USSR

UDC 669.046.5

BASHLIY, F. I., KOLGANOV, G. S., KOZIN, G. N., and AVDEONOV, Yu. F.

"Quality of Metal Produced With Bath Oxygen Blowing"

Moscow, V sb. "Sovremennyye problemy kachestva stali" (MISiS) (Collection of Works, Modern Problems of Steel Quality) (Moscow Institute of Steel and Alloys), Izd-vo "Metallurgiya," No 61, 1970, pp 107-110

Translation of Abstract: Results are presented of an investigation of the effect of oxygen blowing on metal acidity. Attention is given to the method of subdeoxidation of low-carbon steels by silicon with the purpose of lowering the metal acidity and reducing the development of gas bubbles. 2 figures, 3 tables, 6 references.

1/1

USSR

UDC: 519.2

KOZIN, I. V.

"Problem of Orthogonality of Probability Measures"

Tr. Leningr. In-t Aviats. Priborostr. [Works of Leningrad Institute for Aviation Instrument Building], 1972, No 74, pp 32-39 (Translated from Referativnyy Zhurnal Kibernetika, No 11, 1972, Abstract No 11V36, by G. Molchan)

Translation: Conditions for singularities of measures in Hilbert space H are presented, the characteristic functionals of which are

$$\Phi(v) = e^{i(m, v)} \varphi(\sqrt{(Kv, v)}), \quad v \in H,$$

where m is the mean, K is the kernel covariation operator of the measure, $\varphi(\cdot)$ is the characteristic function of the absolutely continuous distribution on a straight line.

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USSR

UDC: 519.2

KOZIN, I. V.

"Minimum Mean Risk Conditions in Testing of Simple Multiple-alternative Hypotheses"

Tr. Leningr. In-t Aviats. Priborostr. [Works of Leningrad Institute of Aviation Instrument Building], 1972, No 74, pp 11-20 (Translated from Referativnyy Zhurnal Kibernetika, No 11, 1972, Abstract No 11V118, by the author)

Translation: Sufficient conditions for the minimum mean risk in testing of simple multiple-alternative hypotheses are expressed through the Radon-Nikodim derivatives and the singularity set of the probability measures. Particular cases are studied.

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USSR UDC: 519.2

KOZIN, I. V.

"Method of Calculation of Likelihood Ratios"

Tr. Leningr. In-t Aviats. Priborostr. [Works of Leningrad Institute of Aviation Instrument Building], 1972, No 74, pp 21-31 (Translated from Referativnyy Zhurnal Kibernetika, No 11, 1972, Abstract No 11V114, by the author)

Translation: The expediency of selecting a separable Hilbert space for formulation of the problem of reception and detection of signals is proven. One form of conditions of denumerable additiveness of probability measures in the separable Hilbert space is presented and one possible method of calculation of likelihood ratios is tested.

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USSR

UDC: 519.2

KOZIN, I. V.

"Properties of One Class of Non-Gaussian Probability Measures"

Tr. Leningr. In-t Aviats. Priborostr. [Works of Leningrad Institute for Aviation Instrument Building], 1972, No 74, pp 40-55 (Translated from Referativnyy Zhurnal Kibernetika, No 11, 1972, Abstract No 11V37, from the Foreword)

Translation: Certain properties of the probability distributions defined by finite-dimensional densities such as

$$f_n(z_1, \ldots, z_n) = \int_0^\infty f(x) \frac{\sqrt{\det \Lambda}}{(2\pi x)^{n/2}} e^{-\frac{1}{2x}(\Lambda[z-\bar{z}],\,[z-\bar{z}])}\,dx$$

where f(x) is the distribution density of a certain random quantity, Λ is a positively defined n-dimensional quadratic matrix with elements λ_{ik} are studied,

$$(\Lambda[z-\bar{z}],\,[z-\bar{z}]) = \sum_{i=1}^{n}\sum_{k=1}^{n} \lambda_{ik}(z_i-\bar{z}_i)(z_k-\bar{z}_k),$$

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USSR

Kozin, I. V., Tr. Leningr. In-t Aviats. Priborostr., 1972, No 74, pp 40-53 (Translated from Referativnyy Zhurnal Kibernetika, No 11, 1972, Abstract No 11V37, from the Foreword)

$\bar{z}=\{\bar{z}_1,\ldots, \bar{z}_n\}$ is a fixed vector in Euclidean space R^n.

USSR

UDC 621.357.1.035

KOZIN, L. F.

"Problems and Perspectives in the Growth of Amalgam Metallurgy. Part I"

Tr. In-ta organ. kataliza i elecktrokhimii. AN Kaz SSR (Proceedings of the Institute of Organic Catalysts and Electrochemistry. Academy of Sciences Kazakstan SSR), No 3, 1972, pp 3-30 (from Referativnyy Zhurnal -- Khimiya, No 7, 1973, Abstract No 7L328)

Translation: Review. The difficult problems in amalgam metallurgy were considered, the solutions to which would stimulate progress in this important area of science and in new branches of technology. Topics discussed include a process for dissolving metals in tin, the thermodynamics of multi-component amalgams, the nature of the intermetallic structures in the tin phase, and the kinetics of electrode processes in amalgam electrodes. Specific attention was given to determining partition coefficients in the systems $Me_1Me_2/Hg\text{-}Me_1^{+n}Me_2^{+n}$. It was shown that metals can be obtained by methods of amalgam metallurgy with maximum metal impurities in weight % as follows: In, $(2.1\text{-}5) \times 10^{-5}$; Ga, 1×10^{-5}; Pb, $(1\text{-}6) \times 10^{-5}$; Cd, 1×10^{-5}; and Bi, 1×10^{-5}. These values do not represent the maximum purity obtainable with the amalgam method. Ways of preparing metals 99.99999999% pure were examined.

1/1

USSR

KOZIN, L. F.

"Progress in the Field of Amalgam Methods for Obtaining High-Purity Metals"

Alma-Ata, Izvestiya Akademii Nauk Kazakhskoy SSR, Seriya Khimicheskaya, No 4, Jul-Aug 70, pp 27-31

Abstract: The article describes work done at the author's Amalgam Chemistry Laboratory on the use of amalgam electrodes for obtaining ultrapure metals. In developing methods for refining metals to superhigh purity the laboratory devoted a great deal of attention to studying thermodynamic properties of the components of binary and ternary amalgam systems. In conjunction with R. Sh. NIGMETOVA and A. M. DAIROVA, use was made of the emf method in a specially developed electrolyte composition and the method of mercury vapor pressure measurement to study thermodynamic properties of binary systems in a wide range of amalgam compositions and temperatures (25-350°C). A study of interatomic interaction in the amalgam systems indium-mercury, cadmium-mercury, indium-gold-mercury, tin-gold mercury, magnesium-gold-mercury, copper-zinc-mercury (M. B. DERGACHEVA, L. F. KOZIN) established the formation of intermetallic compounds. Using the example of indium, Ye. Ye.

USSR

KOZIN, L. F., Izvestiya Akademii Nauk Kazakhskoy SSR, Seriya Khimicheskaya, No 4, Jul-Aug 70, pp 27-31

KOBRAND, A. G. YEGOROVA, G. M. CHERNIY, G. D. KARPACHEVA elucidated the role of ions of lower valency in the kinetics of electrode reactions. L. F. KOZIN, G. D. KARPACHEVA, A. G. YEGOROVA studied the cathodic current efficiencies of indium. A study of the process of zinc and cadmium ionization (M. I. YERDENBAYEVA and N. F. CHERKASOVA) showed that the anodic current efficiencies of zinc and cadmium at low current densities exceed 100%. A study of the equilibrium constants of the disproportionation reaction of In^+ ions in different electrolytes (A. G. YEGOROVA, G. M. CHERNIY) found that the equilibrium constant depends on the nature of the anion. G. M. CHERNIY, M. B. DERGACHEVA, A. T. ZAMULYUKIN studied the kinetics and mechanism of codischarge. A detailed study of the codischarge and ionization of lead, indium, cadmium, bismuth and zinc and the metal impurities accompanying them (A. T. ZAMULYUKIN, G. M. CHERNIY, N. V. GRUSHINA, A. A. NIKITIN) made it possible to find conditions for the deep separation of impurities from the metal being refined.

2/4

USSR

KOZIN, L. F., Izvestiya Akademii Nauk Kazakhskoy SSR, Seriya Khimicheskaya, No 4, Jul-Aug 70, pp 27-31

L. F. KOZIN, I. I. CHURKIN, A. T. ZAMULYUKIN and A. V. ABROSIMOV have devised various original electrolyzer designs using amalgam bipolar electrodes. These have been tested out at enterprises in the country and have been put into production. The designs are protected by authors' certificates. The electrolyzers, as a rule, have four sections, fiz. an amalgam anode and three bipolar amalgam electrodes, mounted in such a way that the amalgams circulate intensively around a closed circle by means of mechanical stirrers of electromagnetic pumps. The following methods for refining metals to superhigh purity have been developed and are constantly used at one of the plants in the country:

1. An amalgam method for refining lead S-000 to high purity (L. F. KOZIN, A. T. ZAMULYUKIN, V. V. SOKOLOVSKIY, Ya. Z. MALKIN).

2. An amalgam method for refining cadmium KD-000 to superhigh purity (L. F. KOZIN, N. V. GRUSHINA, M. I. YERDENBAYEVA, R. Zh. KHUBDABERGENOV, V. V. SOKOLOVSKIY, A. T. SHAMOVA, A. V. YAKOVLEVA, A. G. BELIKOV).

3/4

USSR

KOZIN, L. G., Izvestiya Akademii Nauk Kazakhskoy SSR, Seriya Khimicheskaya, No 4, Jul-Aug 70, pp 27-31

3. An amalgam method for refining indium IN-00 to a high degree of purity (L. F. KOZIN, R. Sh. NIGMETOVA, G. M. CHERNIY, A. G. GAYVORONSKIY, R. Zh. KHOBDABERGENOV, I. K. MURATALIYEV, A. V. YAKOVLEVA, A. G. BELIKOV, V. V. SOKOLOVSKIY).

4/4

1/2 014 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--THEORY OF CONCENTRATION POLARIZATION OF AMALGAM ELECTRODES -U-

AUTHOR-(02)-KOZIN, L.F., NIKITIN, A.A.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK KAZ. SSR, SER. KHIM. 1970, 20(1), 36-49

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--AMALGAM, ELECTRODE POLARIZATION, ELECTRODE POTENTIAL, CURRENT DENSITY, ELECTROLYTIC CELL, SOLUTION CONCENTRATION, THALLIUM COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1987/0858 STEP NO--UR/0350/70/020/001/0036/0049

CIRC ACCESSION NO--AP0104294

UNCLASSIFIED

2/2 014 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0104294

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EQUATIONS ARE DERIVED FOR THE DISCHARGE IONIZATION REACTION OF METALS ON HG AND AMALGAM ELECTRODES. THESE REACTIONS ARE USUALLY ACCOMPANIED BY ONLY CONCN. POLARIZATION, IF THE ACTIVITY OF THE METAL ATOMS IN THE NEAR ELECTRODE LAYER OF THE AMALGAM IS VARIABLE, THEN THE USUALLY LINEAR RELATION OF THE ELECTRODE POTENTIAL VS. LOG (1 MINUS (I-I SUBD)), WHERE I IS THE CURRENT PASSING THROUGH THE NEAR ELECTRODE LAYER AND I SUBD IS THE LIMITING CURRENT, IS NOT OBSERVED. THE RELATIONSHIP BETWEEN THE POTENTIAL AND THE ATOM FRACTION TL (N SUB1) IN A TL AMALGAM ELECTRODE WAS STUDIED AT 25, 50, AND 75DEGREES. AT N SUB1 EQUALS 10 PRIME NEGATIVE5 TO 10 PRIME NEGATIVE2, THE AMALGAM POTENTIAL WAS 65 MV. AS N SUB1 INCREASED THE POTENTIAL GRADUALLY DECREASED AND FOR THE COMPN. TL SUB2 HG SUB5 IT WAS ONLY 0.4 MV.

