Telemekhanika, No 9, Sep 71, pp 165-169

Abstract: The authors describe a device with a metal-oxide-semiconductor photoconversion matrix which can be used to distinguish zones with a given illumination on an image. A description is also given of a semiconductor photoconversion unit which reacts only to a given level of light intensity. These devices are theoretically analyzed. Formulas are derived which can be used to select the semiconductor materials and the proper geometric dimensions of sensing surfaces in the devices when the requirements for operation are known. Four figures, bibliography of four titles.

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1/2 041 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--RADIATION EMULSION POLYMERIZATION OF STYRENE -U-

AUTHOR-(05)-LUKHOVITSKIY, V.I., POLIKARPOV, V.V., LEBEDEVA, A.M., LAGUCHEVA, R.M., KARPOV, V.L.

COUNTRY OF INFO--USSR

SOURCE--KHIM. VYS. ENERG. 1970, 4(2), 173-4

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL REACTION RATE, RADIATION EFFECT, EMULSION POLYMERIZATION, STYRENE, GAMMA IRRADIATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1623 STEP NO--UR/0456/70/004/002/0173/0174

CIRC ACCESSION NO--AP0112617

UNCLASSIFIED

2/2 041 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0112617

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE KINETICS WERE STUDIED OF EMULSION POLYMN. OF STYRENE (I) (K LAURATE (II) WAS USED AS THE EMULSIFIER) IRRADIATED WITH GAMMA RAYS. THE REACTION ACTIVATION ENERGY IS 7.7 KCAL-MOLE. THE FOLLOWING RELATIONS ARE OBEYED UPSILON IS APPROXIMATELY EQUAL TO I PRIMEO.5 IS APPROXIMATELY EQUAL TO (C MINUS C SUBM) PRIMEO.5 IS APPROXIMATELY EQUAL TO EXP(NEGATIVE 4600-RT) WHERE UPSILON IS THE REACTION RATE, I IS THE IRRADN. INTENSITY, C IS THE CONCN. OF II, AND C SUBM IS THE CRIT. I CONCN. OF THE MICELLE FORMATION.

FACILITY: FIZ. KHIM. INST. IM. KARPOVA, MOSCOW, USSR.

UNCLASSIFIED

USSR UDC 546.651:542.61:547.558

RUSINA, M. N., POLIKARPOV, Yu. M., YAROSHENKO, G. F., and TIMAKOVA, L. M.

"Aminosubstituted Phosphine Oxides as Extractants of Rare Earth Elements"

Leningrad, Zhurnal Obshchey Khimii, Vol 43(105), No 2, Feb 73, pp 238-242

Abstract: Synthesis of aminosubstituted phosphine oxides containing phosphoryl and amino groups in the molecule was carried out. Their ability to extract rare earth elements [REE] was studied. The structure of such reagents makes it possible to form chelate rings with metal salts, with both functional groups participating; this makes the complexes very stable and selective. It was shown that substituting an octyl radical for an ethyl group increases the extractional capacity of the material, probably due to the increase in the basicity of the nitrogen atom and better solubility of the complex in the organic phase. β-Aminosubstituted phosphine oxide extracts the REE much better than α-aminosubstituted ones, due to a greater strength of the six membered chelate ring as compared to a five membered one. The coefficient of extraction of REE by above reagents is about 0.1, while for the Ca^{2+}, Mg^{2+}, Al^{3+}, Fe^{3+} and Cr^{6+} they are less than 0.01.

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UDC 66.095.25+661.718.1

USSR

POLIKARPOV, YU. M., KULUMBETOVA, K. ZH., MEDVED', T. YA., KABACHNIK, M. I., Institute of Organo Elemental Compounds, Moscow, Academy of Sciences USSR

"Alkylation of Tetraphenylmethylenediphosphine Dioxide"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 6, Jun 70, pp 1326-1329

Abstract: Alkylation of the potassium salt of tetraphenylmethylenediphosphine dioxide (I) with alkyl halides in boiling xylene gave a series of tetraphenyl-(R)-alkylidenediphosphine dioxides (R derivative and m.p. in °C are reported): C_2H_5-, 257-258; C_4H_9-, 204-206; C_6H_{13}-, 172-173; $C_{12}H_{25}$-, 116-118; $C_6H_5CH_2$-, 217-218. In a similar fashion (I) and CH_2Br_2 gave tetraphenylmethylenediphosphine dioxide and its vinylidene homologue, m.p. 197-199°; 1,6-dibromohexane and (I) gave oxaphenylhexamethylenetetraphosphine tetroxide, m.p. 302-304°, while the p-xylylenedibromide yielded octaphenyl-p-xylylene tetraphosphine tetroxide, m.p. 324-325°, and 1,5-dibromopentane gave tetraphenylcyclohexylidenediphosphine dioxide, m.p. 254-255°.