UNCLASSIFIED

1/2 019 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--STRUCTURE OF THE SOLID SOLUTION REGION OF AN INDIUM AND MERCURY SYSTEM -U-
AUTHOR-(02)-KOZIN, L.F., SUDAKOV, V.A.

COUNTRY OF INFO--USSR

SOURCE--IAV. AKAD. NAUK KAZ. SSR, SER. KHIM. 1970, 20(1), 50-5

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--SOLID SOLUTION, X RAY DIFFRACTION ANALYSIS, INDIUM ALLOY, CRYSTAL STRUCTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1987/0769 STEP NO--UR/0360/70/020/001/0050/0055

CIRC ACCESSION NO--AP0104215
UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0104215

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SOLID SOLNS. OF THE TITLE SYSTEM WERE STUDIED BY X RAY STRUCTURAL ANAL. AND BY DETG. THEIR HARDNESS. WITHIN THIS SYSTEM WERE FORMED A WIDE RANGE OF SOLID SOLNS. WITH SMALLER THAN OR EQUAL TO 94 AT. PERCENT IN. AT 94 AT. PERCENT IN, THE LATTICE WAS THAT OF IN. AT 84-92.5 AT. PERCENT IN, THE LATTICE WAS FCC. THE PARAMETER OF THE FCC. PHASE WAS A EQUALS 4.675 ANGSTROM.

UNCLASSIFIED

1/2 019 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--ELECTROCHEMICAL STUDY OF INDIUM IONIZATION ON A ROTATING DISK ELECTRODE -U-

AUTHOR-(03)-KOZIN, L.F., KOHRAVD, YE.YE., SHEKA, I.A.

COUNTRY OF INFO--USSR

SOURCE--UKR. KHIM. ZH. 1970, 36(1) 22-9

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--SOLUBILITY, ELECTROLYTIC OXIDATION, SULFURIC ACID, PERCHLORIC ACID, ANODE POLARIZATION, INDIUM, ACTIVATION ENERGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/1335 STEP NO--UR/0073/70/036/001/0022/0029

CIRC ACCESSION NO--AP0107808

UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--02OCT70
CIRC ACCESSION NO--AP0107808
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ANODIC DISSOLN. OF IN IN HCLO SUB4 AND H SUB2 SO SUB4 SOLNS. WAS STUDIED AT A ROTATING DISK ELECTRODE BY MEANS OF CURRENT EFFICIENCY AND POLARIZATION CURVES. INDIUM FORMS IN PRIME POSITIVE WITH AN ACTIVATION ENERGY OF 4 KCAL-MOLE AS THE PRIMARY ACT. IN PRIME3 POSITIVE RESULTS FROM DISPROPORTIONATION OF IN PRIME POSITIVE. THIS DISPROPORTIONATION TAKES PLACE CLOSER TO THE ELECTRODE IN H SUB2 SO SUB4 SOLN. THAN IN HCLO SUB4. THIS IS ATTRIBUTED TO STERIC FACTORS IN THE DECOMPN. OF IN SUB2 SO SUB4. AT HIGH H SUB2 SO SUB4 CONCNS. IN SUB2 SO SUB4 DECOMP. TO FORM IN SUB2 (SO SUB4) SUB3, S, AND H SUB2 S.

UNCLASSIFIED

BIOLOGY

Agriculture

USSR UDC 614.449.57:615.285.7]:576.895.77+595.771

KRIVTSOVA, Ye. N., MITROFANOV, A. M., KOZIN, N. P., TIMOFEYEVA, L. V., TULUPOVA, A. M., VINOGRADSKAYA, O. N., YERMISHEV, Yu. V., PLOTNIKOVA, A. S. and RYAZANTSEV, V. A., Institute of Medical Parasitology and Tropical Medicine imeni Ye. I. Martsinovskiy, Ministry of Health USSR, and Institute of Agricultural and Specialized Application of Civil Aviation

"Testing of Some Organophosphorus Compounds and Carbamates against Larvae of Aedes Mosquitoes (Culicidae) in Experiments with Aerial Spraying"

Moscow, Meditsinskaya Parazitologiya i Parazitarnyye Bolezni, Vol 39, No 5, Sep/Oct 70, pp 599-603

Abstract: The use of organophosphorus compounds and carbamates against mosquito larvae was tested in the Yakut ASSR, in the area of the villages of Novy, Aikhal, and Mirny, and the Udachnaya deposits. Water reservoirs were treated by aerial spraying from an AN-2 plane. The following pesticides were tested: bytex, methylnitrophos, trolen, sevine, and dipterex; DDT was used as the reference. Comparatively uniform marshy territories with occasional forests and bushes were selected. Bytex was shown to be especially effective as a larvicide, a dose of 40 g/hectare proving to be sufficient. Methylnitrophos

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USSR

KRIVTSOVA, Ye. N., et al., Meditsinskaya Parazitologiya i Parazitarnyye Bolezni, Vol 39, No 5, Sep/Oct 70, pp 599-603

required a 100 g/hectare dose to be effective; trolen in doses 40 and 80 g/hectare reduced the density of mosquito larvae only insignificantly. Dipterex and sevin proved ineffective as larvicides, being significantly inferior to DDT. The effect of mosquito larvae eradication with organophosphorus compounds lasts for 7-14 days.

2/2

USSR

UDC: 532.593

KOZIN, N. S. and SIMONOV, V. A., Novosibirsk

"Interaction of a Shock Wave With a Wedge-Shaped Cavity"

Novosibirsk, Fizika Goreniya i Vzryva, Vol 9, No 4, Jul-Aug 73, pp 551-558

Abstract: The authors study the theoretical and experimental aspects of a problem associated with the incidence of a shock wave on a wedge-shaped cavity in metal. Formulas are derived which make it possible to calculate the free surface form of the wedge-shaped cavity at some moment in time t. The solution to the problem on the collapse of the wedge-shaped cavity appears to be self-similar, since the characteristic linear dimension does not enter into the determining parameters. It is shown that the nature of the change in wave length is close to self-similar with a dependence on the distance x and with a nonlinear dependence on the angle gamma. Wave amplitude change is more complex. Flow with jet formations is studied. It is shown that the constant thickness of the jet makes it possible to conclude that the jet is formed by metal particles which are located in a narrow surface layer of constant thickness. Metal ductility is most likely responsible for stabilizing the dimension of this layer. A Reynolds number is given for the collapse process in the event that the viscosity factor is the determining parameter.

1/1

USSR

UDC: 539.411

KOZIN, R. G., SHEVCHENKO, K. N. (Moscow)

"Nonsteady Creep in the Components of a Cylinder and a Sphere"

Moscow, Mashinovedeniye, Jan-Feb 72, pp 72-78

Abstract: In the fuel element of a nuclear reactor (cylinder or a sphere of fissionable material enclosed in a cylindrical or spherical shell) operating at high temperature, swelling of the fissionable material takes place, as well as creep. These two conditions can bring about considerable change in the initial elastoplastic stresses and, when the reactor is stopped, bring about residual stresses which are sufficient to destroy the reactor. Estimation of the possibility of such destruction requires the determination of current stresses. A variational equation is obtained which describes nonsteady creep in a long heat-releasing cylinder (or sphere) and in the shell surrounding it, when the heat release is accompanied by a relative increment of each free element of the cylinder (sphere), which is independent of the stressed state. An approximate solution for the process of redistribution of the elastoplastic axisymmetric (centrosymmetric) stresses in the systems under consideration is constructed. A numerical example of an exact solution and an approximate solution is presented. Three references.
1/1

KOZIN, S.L.

MEDICINE

UDC: 613.88:376

EXPERIENCE IN SEX EDUCATION AND HYGIENE PROPAGANDA

[Article by S.L. Kozin, L.Ya. Leshchenko, A.A. Mikhaylik, Khar'kov Scientific Research Institute of Dermatology and Venereology (Director: Professor A.I. [illegible]), Khar'kov oblast (chief physician A.A. Mikhaylik) and municipal (chief physician L.Ya. Leshchenko) dermatovenereological dispensaries; Moscow, Sovetskoye Zdravookhraneniye, Russian, No 4, 1977, submitted 30 November 1975, pp 31-33]

We use the term sex education to designate the multifaceted and comprehensive work done with children, young people, and adults to assure normal physiological development of the organism in accordance with the distinctions in function of sex glands and correct attitude toward sex issues at different stages of life.

All of our work dealing with sex education for children and adolescents is directed toward instilling habits related to the basic laws of general hygiene and care of sex organs, creation and consistent adherence to the proper regimen at home and in school for proper physical development of the child precluding the possibility of early puberty and development of bad habits. Among young girls and men, this work also pursued the goal of preventing early start of sex life and of helping avoid venereal disease.

We were governed by the fact that sex education is an inseparable element of general education, and should be pursued daily: in the home by parents and other relatives, and in child groups by pedagogues, educators, as well as social workers.

At the first stage of this work, jointly with the department of public education, and health education center, we developed plans for one and two-day seminars for the medical and nursing personnel of schools and child combines, instructors of biology, class supervisors, as well as activists of women's councils form a number of major enterprises, public inspectors of children's rooms, police, and departments for the control of juvenile delinquency based at the rayon executive committees.

Acc. Nr: AP0047345 Ref. Code: UR0206

KOZIN S.L.

PRIMARY SOURCE: Vestnik Dermatologii i Venerologii, 1970, Nr 1, pp 79-82

SOME NEW FORMS IN THE WORK OF DERMATO-VENEROLOGICA INSTITUTIONS FOR CONTROL OF VENEREAL DISEASES OF THE UROGENITAL ORGANS

S. L. Kozin, A. I. Pugilkop

Summary

Insufficient success in control of gonorrhea is due mostly to medico-biological factors including greater frequency of primary torpidity and resistance to antibiotics, untimely detection of patients and errors in diagnosis, shortcomings of organizational nature.

It is suggested that forms of registration of patients, methods of control after treatment and organization of work of dermatovenereological service be changed, and also work be extended on active detection of patients, development of new methods for diagnosis and therapy, investigation of epidemiology of gonococcal and non-gonococcal inflammatory diseases of the urogenital organs.

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REEL/FRAME 19790871

DI 2

1/2 018 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--THERAPEUTIC EFFICACY OF BICILLIN 6 IN TREATMETN OF GONORRHEA IN MEN -U-

AUTHOR-(04)-KOZIN, S.L., KRAVCHENKO, V.G., DEREVYANKO, R.V., SEDASH, V.A.

COUNTRY OF INFO--USSR

SOURCE--VESTNIK DERMATOLOGII I VENEROLOGII, 1970, NR 5, PP 75-78

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--VENEREAL DISEASE, ANTIBIOTIC, DRUG DOSAGE RESPONSE/(U)BICILLIN 6 ANTIBIOTIC

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/2046 STEP NO--UR/0206/70/000/005/0075/0079

CIRC ACCESSION NO--AP0122275

UNCLASSIFIED

2/2 018 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0122275

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BICILLIN 6 IN DOSES OF 1,200,000 TO 2,400,000 UNITS WAS USED FOR TREATMENT OF 120 MEN WITH FRESH GONORRHEA. FAILURE OF TREATMETN WAS OBSERVED IN 10PERCENT OF THE PATIENTS DURING THEIR STAY IN THE HOSPITAL. POSTGONORRHEAL URETHRITES WERE OBSERVED IN 21.7PERCENT OF THE PATIENTS. IN SOME PATIENTS WITH GONORRHEA FAILURE OF TREATMENT WAS OBSERVED AFTER A SERIES OF SUCCESSIVELY USED ANTIBIOTICS. TREATMETN WITH BICILLIN 6 WAS FOUND TO BE MORE EFFECTIVE THAN THAT WITH WATER SOLUBLE PENICILLIN IN THE SIMILAR COURSE DOSES. FACILITY: KHAR'KOVSKIY N-I INSTITUT DERMATOLOGII I VENEROLOGII, AND KHAR'KOVSKIY OBLASTNOY KOZHNO-VENEROLOGICHESKIY DISPANSER.

UNCLASSIFIED

1/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--ANALYSIS OF THE OPERATION OF THE CENTRAL GAS FRACTIONATION PLANT OF PLANT THE LOWER KAMA PETROCHEMICAL COMBINE -U-

AUTHOR-(05)-VOLFSON, I.S., KONSTANTINOV, YE.N., KOZIN, V.A., DIMITRIYEV, A.P., ISLAMOV, SH.KH.

COUNTRY OF INFO--USSR

SOURCE--NEFTEPERERAB. NEFTEKHIM. (MOSCOW) 1970, (2), 20-3

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--BUTANE, PROPANE, GAS, PETROCHEMISTRY, CHEMICAL PLANT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/1514

STEP NO--UR/0318/70/000/002/0020/0023

CIRC ACCESSION NO--AP0118501

UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0118501

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN C SUB2 H SUB6 COLUMN INSTEAD OF A FRACTIONATION ABSORBER AND A LOWER COOLING WATER TEMP. REDUCED THE LOSSES OF THE C SUB3 H SUB8-C SUB4 H SUB10 FRACTION OF THE DRY GAS. THE OPERATING COSTS INCREASED WHEN A SIMILAR QUALITY LEVEL WAS OBTAINED WITH ANALOGOUS TEMP. AND PRESSURE IN THE FRACTIONATION ABSORBER. BUBBLE CAPS INSTEAD OF GRID PLATES IN THE DISTN. COLUMNS PROVIDED HIGHER AND STABLE PURITY OF THE FRACTIONS, THE EFFICIENCY OF THE FORMER BEING TWICE AS HIGH. TEHRMOSIPHON REBOILERS INSTEAD OF FURNACES FOR HEATING THE COLUMN BOTTOMS IMPROVED THE OPERATION CONTROL AND VERSATILITY.

UNCLASSIFIED

USSR UDC 678.06-419.8:677.521/.01:53

KIRILLOV, V. N., YEFIMOV, V. A., KOZIN, V. I., ABLEKOVA, Z. P., KRASNOV, L. L., TIKHOMIROVA, R. S.

"Effect of Fillers on the Thermophysical Properties of Fiberglass Plastics"

Moscow, Plasticheskiye Massy, No 11, Nov 70, pp 38-40

Abstract: The authors investigate the effect which chemical composition and heat treatment of the filler have on the thermophysical properties of fiberglass plastics at 50-300°C. The plastics studied were based on phenol-furfural or organosilicon binders, and fillers comprised or silica or aluminoborosilicate fabric with a paraffin lubricant. It was found that the behavior of the thermophysical characteristics of fiberglass plastics as the temperature changes depends on the processes which take place in the filler. In materials based on aluminoborosilicate fiber, oxidation of the lubricant determines the change in thermophysical properties with temperature, while the determining factor in plastics based on silica fabric is evaporation of the mositure absorbed by the fibers. Heat treatment of silica fabric is an effective measure for reducing shrinkage of plastics based on this filler.
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USSR

UDC 591.1.15

CHIRKIN, A. A., and [redacted]

"The Effect of Ultrasound on the Activity of Fructose-1-Phosphate Aldolase in the Liver, Blood Plasma and Hemolysates of the Erythrocytes of White Rats"

Nauch. dokl. vyssh. shkoly, Biol. n. (Scientific Report of the University Biological Sciences), No 2, 1972, pp 46-50 (from Referativnyy Zhurnal -- Biologicheskaya Khimiya, No 11, 1972, Abstract No 11F1105)

Translation: The activity of fructose-1-phosphate aldolase in the liver, blood plasma and hemolysates was studied under the influence of ultrasound in a wide range of intensities (0.2-1.8 watt/cm^2). It was determined that ultrasonic vibrations of relatively low power induce a decrease in enzyme activity in the liver and erythrocytes and also increase the permeability of the liver cell membranes. (Author abstract).

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USSR

UDC 534-8:577.15:599.323.4

CHIRKIN, A. A., and KOZIN, V. M., Chair of Dermatological and Venereal Diseases, Vitebsk Medical Institute

"Effect of Ultrasound on Aldolase and Lactate Dehydrogenase Activity in Certain Rat Tissues"

Moscow, Biologicheskiye Nauki, No 9, 1970, pp 43-48

Abstract: Ultrasound at a frequency of 830 KHz and at intensities ranging from 0.2 to 1.8 w/cm^2 altered the activity of aldolase and lactate dehydrogenase in the skin, muscles, liver, small intestine, kidneys, and serum of rats. For example, a single exposure increased the activity of the enzymes, especially lactate dehydrogenase, in the skin, muscle, and kidneys while decreasing it in the other organs. Repeated exposures (5) increased aldolase activity in the skin and kidneys but decreased lactate dehydrogenase activity in the same organs. In muscles, low- and medium intensity ultrasound stimulated lactate dehydrogenase activity but partly inactivated aldolase activity. The organs were affected by ultrasound in the following order of magnitude of change: skin > muscles > kidneys > liver > small intestine. The effect thus varied according to the depth of the organ in relation to the vibrator head (with the exception of kidneys, which, although farthest removed from the vibrator, were affected by ultrasonic waves reflected from the dorsal surface of the skin).

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USSR

CHIRKIN, A. A., and KOZIN, V. M.

"Effect of Ultrasonic Vibrations on Aldolase and Lactate Dehydrogenase Activity in Certain Rat Tissues"

Nauchn. dokl. vyssh. shkoly. Biol. n. (Scientific Reports of Schools of Higher Education: Biological Sciences), 1970, No 9, pp 43-46 (from Ref. Zhur. Biologicheskaya Khimiya, No 2, 25 Jan 71, Abstract No 2F1322 from summary)

Translation: The authors studied the effect of ultrasonic vibrations with a frequency of 830 cps in a wide range of intensities (0.2, 0.6 and 1.8 watts per sq cm) on the dynamics of the variations of aldolase and lactate dehydrogenase in the skin, muscles, liver, intestine, kidneys and blood serum of white rats. It was established that with a single exposure to ultrasonic waves the activity of these enzymes, mainly lactate dehydrogenase, increases in a number of the animals' organs. With fivefold repetition of exposure to ultrasound with an intensity of 1.8 watts per sq cm, partial inactivation of the enzymes in the tissues and intensified escape thereof into the vascular bed usually take place. Variations in the activity of tissue enzymes depend on the depth at which the organ is situated (rather than its orientation) relative to the ultrasonic radiator.

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UDC 612.015.11:577.158.45].014.45

CHIRKIN, A. A. and KOZIN, V. M., Central Scientific Research Laboratory, and Chair of Skin and Venereal Disease, Vitebsk Medical Institute

"The Effect of Ultrasound on Transaminase Activity in White Rats"

Moscow, Voprosy Meditsinskoy Khimii, No 3, 1970, pp 274-276

Abstract: Exposure of rats to ultrasonic vibrations (0.2, 0.6, and 1.0 w/cm^2) activated alanine aminotransferase mainly in the organs in direct contact with the head of the vibrator (skin and muscles), but inhibited aspartate aminotransferase activity in the deeper tissues and organs (liver, kidney, intestine). Both enzymes were particularly sensitive to the intensity of 0.6 w/cm^2. Changes in the serum enzymes paralleled those in the tissue transaminases, except that two hours after repeated sonication, serum aspartate aminotransferase activity significantly increased at all intensities. At the same time, the activity of the enzyme in the tissues either decreased or remained unchanged. This suggests that ultrasonic vibrations affect the permeability of cell membranes.

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1/2 034 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--ULTRASONIC VIBRATIONS EFFECT ON TRANSAMINASES ACTIVITY IN RAT ORGANS -U-

AUTHOR-(02)-CHIRKIN, A.A., KOZIN, V.M.

COUNTRY OF INFO--USSR

SOURCE--VOPROSY MEDITSINSKOY KHIMII, 1970, VOL 16, NR 3, PP 274-276

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--TRANSAMINASE, WHITE RAT, ENZYME ACTIVITY, ULTRASONIC BIOLOGIC EFFECT, BIOLOGIC VIBRATION EFFECT, ALANINE, SKIN, LIVER, KIDNEY, BLOOD SERUM, DIGESTIVE SYSTEM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/0264 STEP NO--UR/0301/70/016/003/0274/0276

CIRC ACCESSION NO--AP0120954

UNCLASSIFIED

2/2 034 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0120954

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF ULTRASONIC VIBRATIONS 830 KC OF FREQUENCY AT A WIDE RANGE OF INTENSITIES (0.2, 0.6 AND 1.8 W-CM PRIME2) ON ACTIVITIES OF ALANINE AMINOTRANSFERASE AND ASPARTATE AMINOTRANSFERACE IN THE SKIN, MUSCLES, LIVER, INTESTINE, KIDNEY AND BLOOD SERUM OF WHITE RATS HAVE BEEN STUDIED. THE STIMULATORY ACTION OF VIBRATIONS ON THE ACTIVITY OF FIRST ENZYME AND ITS INHIBITORY ACTION ON THE ACTIVITY OF THE SECOND WAS FOUND. FACILITY: CENTRAL RESEARCH LABORATORY AND CHAIR OF SKIN AND VENERAL DISEASES, MEDICAL INSTITUTE, VITEBSK.

UNCLASSIFIED

USSR

UDC 621.375.82

KURBATOV, L. N., BRITOV, A. D., DIROCHKA, A. I., KOZINA, G. S., MOCHALKIN, N. N., AVER'YANOV, I. S., STARIK, P. M.

"Stimulated Radiation of Solid Solutions of Tin and Lead Chalcogenides in the 10-Micron Band"

V sb. Kvant. elektronika (Quantum Electronics--collection of works), No 3, Moscow, Soviet Radio, 1972, pp 97-99 (from RZh-Fizika, No 12, Dec 72, Abstract No 12D982)

Translation: A study was made of recombination radiation in the presence of electron excitation, and induced emission was obtained in $Pb_{1-x}Sn_xSe$ crystals grown by the Bridgman method with x = 0.04, 0.05, and 0.07 and in $Pb_{1-x}Sn_xTe$ crystals grown from the gas phase with x = 0.17 and 0.18. The radiation wavelength at 90° K is within the 8-11-micron band. The pulse power is 1-10 milliwatts. A study was made of the temperature functions. The maximum operating temperature does not exceed 140° K. The bibliography has 5 entries.

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USSR

UDC 621.373.029.7

KURBATOV, L.N., KOZINA, G.S., FAVORIN, V.N., BATALINA, M.A., BIBIKOV, Ye.V., VLASOV, A.N., DENISOV, S.S.