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1/3 017 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--MAGNITUDE METHOD FOR IDENTIFYING UNDERGROUND NUCLEAR BURSTS, MAGNITUDE METHOD FOR IDENTIFYING UNDERGROUND NUCLEAR EXPLOSIONS -U-

AUTHOR-(04)-PASECHNIK, I.P., DASHKOV, G.G., POLIKARPOVA, L.A., GAMBURTSEVA, N.G.

COUNTRY OF INFO--USSR

SOURCE--INSTITUTE OF PHYSICS OF THE EARTH: MOSCOW, IZVESTIYA AKADEMII NAUK SSSR, FIZIKA ZEMLI, NO. 1, 1970, PP. 28-36

DATE PUBLISHED--------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, ORDNANCE

TOPIC TAGS--NUCLEAR WEAPON TEST, UNDERGROUND EXPLOSION, SEISMIC WAVE PROPAGATION, SEISMIC PULSE, EARTHQUAKE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1977/0496 STEP NO--UR/0387/70/000/001/0028/0036

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UNCLASSIFIED

2/3 017 UNCLASSIFIED PROCESSING DATE--090CT70

CIRC ACCESSION NO--AP0044043

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AT PRESENT SEISMOLOGISTS KNOW THAT FOR EXPLUSIONS AND EARTHQUAKES THERE IS A DIFFERENT NATURE OF THE EXPERIMENTAL RELATIONSHIPS BETWEEN MAGNITUDES M SUBS, DETERMINED FROM RAYLEIGH SURFACE WAVES, AND THE MAGNITUDES M SUBB DETERMINED FROM BODY WAVES, PRIMARILY LONGITUDINAL P WAVES. FOR SUB SURFACE EXPLOSIONS THE MEAN M SUBS VALUES ARE 1.5-0.5 UNITS LESS THAN FOR EARTHQUAKES WITH EQUAL MAGNITUDES M SUBB. THIS MAGNITUDE CRITERION CAN BE SUCCESSFULLY USED IN DIFFERENTIATING THE RECORDS OF UNDERGROUND EXPLOSIONS AMONG THE NUMEROUS RECORDS OF EARTHQUAKES REGISTERED AT TELESEISMIC DISTANCES IN THE RANGE FROM 30 TO 90DEGREES (FROM 3,500 TO 10,000 KM). LEADING SEISMOLOGISTS IN THE WESTERN COUNTRIES FEEL THAT IT IS POSSIBLE TO CHECK ON THE OCCURRENCE OF UNDERGROUND NUCLEAR EXPLOSIONS WITHOUT FIELD INSPECTIONS. HOWEVER, THERE IS STILL NO AGREEMENT AMONG SEISMOLOGISTS AS TO THE MINIMUM THRESHOLD MAGNITUDE M SUBS BEGINNING WITH WHICH UNDERGROUND NUCLEAR EXPLUSIONS CAN BE IDENTIFIED. SOME AMERICAN SEISMOLOGISTS FEEL THAT THE MINIMUM M SUBS AT WHICH SUCH EXPLOSIONS CAN BE DETECTED (FOR PERIODS T EQUALS 20 SEC, MAGNIFICATION OF ABOUT 3,000) IS THE MAGNITUDE OF EXPLOSIONS WITH A POWER OF 20-60 KILOTONS IN SOLID ROCK OF THE GRANITE TYPE (M SUBS GREATER THAN OR EQUAL TO 4). SOME AMERICAN, BRITISH AND CANADIAN SEISMOLOGISTS ACCEPT A LESSER POWER (M SUBS EQUALS 3 OR EVEN M SUBS EQUALS 2).