"Some Characteristics Of Small-Sized Pulsed Laser With Electron Excitation"

Radiotekhnika i elektronika, Vol XVII, No 6, June 1972, pp 1240-1245

Abstract: The principal characteristics are presented of a small-sized electron-beam pulsed laser with a high radiated power. Feasible types of laser targets are discussed. The construction is shown of a complex multielement target with passive regions. Graphs are shown of 1) The dependence of the radiated power of a single-layer target on the power of the exciting electron beam; 2) The dependence of the radiated power of a multilayer target ("cake") on the power of the electron beam; and 3) The dependence of the radiated power on the pulse recurrence frequency of the exciting electrons for a "cake" target. A graph is also shown of the angular distribution of the emission of single-layer and multilayer targets in a vertical plane coincident from the direction of the electrons and in a horizontal plane coincident from the bombarded surface of the crystal. The authors thank M.A.Iofis, Ye.D. Naumenko, A.I.Solovoychik, I.Ya. Gol'dshteyn, and S.S. Shakhidzhanov for valuable consultations and aid in the work. 8 fig. 9 ref. Received by editors, 30 May 1971.

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USSR

UDC 621.373.029.67

KOZINA, G. S., KOSTINSKAYA, T. A., KURBATOV, L. N., TSEKHANOVICH, M. V., ALEKSEYEVA, L. A.

"New Electron-Beam Tube-Optical Laser Based on Electron Excitation"

Moscow, Radiotekhnika i Elektronika, Vol 15, No 2, 1970, pp 365-367

Abstract: The construction and characteristics of a sealed-off semiconductor laser with electron excitation produced by a gallium-arsenide crystal are described. Its basic characteristics are:

peak power	- 13 w.
average power	- 100 mw.
pulse duration	- 1 microsec.
pulse frequency	- up to 10kHz.

Samples of gallium-arsenide as n- and p- type with (1-4) x 10^{18} cm-3 concentration of impurities, cooled to liquid nitrogen temperature, are used as the radiative elements. The dependence of peak, P_{pulse}, and average, P_r, radiation powers on pulse

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530001-7"

USSR

KOZINA, G. S., et al, Radiotekhnika i Elektronika, Vol 15, No 2, 1970, pp 365-367

Abstract: frequency is plotted in a graph which shows that P_{pulse} decreases with increasing frequency above 200 Hz and that at f = 10kHz is only 17 percent of the maximum value. The graph also shows that the average power increases to a maximum at 5-6kHz. An efficient way for increasing the peak power is to increase the beam current density. An increase in current density up to 30-40 A/cm^2 without changing the spot dimension, makes it possible to substantially increase the radiation power of the tube. It is concluded that the optimization of tube characteristics should proceed along the lines of radiative material and electron optic system improvement. A schematic diagram of the tube is presented. Orig. art has: 4 figures.

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1/2 039 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--NEW ELECTRON BEAM TUBE OPTICAL LASER BASED ON ELECTRON EXCITATION -U-

AUTHOR-(05)-KOZINA, G.S., KOSTINSKAYA, T.A., KURBATOV, L.N., TSEKHANOVICH, M.V., ALEKSEYEVA, L.A.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, RADIOTEKHNIKA I ELEKTRONIKA, VOL 15, NO 2, 1970, PP 365-367

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--OPTIC PROPERTY, SEMICONDUCTOR LASER, GALLIUM ARSENIDE, ELECTRON BEAM EXCITATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1151 STEP NO--UR/0109/70/015/002/0365/0367

CIRC ACCESSION NO--AP0112254

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--30OCT70

2/2 039

CIRC ACCESSION NO--AP0112254

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CONSTRUCTION AND CHARACTERISTICS OF A SEALED OFF SEMICONDUCTOR LASER WITH ELECTRON EXCITATION PRODUCED BY A GALLIUM ARSENIDE CRYSTAL ARE DESCRIBED. ITS BASIC CHARACTERISTICS ARE: PEAK POWER, 13 W. AVERAGE POWER, 100 MW. PULSE DURATION, 1 MICROSEC. PULSE FREQUENCY, UP TO 10KHZ. SAMPLES OF GALLIUM ARSENIDE AS N AND P TYPE WITH (1-4) TIMES 10 PRIME18 CM-3 CONCENTRATION OF IMPURITIES, COOLED TO LIQUID NITROGEN TEMPERATURE, ARE USED AS THE RADIATIVE ELEMENTS. THE DEPENDENCE OF PEAK, P SUBPULSE, AND AVERAGE, P SUB4, RADIATION POWERS ON PULSE ABSTRACT: FREQUENCY IS PLOTTED IN A GRAPH WHICH SHOWS THAT P SUBPULSE DECREASES WITH INCREASING FREQUENCY ABOVE 200 HZ AND THAT AT F EQUALS 10KHZ IS ONLY 17 PERCENT OF THE MAXIMUM VALUE. THE GRAPH ALSO SHOWS THAT THE AVERAGE POWER INCREASES TO A MAXIMUM AT 5-6KHZ. AN EFFICIENT WAY FOR INCREASING THE PEAK POWER IS TO INCREASE THE BEAM CURRENT DENSITY. AN INCREASE IN CURRENT DENSITY UP TO 30-40 A-CM PRIME2 WITHOUT CHANGING THE SPOT DIMENSION, MAKES IT POSSIBLE TO SUBSTANTIALLY INCREASE THE RADIATION POWER OF THE TUBE. IT IS CONCLUDED THAT THE OPTIMIZATION OF TUBE CHARACTERISTICS SHOULD PROCEED ALONG THE LINES OF RADIATIVE MATERIAL AND ELECTRON OPTIC SYSTEM IMPROVEMENT. A SCHEMATIC DIAGRAM OF THE TUBE IS PRESENTED.

UNCLASSIFIED

Acc. Nr: AP0043723 Abstracting Service: 5/70 INTERNAT. AEROSPACE ABST. Ref. Code: UR0370

KOZINA L.N.

A70-23784 # Solubility of oxygen in liquid molybdenum (O rastvorimosti kisloroda v zhidkom molibdene). L. N. Kozina, A. V. Reviakin, and A. M. Samarin. *Akademiia Nauk SSSR, Izvestiia, Metally*, Jan.-Feb. 1970, p. 56-64. 8 refs. In Russian.

Development of a method of determining the solubility of oxygen in liquid molybdenum in the presence of volatile oxides. It is shown that the oxygen concentration at the surface of the metal can be determined on the basis of an analysis of the mass transfer processes occurring during oxidation of molybdenum. The equilibrium constant of the reaction of dissolution of oxygen in liquid molybdenum at 3000 K is determined. A.B.K.

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REEL/FRAME 19770129

1/2 039 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--THERMODYNAMIC ANALYSIS OF THE DEOXDIATION OF MOLTEN MOLYBDENUM -U-

AUTHOR-(03)-KOZINA, L.N., REVYAKIN, A.V., SAMARIN, A.M.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR, 1970, 190(4), 909-11

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--THERMODYNAMIC ANALYSIS, METAL DEOXIDATION, MOLYBDENUM, PLASTICITY, ALLOY ADDITIVE, CARBON, ZIRCONIUM OXIDE, ALUMINUM OXIDE, TITANIUM DIOXIDE, CERIUM OXIDE, NIOBIUM OXIDE, LANTHANUM OXIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1984/0279 STEP NO--UR/0020/70/190/004/0909/0911

CIRC ACCESSION NO--AT0055072

UNCLASSIFIED

2/2 039 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AT0055072

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AT HIGH TEMPS. MO-O SYSTEM FORMS MOO, MOO SUB2, AND MOO SUB3 HAVING DELTA HDEGREES SUB0 99.30, 12.80, AND MINUS 78.20 KCAL-MOLE, RESP., AND HAVING MINUS(F SUBTDEGREES MINUS H SUBODEGREES)-T EQUAL 71.45, 84.38, 90.31 CAL-DEGREE-MOLE. COMPN. OF VAPOR PHASE ABOVE MO-O SYSTEM AT DIFFERENT O CONCNS. IS GIVEN. DEOXION. OF MO-O SYSTEM WAS STUDIED IN THE PRESENCE OF MANY ADDITIVES (NB SUB2 O SUB5, CEO SUB2, TIO SUB2, AL SUB2 O SUB3, CE SUB2 O SUB3, ZRO SUB2, LA SUB2 O SUB3, AND C). IN GENERAL, THE MENTIONED METAL OXIDES INCREASE PLASTICITY OF MO METAL OWING TO THEIR INTERACTION IN THE PROCESS OF MO CRYSTN. AND NOT OWING TO MO DEOXION. PROCESS. C IS THE BEST DEOXIDIZING ELEMENT.

UNCLASSIFIED

1/2 026 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--DEOXIDIZING POWER OF CARBON IN MOLTEN MOLYBDENUM -U-

AUTHOR-(03)-KOZINA, L.N., REVYAKIN, A.V., SAMARIN, A.M.

COUNTRY OF INFO--USSR

SOURCE--IZVEST. AKAD. NAUK SSSR, METALLY, MAR.-APR. 1970, (2), 116-118

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--MOLYBDENUM, LIQUID METAL, METAL DEOXIDATION, CARBON, CARBON MONOXIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3003/1445 STEP NO--UR/0370/70/000/002/0116/0118

CIRC ACCESSION NO--AP0130378

UNCLASSIFIED

2/2 026 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0130378

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DEOXIDIZING EFFECT OF C IN MOLTEN MO IS DISCUSSED THEORETICALLY AND ON THE BASIS OF AN ANALYSIS OF EXPERIMENTAL DATA, WITH SPECIAL REF. TO THE INTERACTION BETWEEN GASEOUS CO AND THE MOLTEN METAL AT TEMP. CLOSE TO THE M.P. THE EQUILIBRIUM CONSTANT OF THE REACTION CO EQUALS C PLUS O IS 1.5 TIMES 10 PRIME NEGATIVE5 (AT. PARTS-ATM) PRIME2. THE PRODUCT OF THE ACTIVITY COEFF. OF C AND O IN MOLTEN MO IS 0.045.

UNCLASSIFIED

USSR

UDC 632.954

SHCHEGLOV, YU. V., KOZINA, L. S., YAKOVETS, V. I., NIKISHIN, G. I., and DYUSENOV, M. I., All Union Scientific Research Institute of Phytopathology, Golitsyn-Moscow Region, Institute of Organic Chemistry, Academy of Sciences USSR, Moscow

"Herbicidal Activity of Substances Containing Trichloroallyl Group. I Communication. 1,1,2-Trichloropropene-1-ol-3 (Trichloroallyl Alcohol), Some of its Analogues and Derivatives"

Moscow, Agrokhimiya, No 5, May 73, pp 129-135

Abstract: The highest herbicidal activity among the chloro derivatives of allyl alcohol is exhibited by 1,1,2-trichloropropene-1-ol-3 (I) and its simple alkyl ethers. These compounds are systemic herbicides penetrating into the plants through the roots. Replacement of the hydroxyl group in trichloroallyl alcohol by various radicals and other groupings leads to the loss or to a drastic change of herbicidal activity. As a rule, the materials loose their ability to penetrate through the roots of the plants. In contrast to (I), trichlorovinylacetic acid exhibits properties of an active systemic herbicide capable of penetrating through the leaves. The parent compound (I) is about 5-10 times as active as allyl alcohol. In a field trial on buckwheat, (I) lowered by 45-55% the total weeds without any undesirable action against the buckwheat. 1/1

USSR UDC 632.95

SHCHEGLOV, YU. V., NIKISHIN, G. I., DYUSENOV, M. I., VOL'KENSHTEYN, YU. B., SALAMANDRA, L. K., and KOZINA, L. S., All-Union Research Institute of Plant Pathology and Institute of Organic Chemistry, Academy of Sciences USSR

"A Herbicide"

USSR Author's Certificate No 252757, filed 11 June 68, published 25 Feb 70 (From RZh-Khimiya, No 22, 25 Nov 70, Abstract No 22 N708 P by L. Shchelestenko)

Translation: It is suggested that bis-trichlorallyl esters of dicarboxylic acids be used as a herbicide. They have the general formula: $Cl_2C = CClCH_2OOC(CH_2)_n COOCH_2CCl = CCl_2$ where N = an integer from 0 to 2.

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Genetics

USSR UDC 575.123

KOZHINA, T. N., Leningrad Institute of Nuclear Physics imeni B. P. Konstantinov, Academy of Sciences USSR

"The Problem of Specificity in the Mutagenic Action of Fast Neutrons"

Moscow, Genetika, Vol 9, No 1, 1973, pp 168-170

Abstract: This study was conducted to determine whether or not the common belief that fast neutrons are more effective mutagenic agents than are X-rays is valid. Direct mutations in the ad_1 and ad_2 (adenine-dependent) loci in the yeast Saccharomyces cerevisiae affected by fast neutrons and X-rays were compared. No significant differences were found in the ad_2:ad_1 mutation ratios for the two methods, or in the ratios between complementing and noncomplementing mutants, as determined from genetic maps. Thus precise genetic mapping does not support the presence of specificity in the mutagenic action of fast neutrons as compared to X-rays.

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USSR UDC: 669.187+621.391:519.28(048)

KOZHINSKIY, O.S., LAPSHIN, I.V., reviewers

Kiberneticheskiye Metody Analiza Elektroplavki Stali [Cybernetic Methods of Analysis of Electric Melting of Steel], by M. F. Galkin and Yu. S. Krolya, Moscow, Metallurgiya Press, 1971, 303 pp

Moscow, Stal', No 2, 1973, pp 131-132

Abstract: The monograph which is reviewed in this article is designed for metallurgists with no special mathematical training. The book consists of an introduction and 17 Chapters, combined into 4 sections. The first section is dedicated to the application of mathematical methods for identification of a technological process, including the necessary information from the theory of probabilities, information theory and mathematical statistics. The second section covers the application of mathematical methods for improvement of the technology of electric melting of steel, including information on some of the latest methods of applied mathematics. The third section covers problems of the application of the concepts and methods of cybernetics for improvement of control of various processes of

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KOZHINSKIY, O. S., LAPSHIN, I. V., Stal', No 2, 1973, pp 131-132

the electric steelmaking process. The fourth section is the most significant and original, and is dedicated to control of electric melting on the basis of analysis of electrical characteristics. The reviewers criticize some details of the book but give it a positive evaluation on the whole.

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USSR UDC 547.26'118

SHOKOL, V. A., KOZHUSHKO, B. N., and KIRSANOV, A. V., Institute of Organic Chemistry, Academy of Sciences, UkrainianSSR

"Reaction of Trichloromethylisocyanate With Triethylphosphite"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 3, Mar 73, pp 544-551

Abstract: Reaction of trichloromethylisocyanate with one mole of triethylphosphite yields 10-20% of diethoxyphosphonyldichloromethylisocyanate regardless of the reaction conditions. In most cases also 20-40% of bis-(diethoxyphosphonyl)chloromethylisocyanate is obtained and occasionally 5-10% of triethylphosphate. Increasing the amount of triethylphosphite to two and three moles gives bis(diethoxyphosphonyl)chloromethylisocyanate and tris(diethoxyphosphonyl)methylisocyanate respectively plus admixtures of triethylphosphate and tetraethylpyrophosphate. Increasing triethylphosphite to four moles increases the yield of the tris(diethoxyphosphonyl)methylisocyanate to 40%. Thus it has been shown that the trichloromethyl group may participate in Arbuzov reaction replacing all three chlorine atoms by phosphorus containing radicals. A novel compound has been synthesized containing an isocyanate group and three phosphorus atoms at one carbon atom.

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Acc. Nr. AP0041604 Abstracting Service: CHEMICAL ABST. 4-70 NE Ref. Code 0000

87400p Effects of mutations on ultraviolet sensitivity in yeast. Zakharov, I. A.; Kozina, T. N.; Fedorova, I. V. (Inst. Phys.-Tech., Leningrad, USSR). *Mutat. Res.* 1970, 9(1), 31-9 (Fr). Uv-sensitive mutants of *Saccharomyces cerevisiae* were induced by uv light and were isolated by the replica plating. Two mutants, designated *urs*$_1$ and *urs*$_2$, carrying non-allelic mutations of radiosensitivity, were studied more carefully. Uv sensitivity appeared to be of a recessive monogenic character; heterozygous diploids were Uv-resistant and segregated 1:1 resistant and sensitive clones in the random ascospore samples. The haploid *urs*$_1$ mutant and the haploid *urs*$_2$ mutant have uv sensitvities 25 and 1.8 times higher, resp., than the wild-type haploid. The radioresistance of the isogenic strains, carrying the mutations at the *urs*$_1$ locus, increases with polyploidy. The effect of *urs* mutations on the frequency of induced genic mutations could be studied easily due to the fact that the resistant mutants could easily be detected in the media with a high serine concn. The results indicate that the *urs*$_1$ and *urs*$_2$ mutations significantly increase the sensitivity of haploids to mutagenic

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action of uv light. The *urs*$_1$ and *urs*$_2$ mutations also result in an increase in sensitivity to mutagenic action of uv light in regard to cytoplasmic determinants. The diploids homozygous for *urs*$_1$ and *urs*$_2$ mutations proved to be highly sensitive to the action of uv light causing recombination when the frequency of induced mitotic recombination in resistant and sensitive diploids heterozygous for *ad*$_1$ and *ad*$_2$ genes was recorded. The frequency of spontaneous mutations independent of adenine was recorded in haploids of genotype *ad*$_1$, *ad*$_2$ *urs*$_1$ and *ad*$_1$ *urs*$_2$. The mutations towards uv sensitivity cause a sharp increase in spontaneous mutability, the rise being especially significant due to *urs*$_2$ mutations. The specific features of *urs*$_2$ mutants of *Saccharomyces* suggest that the *urs* mutants in yeast also have a less efficient or blocked system for repair of uv damage in the DNA. Uv-sensitive mutants are sensitive not only to the lethal action of uv light but also to the mutagenic and recombinogenic actions. This suggests that similar mol. damages of the DNA is responsible for all these effects. The induction of cytoplasmic mutations in uv-sensitive mutants suggests that the DNA repair system is localized not only in the nucleus but also in the cytoplasm of the cell. The sharp increase in spontaneous mutability in uv-sensitive mutants indicates that the main function of the repair system is to maintain the stability of genetic material under natural conditions.

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19771281

1/3 022 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--THE EFFECTS OF MUTATIONS TOWARDS ULTRAVIOLET SENSITIVITY IN YEAST

-U-

AUTHOR-(03)-ZAKHAROV, I.A., KOZINA, T.N., FEDOROVA, I.V.

COUNTRY OF INFO--USSR

SOURCE--MUTAT RES 9(1): 31-39. ILLUS. 1970

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--YEAST, MICROORGANISM MUTATION, UV RADIATION, RADIATION SENSITIVITY, SACCHAROMYCES, ESCHERIACOLI, DNA, RADIATION DAMAGE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1993/0591 STEP NO--NE/0000/70/009/001/0031/0039

CIRC ACCESSION NO--AP0113401

UNCLASSIFIED

2/3 022 UNCLASSIFIED PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0113481

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. UV SENSITIVE MUTANTS WERE INDUCED BY THE ACTION OF UV LIGHT AND WERE ISOLATED BY THE REPLICA PLATING METHOD. HIGHLY HOMOZYGOUS STOCKS OF YEAST SACCHAROMYCES CEREVISIAE DESCENDING FROM RACE XII WERE UTILITZED. TWO MUTANTS, DESIGNATED UVS SUB1 AND UVS SUB2, CARRYING NONALLELIC MUTATIONS OF RADIOSENSITIVITY, WERE STUDIED MORE CAREFULLY. UV SENSITIVITY APPEARED TO BE OF A RECESSIVE MONOGENIC CHARACTER; HETEROZYGOUS DIPLOIDS WERE UV RESISTANT AND SEGREGATED 1:1 RESISTANT AND SENSITIVE CLONES IN THE RANDOM ASCOSPORE SAMPLES. THE UV SENSITIVITY OF THE STRAINS BEARING MUTANTS UVS SUB1 AND UVS SUB2 DIFFERS. THE HAPLOID UVS SUB1 MUTANT AND THE HAPLOID UVS SUB2 MUTANT HAVE SENSITIVITIES 25 AND 1.8 TIMES HIGHER, RESPECTIVELY, THAN THE WILD TYPE HAPLOID. THE UVS SUB1 MUTANTS EXHIBIT AN EXPONENTIAL SURVIVAL CURVE, WHILE THE UVS SUB2 MUTANTS AND THE WILD TYPE HAPLOID HAVE SIGMOIDAL SHAPED CURVES. THE RADIORESISTANCE OF THE ISOGENIC STRAINS, CARRYING THE MUTATIONS AT THE UVS SUB1 LOCUS, INCREASES WITH POLYPLOIDY. WE WERE ABLE TO STUDY THE EFFECT OF UVS MUTATIONS ON THE FREQUENCY OF INDUCED GENIC MUTATIONS DUE TO THE FACT THAT THE RESISTANT MUTANTS COULD EASILY BE DETECTED IN THE MEDIA WITH A HIGH SERINE CONCENTRATION. THE RESULTS INDICATE THAT THE UVS SUB1 AND UVS SUB2 MUTATIONS SIGNIFICANTLY INCREASE THE SENSITIVITY OF HAPLOIDS TO MUTAGENIC ACTION OF UV LIGHT. THE UVS SUB1 AND UVS SUB2 MUTATIONS ALSO RESULT IN AN INCREASE IN SENSITIVITY TO MUTAGENIC ACTION OF UV LIGHT TO REGARD TO CYTOPLASMIC DETERMINANTS.

END ACCESSION

3/3 022 UNCLASSIFIED PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0113481

ABSTRACT/EXTRACT--THE DIPLOIDS HOMOZYGOUS FOR UVS SUB1 AND UVS SUB2 MUTATIONS PROVED TO BE HIGHLY SENSITIVE TO THE ACTION OF UV LIGHT CAUSING RECOMBINATION WHEN THE FREQUENCY OF INDUCED MITOTIC RECOMBINATION IN RESISTANT AND SENSITIVE DIPLOIDS HETEROZYGOUS FOR AD SUB1 AND AD SUB2 GENES WAS RECORDED. THE FREQUENCY OF SPONTANEOUS MUTATIONS INDEPENDENT OF ADENINE WAS RECORDED IN HAPLOIDS OF GENOTYPE AD SUB2, AD SUB2 UVS SUB1 AND AD SUB2 UVS SUB2. THE MUTATIONS TOWARDS UV SENSITIVITY CAUSE A SHARP INCREASE IN SPONTANEOUS MUTABILITY, THE RISE BEING EXPECIALLY SIGNIFICANT DUE TO UVS SUB2 MUTATIONS. THE SPECIFIC FEATURES OF UVS SUB2 MUTANTS OF SACCHAROMYCES ARE SIMILAR TO THOSE OF UV SENSITIVE MUTANTS OF E. COLI; THEREFORE, ONE MIGHT SUGGEST THAT THE UVS MUTANTS IN YEAST ALSO HAVE A LESS EFFICIENT OR BLOCKED SYSTEM FOR REPAIR OF UV DAMAGE IN THE DNA. THE FACT THAT THE UV SENSITIVE MUTANTS ARE SENSITIVE NOT ONLY TO THE LETHAL ACTION OF UV LIGHT BUT ALSO TO THE MUTAGENIC AND RECOMBINOGENIC ONES SUGGESTS THAT SIMILAR MOLECULAR DAMAGES OF THE DNA UNDERLIE ALL THESE EFFECTS. THE INDUCTION OF CYTOPLASMIC MUTATIONS IN UV SENSITIVE MUTANTS SUGGESTS THAT THE REPAIR SYSTEM UNDER CONSIDERATION IS LOCALIZED NOT ONLY IN THE NUCLEOUS BUT ALSO IN THE CYTOPLASM OF THE CELL. THE SHARP INCREASE IN SPONTANEOUS MUTABILITY IN UV SENSITIVE MUTANTS INDICATES THAT THE MAIN FUNCTION OF THE REPAIR SYSTEM IS TO MAINTAIN THE STABILITY OF GENETIC MATERIAL UNDER NATURAL CONDITIONS. FACILITY: INST. PHYS. TECH., A. F. IOFFE ACAD. SCI., LENINGRAD, USSR.