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3/3 017 UNCLASSIFIED PROCESSING DATE--090CT70
CIRC ACCESSION NO--AP0044043
ABSTRACT/EXTRACT--HOWEVER, IN THE UNITED STATES, SWEDEN AND ELSEWHERE THE MAGNIFICATION OF LONG PERIOD SEISMOGRAPHS FOR PERIODS T EQUALS 20 SEC HAS BEEN INCREASED TO 100,000 AND THEY HAVE BEEN PLACED IN UNDERGROUND CHAMBERS AND EMPLOY FILTERS IN THE REGION OF PERIODS 3-10 SECONDS. THIS INDICATES THAT A THRESHOLD VALUE M SUBS EQUALS 2 FOR THE REGISTRY OF SURFACE WAVES AT TELESEISMIC DISTANCES IS ALREADY ENTIRELY FEASIBLE. A VALUE M SUBS EQUALS 2 IS OBSERVED FOR UNDERGROUND EXPLOSIONS WITH A POWER OF SEVERAL KILOTONS IN SOLID ROCK. THIS PAPER GIVES DATA ON THE RELATIONSHIP BETWEEN M SUBS AND M SUBB FOR UNDERGROUND NUCLEAR BURSTS AS DETERMINED AT SEISMIC STATIONS IN THE USSR. THE AUTHORS COMPARE THESE RELATIONSHIPS WITH THOSE FOR EARTHQUAKES AND ANALYZE THE POSSIBILITY OF IDENTIFYING UNDERGROUND NUCLEAR BURSTS ON THE BASIS OF THE MAGNITUDE CRITERION. COMPARISON OF EXPRESSIONS OF THE FORM M EQUALS M(MP) FOR EXPLOSIONS AND EARTHQUAKES OBTAINED FROM SOVIET SEISMIC DATA REVEALED THAT FOR BURSTS WITH MP FROM 4.2 TO 6.0 THE M VALUES ARE 1.5-0.5 UNIT(S) OF MAGNITUDE LOWER ON THE M EQUALS M(MP) GRAPHS THAN FOR EARTHQUAKES. THUS, UNDERGROUND NUCLEAR BURSTS CAN BE DETECTED FROM SEISMIC RECORDS WITHOUT ON THE SPOT INSPECTION. FACILITY: INSTITUTE OF PHYSICS OF THE EARTH.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202510004-5"

USSR

UDC: 632.95

KHARCHENKO, V. G., KUPRANETS, N. M., POLIKARPOVA, N. V., KRUPINA, T. I., and KLIMENKO, S. K., Saratov Polytechnical Institute

"A Method for Preparing Tetrahydrothiochromyl or symm-Octahydrothioxanthenyl Chlorides"

USSR Author's Certificate No 255292, filed 19 Mar 68, published 8 Apr 70 (from RZh-Khimiya, No 22, 25 Nov 70, Abstract No 22 N674 P by G. V. Kuznetsova)

Translation: These substances, which can be used as physiologically active compounds, are obtained from the reaction of semi- or bicyclic 1,5-diketones with H_2S and HCl in an AcOH medium. A solution of 13.4 g of 1-phenyl-3-(n-methoxyphenyl)-3-(2-cyclohexanonyl)-propanone-1 in 45 ml of glacial AcOH is saturated with H_2S (1 hour) and then with a mixture of H_2S and HCl gas (3 hours) and H_2S (1 hour). 6 g (about 45%) of 2-phenyl-2-mercapto-4-(n-methoxyphenyl)-heptahydrothiochromene is filtered off from the reaction mass. The filtrate is diluted with 300 ml of dry ether, the sediment filtered off, washed with ether and benzene, producing 3.3 g (about 20%) hydrochloride of 2-phenyl-4-(n-methoxyphenyl)-5,6,7,8-tetrahydrothiochromyl chloride, $C_{22}H_{22}Cl_2OS$, melting

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USSR

KHARCHENKO, V. G., et al., USSR Author's Certificate No 258292, filed 19 Mar 68, published 8 Apr 70 (from RZh-Khimiya, No 22, 25 Nov 70, Abstract No 22 N674 P by G. V. Kuznetsova)

point 111-4°; perchlorate of chloride, C H ClO S, melting point 169-71°. Symm--Octahydrothioxanthenyl chloride (I), $C_{22}H_{17}ClS$, is prepared from methylenedicyclohexanone under similar conditions, yield 50%, melting point 95-7° (chloroform-ether). The corresponding iodide, $C_{13}H_{17}IS$, is obtained from the action of 45% HI in ether on I, melting point 153.5-6°. 9-Benzyl-symm-octahydrothioxanthene is obtained from the reaction of I with $PhCH_2MgCl$, yield 41%, melting point 107-9°. The hydrochloride of 9-methyl-symm-octahydrothioxanthenyl chloride, $C_{14}H_{20}Cl_2S$, is obtained under these conditions from ethylenedicyclohexanone with a yield of 40%, melting point 155-6° (chloroform-ether). It is converted by the action of HI into the corresponding iodide, $C_{14}H_{19}IS$, melting point 143-5°.

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