UNCLASSIFIED

Acc. Nr: AP0052435 Abstracting Service: CHEMICAL ABST. 5-70 Ref. Code: 4R 0342

101749t Antimicrobial fabrics. Kasinda, E. Yu.; Gorbacheva, I. N.; Konkin, A. A.; Shcheglova, G. V. (All. Sci. Res. Inst., Moscow, USSR). *Tekst. Prom. (Moscow)* 1970, 30(1), 55–6 (Russ). Wool fabrics modified by grafting with 2-methyl-5-vinylpyridine were treated with 1% aq. soln. of $Cu(OAc)_2$ or $AgNO_3$. Similarly, wool grafted with methacrylic acid was treated with 1% pentachlorophenol or hexachlorophene solns. in MeOH. The grafting increased the tensile strength of the fabric by 18–20%. The bactericidal additives inhibited the propagation of *Staphylococcus aureus* and intestinal bacteria when 1–1.5% Cu or Ag or ≥7.32% chlorinated phenols were present. CPJR

REEL/FRAME
19821069

USSR UDC 669.71':536.2:669-973

ZLOBINTSEV, G. M., KOZINETS, V. V., MERISOV, B. A., and KHOTKEVICH, V. I., Khar'kov University

"Heat Conductivity of Aluminum Alloys at Low Temperatures"

Moscow, Metallovedeniye, No 5, 1971, p 64

Abstract: The heat conductivity of the AD1, AL4, AK8, ATsM, AMr3, D16, and AMr6 structural aluminum alloys was investigated at temperatures of 10-300°K by measuring the conductivity up to the temperature of liquid nitrogen in 5-10°K intervals and then in 15-20°K intervals. The results are tabulated and shown in graphs of the temperature-dependent coefficient of thermal conductivity. One figure, one table, four bibliographic references.

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1/2 032 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--HYPERTENSIVE DRUGS AGAINST HYPOXIA IN PATIENTS WITH HYPERTENSIVE DISEASE -U-

AUTHOR-(03)-ZANOZDRA, N.S., DROZDOV, D.D., KOZINTSEVA, P.V.

COUNTRY OF INFO--USSR

SOURCE--VRACHEBNOYE DELO, 1970, NR 5, PP 1-5

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ANTIHYPERTENSIVE AGENT, HYPERTENSION, HYPOXIA, BLOOD CHEMISTRY, OXYGEN, METABOLISM, HEPARIN, RESERPINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1724 STEP NO--UR/0475/70/000/005/0001/0005

CIRC ACCESSION NO--AP0129092

UNCLASSIFIED

2/2 032 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0129092

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A STUDY OF THE GASEOUS CONTENT OF THE BLOOD IN 198 PATIENTS WITH HYPERTENSIVE DISEASE REVEALED SIGNS OF HYPOXIA IN THE MAJORITY OF THESE PATIENTS. TREATMENT WITH RESERPINE, ISMELIN, AMINAZINE, HYPOTHIAZIDE, ISMELIN PLUS THIAZIDES, HEPARIN AND HEPARIN PLUS RESERPINE RESULTED IN AN INCREASE OF OXYGEN SATURATION OF THE ARTERIAL BLOOD AND AN IMPROVEMENT OF TISSUE OXYGEN METABOLISM, AS EVIDENCED BY THE DYNAMICS OF BLOOD VAKATOXYGEN. FACILITY: KIYEVSKOGO NAUCHNO-ISSLED. INSTITUTA KLINICHESKOY MEDITSKINY IM. AKAD. N. D. STRAZHESKO.

UNCLASSIFIED

1/2 016 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--EFFECT OF HYPOTENSIVE THERAPY ON OXIDATIVE PROCESSES IN PATIENTS WITH HYPERTENSIVE DISEASE -U-

AUTHOR-(02)-KOZINTSEVA, P.V., LUGANSKIY, YU.N.

COUNTRY OF INFO--USSR

SOURCE--VRACHEBNOYE DELO, 1970, NR 6, PP 18-21

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HYPERTENSION, ANTIHYPERTENSIVE AGENT, OXYGEN, BIOLOGIC OXIDATION, OXIDATION REDUCTION REACTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1742 STEP NO--UR/0475/70/000/006/0018/0021

CIRC ACCESSION NO--AP0129110

UNCLASSIFIED

2/2 018 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0129110

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE BLOOD VAKAT OXYGEN WAS STUDIED IN 110 PATIENTS (ELDERLY AND MEDIUM AGED) WITH HYPERTENSIVE DISEASE, STAGE II AND III. BEFORE TREATMENT WITH HYPOTENSIVE DRUGS THE MAJORITY OF PATIENTS SHOWED AN INCREASED BLOOD VAKAT OXYGEN. UNDER THE EFFECT OF TREATMENT WITH ISMELIN, ISMELIN PLUS THIAZIDES, OXYGEN BEVERAGE THE OXIDATION REDUCTION PROCESSES IMPROVED, A MORE DISTINCT REDUCTION OF THE BLOOD VAKAT OXYGEN BEING OBSERVED IN PATIENTS WITH HYPERTENSIVE DISEASE, STAGE II. TREATMENT WITH THIAZIDES ONLY DID NOT RESULT IN A DISTINCT REDUCTION OF THE BLOOD VAKAT OXYGEN. FACILITY: OTDEL FUNKTSIONAL'NOY DIAGNOSTIKI KIYEVSKOGO NAUCHNO-ISSLEDOVATEL'SKOGO INSTITUTA KLINICHESKOY MEDITSINY IMENI AKAD. N. D. STRAZHESKO.

UNCLASSIFIED

1/2 014 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--OSCILLOPOLAROGRAPHIC DETERMINATION OF CERTAIN NONFERROUS METALS ON A HANGING DROP MERCURY ELECTRODE -U-
AUTHOR-(03)-KOZIROD, I.D., KOVALENKO, P.N., YEVSTIFEYEV, M.M.

COUNTRY OF INFO--USSR

SOURCE--ZH. ANAL. KHIM. 1970, 25(1), 147-52

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, CHEMISTRY

TOPIC TAGS--NONFERROUS METAL, POLAROGRAPHIC ANALYSIS, DROPPING MERCURY ELECTRODE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1989/1742 STEP NO--UR/0075/70/025/001/0147/0152

CIRC ACCESSION NO--AP0108109

2/2 014 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0108109

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE OSCILLOPOLAROGRAPHIC PROPERTIES OF CD, ZN, CO, NI, AND CU IN M NH SUB4 CL M NH SUB4 OH MEDIA AND OF PB IN M KNO SUB3 WERE STUDIED BY USING THE HG ELECTRODE. ZN, NI, AND CO ARE REDUCED NONREVERSIBLY ON A STD. HG ELECTRODE AND CD, CU, AND PB ARE REDUCED REVERSIBLY. THE EXPTL. DEPENDENCE OF I SUB MAX. ON CONCN. FOR CU, PB, AND CD CORRELATE BEST WITH THEORETICAL CALCNS. OF THE I SUBMAX. VALUES BY USING THE EQUAITON OF SEVCIK RANDLES AND FOR NI, CO, AND ZN BY USING THE EQUATION OF DELEHAY.

1/2 015 UNCLASSIFIED PROCESSING DATE--[illegible]70

TITLE--CONDITIONS OF POTASSIUM TETRAPHENYLBORATE SYNTHESIS AND ITS CONVERSION TO SODIUM AND LITHIUM TETRAPHENYLBORATES -U-

AUTHOR-(02)-KIRGINTSEV, A.N., KOZITSKIY, V.P.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(3), 595-600

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--POTASSIUM COMPOUND, ORGANOBORON COMPOUND, ORGANOMAGNESIUM COMPOUND, ORGANOSODIUM COMPOUND, ORGANOLITHIUM COMPOUND, BENZENE DERIVATIVE, CHEMICAL SYNTHESIS, ION EXCHANGE RESIN/(U)KU2 ION EXCHANGE RESIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1848 STEP NO--UR/0080/70/043/003/0596/0600

CIRC ACCESSION NO--AP0112532

UNCLASSIFIED

2/2 015 UNCLASSIFIED PROCESSING DATE--0[illegible]70

CIRC ACCESSION NO--AP0112832

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BEST YIELDS OF K3PH SUB4 WERE OBTAINED WHEN CRYST. (0.06 MM OF MAGNITUDE OF CRYSTALS) K3F SUB4 WAS ADDED IN SMALL EXCESS TO THE ETHER SOLN. OF PHMGBR. THE K3PH SUB4 PREPD. WAS DECANTED AND RECRYSTD. FROM AQ. ACETONE WITH A SLOW EVAPN. OF SOLVENT. BOTH LI3PH SUB4 AND NA3PH SUB4 WERE PREPD. BY PASSING 0.1N AQ. ACETONE SOLN. OF K3PH SUB4 THROUGH A COLUMN PACKED WITH KU-2 ION EXCHANGER. BY EVAPG. THE ELUATE NA3PH SUB4 CONTG. 0.5PERCENT H SUB2 O WAS OBTAINED. DEHYDRATION UNDER REDUCED PRESSURE GAVE ANHYD. MATERIAL. LI3PH SUB4, WHICH WAS OBTAINED AFTER EVAPN. OF ELUATE TO DRYNESS FOLLOWED BY EXTN. OF ITS AQ. SOLN. WITH ETHER, FORMS A VERY STABLE TETRAHYDRATE AFTER REMOVING THE SOLVENT. LI SALT FREE OF SOLVENT WAS PREPD. BY SALTING IT OUT OF PR SUB2 O SOLN. WITH CYCLOHEXANE.

FACILITY: INST. NEORG. KHIM., NOVOSIBIRSK, USSR.

UNCLASSIFIED

USSR

KOZIY, N. V.

"Morbidity With Temporary Incapacitation Under Conditions of Uzbekistan -- A Criterion of the Unfavorable Effect of Chemicals on Flight Crews"

Moscow, Voprosy Mediko-Biologicheskikh Issledovaniy. Materialy Konferentsii Molodykh Nauchnykh Rabotnikov Mediko-Biologicheskogo Fakul-teta (Aspects of Biomedical Research. Materials of a Conference of Young Scientific Workers of the Biomedical Faculty), Ministerstvo Zdravookhraneniya SSSR, 1970, 93 pp, pp 89-91

Abstract: Unfavorable conditions under which the personnel of the Aviation Chemical Service in Uzbekistan are working, and the resultant high ratio of workers temporarily incapacitated because of these conditions, are reported. The amount of pesticides in the air, the pilots' cabins, the work areas of the technicians, and on the clothing and bodies of the workers is considerably in excess of the maximum permissible concentration. The high temperature and low humidity during the busiest season of the Aviation Chemical Service -- June to September -- make it difficult.

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USSR

KOZIY, N. V., Voprosy Mediko-Biologicheskikh Issledovaniy. Materialy Konferentsii Molodykh Nauchnykh Sotrudnikov Mediko-Biologicheskogo Fakul-teta, 1970, 93 pp, pp 89-91

for the crews to adopt protective measures, particularly with regard to protective clothing, and contribute to the development of a number of diseases. Among these are influenza, cardiovascular diseases, neuralgia, neuritis, hepatic and gastrointestinal disorders, and others. The large incidence of the above diseases among the personnel of the Aviation Chemical Service, accompanied by considerable loss of work time, is one of the objective criteria which point to the adverse effect of insecticides on the health of workers.

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USSR UDC: 539.4

KOZIY, S. I.

"Effect of Magnetic-Impulse Treatment on the Post-Deformation State of Some Steels and Alloys"

V sb. Teoriya i prakt. vysokoskorost. deformatsii metal. materialov (Theory and Practice of High-Velocity Deformation of Metallic Materials--collection of works), Moscow, 1971, p 11 (from RZh-Mekhanika, No 5, May 72, Abstract No 5V981)

Translation: It is noted that magnetic-impulse treatment of metals enables stamping of parts from high-strength steels and alloys in a single operation. The post-deformation state of the materials depends on the specific factors of the given type of treatment: the pressure of the magnetic field on the workpiece, strain rate, degree of deformation, workpiece temperature during treatment, rate of impact of the workpiece against the die, etc. The influence of each of the enumerated factors is studied on the example of Kh15N25D2T, Kh16N10T, VT-14 and AM26M alloys. It is concluded that the state of the investigated alloys after magnetic-impulse treatment is close to the post-deformation state in the case of static deformation.

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USSR UDC 621.391.833

KOZLENKO, N. I., PETROVICH, N. T., KABLUKOVA, M. V., Members of the Scientific and Technical Society of Radio Engineering, Electronics and Communications imeni A. S. Popov

"Determination of the Correlation Functions of Signal and Interference at the Output of a Discrete Communications Channel"

Moscow, Radiotekhnika, Vol 26, No 9, Sep 71, pp 7-11

Abstract: A Fourier transform method is used to separate the useful signal from masking noises in a quantized speech message transmitted through a communications channel with interference. Formulas are derived for calculating the correlation functions of the useful part of the message and the masking noises at the output of a discrete communications channel with respect to known correlation functions for the undistorted and distorted messages and a function which accounts for the action of interference in the channel. Expressions are also given for determining the spectral densities of the corresponding components of the received message and for calculating the intelligibility in conformity with the general theory of formant perceptibility when speech messages are transmitted by discrete methods over a communications channel with interference.

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USSR UDC: 8.74

TIMOFEYEV, B. B., KOZLIK, G. A., KULAKOV, A. F., MART'YANOV, A. I.

"Algorithmization in Automatic Control Systems"

Algoritmizatsiya v Avtomatizirovannykh Sistemakh Upravleniya [English version above], Kiev, Tekhnika Press, 1972, 240 pp (Translated from Referativnyy Zhurnal Kibernetika, No 11, 1972, Abstract No 11V499K)

Translation: Problems of the development, computer programming, testing and operation of complex system control algorithms, algorithmic control systems (AlCS) are systematized using a single methodological basis. Significant attention is given to analysis of the problems of statement and solution of these problems during the process of creation and introduction of automatic control systems (ACS). A method is suggested for study and improvement of the qualitative characteristics of complex algorithmic systems. The book is based on the experience gained in development of specific ACS, in particular economic ACS. Its content is illustrated with examples. It is designed for engineering, technical and scientific workers involved in the development, introduction and operation of automated and automatic control systems. It may be useful to

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USSR

Timofeyev, B. B., Kozlik, G. A., Kulakov, A. F., Mart'yanov, A. I., Algorithmizatsiya v Avtomatizirovannykh Sistemakh Upravleniya, Kiev, Tekhnika Press, 1972, 240 pp

graduate students and university students, as well as persons interested in problems of algorithmization and application of cybernetics to the national economy.

USSR

UDC 621.791.3.01:669.14.018.44

GRUZDEV, B. L. and KOZLOV, Candidates of Technical Sciences, and VAINITS, I. S., and SYRESKIN, V. A., Engineers, Ufa Aviation Institute imeni S. Ordzhonikidze

"Technology of Brazing Alloy ZhS6K with Braze VPr 11"

Moscow, Svarochnoye Proizvodstvo, No 2, Feb 74, pp 34-35

Abstract: Since alloy ZhS6K has unsatisfactory weldability, a study was made as to how well it can be brazed in a vacuum using braze alloy VPr 11. The effectiveness of diffusion interaction can be increased by increasing the time of the parts at the brazing temperature. However this brazing method cannot be recommended since undesirable structural transformations can occur in the base metal during an extended time at 1150° C which lowers strength properties. Moreover, long contact of the braze alloy with the alloy causes erosion of the alloy. These problems can be overcome by heat treating the braze joint at 1050° C. Best short-time strength can be achieved by heat treating at 1050° C for extended periods. Tests showed that seam metal strength, after heat treating for 2, 4, and 8 hours, was 30.4, 34.3, and 37.3 kgf/mm^2, respectively, as compared to 27.9 kgf/mm^2 for the non-heat

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USSR

GRUZDEV, B. L., and KOSLOV, et al., Svarochnoye Proizvodstvo, No 2, Feb 74, pp 34-35

treated braze joint. Gap size between the parts being brazed was also critical with the best results achieved for a gap dimension of 0.05-0.06 mm. Four figures, three bibliographic references.

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USSR

UDC 539.43

MOSTOVOY, A. S., KOZLOV, A. A., FROLOVA, L. K., CHURAKOV, A. A., Kuybyshev

"Determination of Durability of Structural Elements on the Basis of Certain Concepts Concerning the Mechanism of Fatigue Rupture"

Problemy Prochnosti, No 3, 1972, pp 21-27.

Abstract: A method is presented for calculating the fatigue durability of a structural element of an aviation product manufactured of 1Kh18N10T steel. The mechanism of fatigue rupture is described by integral equations for the derivatives which are the inverse of the rates of propagation of cracks along selected coordinates. Integration of the derivatives produced yields the crack propagation time. The durability is calculated with programmed loading using damage curves produced by calculating durability with harmonic loading. The results of calculation of durability of the structural element with harmonic and programmed loads are compared with experimental results. The correspondence is quite satisfactory.

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AP0012085 CHEMICAL ABST. 12/69 UR0076

34

126360b Gas-flow cryostat for adsorption measurements. Berszin, G. I.; Drey, Yu. A.; Kozlov, A. A. (Inst. [illegible], Moscow, USSR). *Zh. Fiz. Khim.* 1969, 43(8), 2170-1 (Russ). The cryostat consists of 2 Dewar flasks connected with a vacuum tube. One flask contains the cryostat cell, the other liq. N. The cell is cooled by N vapors, the flow rate of which is regulated by a heater in liq. N. The temp. of the cell is sustained by a heating wire around it, the power of which (<0.1 w.) is controlled by a system consisting of a resistance thermometer, a galvanometer, and a thyratron relay. By changing the flow of N gas, a temp. between −150 and +20° can be maintained with the precision of 0.01°. The usage of liq. N at −30° over a period of 6 hrs. is 1 l. Ants Laur

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AP0027086 SCI. ABST. SER. C 2-70 UR0223

2239 **Further note on the working of the bell and call-up control.** A.A.Kozlov. *Automat. Telemekh. Svyaz (USSR)*, no. 2, p.33-4 (1969). In Russian.
Further to the note of Dzyub (see ibid. no. 9 of 1969), it is proposed that the lifetime of the bell and the clarity of control of the call-up signal may be improved using a simplified set-up, which eliminates the necessity for additional capacitances. It is noted that for correct and clear control, special attention must be paid to the voltage feed, and all voltage gradients must be of the rated value. Circuit diagrams of the new scheme are presented, and it is stated that this scheme has already given good results in practice. *F.E.J.R.*

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1/2 019 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--THERMODYNAMIC STUDY OF THE TRANSITION OF ADSORBED BENZENE TO A CRYSTALLINE STATE -U-

AUTHOR-(05)-BEREZIN, G.I., KISELEV, A.V., KOZLOV, A.A., KUZNETSOVA, L.V., FIRSOVA, A.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. FIZ. KHIM. 1970, 44(2), 541-3

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--BENZENE, CRYSTAL, HEAT CAPACITY, ADSORPTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/1422 STEP NO--UR/0076/70/044/002/0541/0543

CIRC ACCESSION NO--AP0116869

UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0116869

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TRANSITION OF C SUB6 H SUB6, ADSORBED IN A POROUS ADSORBENT, FROM THE STATE OF CAPILLARY CONDENSATE TO A CRYST. PHASE OCCURS AT 0 TO MINUS 50DEGREES. THIS WAS EVIDENCED BY A SHARP MAX. IN THE TEMP. DEPENDENCE OF THE HEAT CAPACITY OF ADSORBENT CONTG. C SUB6 H SUB6 IN THE ABOVE TEMP. INTERVAL. THE TRANSITION OF ADSORBED C SUB6 H SUB6 TO THE CRYST. PHASE IS ACCOMPANIED BY A SHARP DECREASE IN THE MAX. ADSORPTION CAPACITY A SUBS. THE VALUES A SUBS WERE VIRTUALLY CONST. BELOW AND ABOVE THE TEMP. INTERVAL OF PHASE TRANSITIONS. FACILITY: INST. FIZ. KHIM., MOSCOW, USSR.

UNCLASSIFIED

1/2 025 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--KINETICS OF THE OZONE OXIDATION OF NEPTUNIUM VI TO NEPTUNIUM VII IN ALKALINE SOLUTIONS -U-
AUTHOR-(02)-SHASHUKOV, YE.A., KOZLOV, A.A.

COUNTRY OF INFO--USSR

SOURCE--RADIOKHIMIYA 1970, 12(2), 237-42

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--OZONE, OXIDATION, NEPTUNIUM, ACTIVATION ENERGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/1716 STEP NO--UR/0136/70/012/002/0237/0242

CIRC ACCESSION NO--AP0125337
UNCLASSIFIED

2/2 025 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0125337

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN OZONE (0.1-0.5 VOL. PERCENT) OXION. OF NP(VI) (10 PRIME NEGATIVE5 G. ATOM-L.) TO NP(VII) IN 1-4M KOH AT 0-20DEGREES THE REACTION RATE CAN BE DESCRIBED BY THE EQUATION D(NP(VII))-DT EQUALS K (NP(VI))-(OH PRIME NEGATIVE) PRIME0.5(O SUB3) SUBGAS PRIME0.5. THE APPARENT RATE CONSTS. PERMIT A CALCN. OF THE REACTION RATE OVER A WIDE INTERVAL OF CONDITIONS. THE ACTIVATION ENERGY FOR THE OXION. OF NP(VI) BY OZONE AT 0-20DEGREES IS 5 KCAL.-MOLE. A REACTION MECHANISM IS POSTULATED.

UNCLASSIFIED

USSR UDC: 621.762.2:669.1'24(088.8)

PUTIMTSEV, B. N., GRATSIANOV, Yu. A., KOZLOV, A. G., MINCHER, A. N., LEVINZON, V. Kh., STERLIN, R. G., BAKANOVA, T. P., BEREZIN, K. P., MIKHEYEV, V. V.

"Method of Production of Iron-Nickel Alloy Powders"

USSR Author's Certificate Number 343771, Filed 7/04/71, Published 11/08/72 (Translated from Referativnyy Zhurnal Metallurgiya, No 8, 1973, Abstract No 8G394P).

Translation: A method is suggested for embrittlement of Fe-Ni alloys, designed for the production of powders by mechanical grinding. Fe-Ni alloys are embrittled by introduction of S to the initial melt. In order to increase the dispersion and technological properties of the powders, 0.03-0.07 wt % oxygen is also introduced to the initial melt, with a ratio of oxygen to S of 2.0-7.0.

USSR

FRADKIN, G. M., BREZHNEVA, N. YE., YERSHOVA, Z. V., BOGDANOV, N. I. (Deceased), KODYUKOV, V. M., VORONIN, A. N., KOZLOV, [redacted] G., MALYKH, YU. A., NIKIFELOV, B. V., RAGOZINSKIY, A. I., FEDOROV, V. V., and CHUSHKIN, YU. V., State Committee on the Use of Atomic Energy USSR, Fourth International Conference of the United Nations on the Peaceful Use of Atomic Energy, Geneva, 6-16 Sep 71

"Development of Isotopic Power Technology in the USSR"

Moscow, Atomnaya Energiya, Vol 31, No 4, Oct 71, pp 358-365

Abstract: The construction in the USSR of isotopic thermoelectric generators for powering oceanographic and navigation devices, hydrographic, automatic radiometeorological, magnetic variation stations, high-elevation cosmic ray stations, and other scientific research stations and ground installations is reported on. The most suitable for fuel applications are isotopes with a half-life period within the limits 100 days to 100 years (approximately 50 isotopes), of which 12-15 can be obtained in large amounts. Most quantities of fission radioactive isotopes and also the most widely used radioactive Sr^{90} are obtained by processing radioactive waste solutions. To simplify isolation of radiochemically pure elements, including Sr^{90}, the group concentration method is used, based on calcium oxalate precipitation. The most promising technique is extraction separation of alkaline-earth elements with the isolation of pure strontium. Here the following extractants are used: a

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FRADKIN, G.M., et al, Moscow, Atomnaya Energiya, Vol 31, No 4, Oct 71, pp 358-365

solution of di-2-ethylhexylorthophosphoric acid in kerosene from a nitric acid medium, and a solution of salicylaldoxime in tributyl phosphate from an alkaline (sodium hydroxide or ammonia) solution. Currently construction has been completed for blocks with activities in the tens and hundreds of kilocuries based on Ce^{144} (20,000 curies), Sr^{90} (9000-100,000 curies), and Cs^{137} (50,000-150,000 curies), and also blocks based on Pu^{238}, Po^{210}, Cm^{242}, and Co^{60}. The thermal capacity of these blocks lies within the range 1-1000 watts. An empirical formula was derived and tested for the power yield in an isotopic (thermal) block. Also discussed is biological protection during development and construction of isotope power sources containing kilocurie amounts of radioactive heat. In dealing with the conversion of radioactive decay energy, the thermoelectric method was found to be most fully mastered at present: low-temperature semiconductor materials (up to 300°C) have been obtained with quite high efficiencies (5-6%), as well as medium-temperature (300-700°C) and high-temperature (higher than 700°C) semiconductor materials. Combining different materials in the form of cascade elements already permits attainment of 12-15% conversion efficiency in prototypes. Demands of minimum weight and size and also low background of attendant neutron and gamma-radiation led to construction of portable generators of the RITG-67 type based on Pu^{238}. The unique properties of Cm^{242} and Po^{210} (also specific power yield and fairly low-gamma-radiation intensity) made feasible construction of isotopic thermoelectric generators using cascaded converters with efficiencies of 6-10% in the 300-650°C range.

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USSR

FRADKIN, G. M., BREZHNEVA, N. YE., YERSHOVA, Z. V., BOGDANOV, N. I. (Deceased), KUDYUKOV, V. M., VORONIN, A. N., KOZLOV, A. G., MALYKH, YU. A., NIKIPELOV, B. V., RAGOZINSKIY, A. I., FEDOROV, V. V. and CHUSHKIN, YU. V., State Committee for the Use of Atomic Energy USSR

"Advancement of Research in the Field of Nuclear Power Engineering in the USSR (Report Presented at the Fourth United Nations International Conference on the Peaceful Uses of Atomic Energy held 6 to 16 September 1971 in Geneva)"

Moscow, Atomnaya energiya, Vol 31, no 4, Oct 71, pp 358-365

Abstract: This report cites data on the Soviet development of the thermoelectric generators designed for feeding oceanographic and navigation devices, hydrographic, automatic, radiometeorological, magnetic variation stations, high-mountain cosmic ray stations, and other scientific research land stations. The report covers the scientific and technical fundamentals of such energy sources and cites the characteristics of some generators. Discussed in some detail are various aspects of radio isotopic fuels, selection, properties, distinctive characteristics, evaluation, requirements, cost factors, availability, handling safety factors, and forms of applica-

USSR

• FRAEKIN, G. M., et al, Atomnaya energiya, Vol 31, no 4, Oct 71, pp 358-365

tion. The potential use of extraction separation of alkali-earth elements for obtaining pure strontium is noted. A table lists the comparative characteristics of various isotopes having potential use in thermoelectric generators. Much consideration is given to topics dealing with energy release in an isotopic unit, biological protection, radioactive decay energy conversion, thermal flow chart selection, and generator designs. Described and illustrated are some thermoelectric generators of various designations (using Ce^{144}, Cs^{137}, Sr^{90}, Pu^{238}, $Cm^{242}(Po^{210})$) including Beta-1, Beta-2, Beta-C, Efir, Penguin, MIG-67 (portable-type), and generators with cascade converters. (8 illustrations).

2/2

USSR UDC 621.039.84

TYUFYAKOV, N. D., SHTAN', A. S., YASKEVICH, V. S., KOZLOV, A. G., and PAVLOVICH, V. YE.

"Spectral Characteristics of Neutron Sources Based on Pu^{238}"

Prikl. Yadern. Spektroskopiya (Applied Nuclear Spectroscopy -- collection of works), No 1, Moscow, Atomizdat Press 1970, pp 24-27 (from Referativnyy Zhurnal-Yadernyye Reaktory, No 3, 1971, Abstract No 3.50.138)

Translation: A single-crystal fast neutron scintillation spectrometer was used in combination with a 512-channel amplitude analyzer to measure the spectra; discrimination of the γ background was based on the time of scintillation of a stilbene crystal. The spectrometer was calibrated for the γ radiation of of the isotopes Cs^{137} and Zn^{65}. In subtracting the background, the shadow cone from a mixture of paraffin and borom carbide was used. During measurements, the neutron source and detector were placed at a distance of about 2 m from the walls of the room. The results of investigations confirmed the expediency of using Pu^{238} to study isotope α_n sources. The advantages of these

1/2

USSR

TYUFYAKOV, N. D., et al., Prikl. Yadern. Spektroskopiya, No 1, Moscow, Atomizdat Press 1970, pp 24-27 (from Referativnyy Zhurnal-Yadernyye Reaktory, No 3, 1971, Abstract No 3.50.138)

sources are felt primarily with a yield of 10^7-10^8n/sec^{-2} and more. It is assumed that the production of intermetallic compounds of Pu^{238} with the target material allows the yield of neutrons per unit mass of α radiator to be increased by several times in comparison with the sources studied. 2 figures, 5 biblio. refs.

2/2

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USSR

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2/2

USSR

UDC 538.3:621.313.333:538.4

VASIL'YEV, S. V. and KOZLOV, A. I.

"Electromagnetic Phenomena in a Cylindrical Induction Pump"

Riga, Magnitnaya Gidrodinamika, No 4, Oct-Dec 72, pp 87-94

Abstract: The directional distribution of an electromagnetic field was investigated in the unifrom space of a cyclindrical inductor the linear current load of which is itself a wave traveling along a helical line. This device was designed for the transport of molten metals and uses ordinary round pipe as the channel. A solution of the electromagnetic field equations was obtained in the form of modified Bessel functions. A feature of the device consists of the three-dimensional magnetic field whereupon in the center of the space the working component differs from zero.

Expressions were obtained for currents induced in the noltne metal and relationships found characterizing the distribution of electromagnetic forces and pressure divided by the pump. Expressions were derived for the output imparted to the molten metal. A characteristic feature of the given device in comparison with cylindrical linear induction pump without an inner core is the difference from zero of the longitudinal electromagnetic

1/2

USSR

VASIL'YEV, S. V., and KOZLOV, A. I., Magnitnaya Gidrodinamika, No 4, Oct-Dec 72, pp 87-94

force in the channel center. A numerical analysis of the obtained theoretical relation ships is presented from which the conclusion was made about the prospect of using pumps of this type. This work was conducted under the direction of N. N. Okhremenko. 6 figures, 8 bibliographic references.

2/2

USSR

UDC 531.787.913.087.92

KAS'YAN, V.A., KOZLOV, A.I., NIKOL'SKIY, YU.A.

"Strain Sensitivity In p- and n-Type GaSb Films"

Tr. po fiz. poluprovodnikov. Kishinev. un-t (Works On Semiconductor Physics. Kishinev University), 1971, Issue 3, pp 88-94 (from RZh:Elektronika i yeye primeneniye, No 7, July 1972, Abstract No 7B377)

Translation: Polycrystalline films of p- and n-type gallium antimonide on mica and quartz substrates are prepared by discrete evaporation. Layers of n-type GaSb were prepared with tellurium doping. Monocrystalline films of p- and n-type gallium antimonide were grown by epitaxial deposition on substrates of monocrystals of GaAs and GaSb. The deformation, temperature, and time characteristics are studied of strain resistors [tenzorezistor] prepared on the basis of polycrystalline and monocrystalline films of n- and p-type GaSb. The dependence of the absolute change of the resistance on the magnitude of the deformation with expansion and compression deformations bears a linear character up to the maximum distortions. A decrease of the sensitivity factor with an increase of temperature is observed for all the films. The principal parameters of the sensitivity resistors are determined. Strain resistors from polycrystalline n-type GaSb films are the most promising for the preparation of strain gauges [tenzodatchik]. High

1/2

USSR

KAS'YAN, V.A., et al. Tr. po fiz. poluprovodnikov. Kishinav. un-t, 1971, Issue 3, pp 88-94

values of strain sensitivity [tenzochuvstvitel'nost'] in polycrystalline films may be caused by the effect of intercrystalline barriers on the magnitude of the strain sensitivity. 6 ill. 1 tab. 5 ref. Summary.

2/2

UDC 621.374.4(088.8)

USSR

KURMAYEV, A. ZH., MIKHAYLOV, A. N., GEL'BSHTEYN, L. S., SLAVNIN, V. A., ODINTSOV, L. N., KOZLOV, A. I., KOROLEVA, R. A., STREL'NIKOV, A. D.

"Pulse Repetition Rate Dividing Circuit"

USSR Author's Certificate No 277845, Filed 9 Jan 69, Published 20 Oct 70 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4G247P)

Translation: A frequency dividing circuit is proposed, which contains a cycle signal source, a square-wave source, a switch in the cycle signal circuit, a frequency divider and a comparison circuit. In order to improve the noise resistance of the cycle pulse time selection in the presence of low frequency noise, the device is also equipped with a pulse converter included between the divider and the comparison circuit. The converter output is connected to the control input of the switch in the cycle pulse circuit.

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1/2 012 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--IMPULSE FREQUENCY DIVIDER -U-

AUTHOR-(02)-GELBSTEYN, L.S., KOZLOV, A.I.

COUNTRY OF INFO--USSR

SOURCE--USSR 248004

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI, NR 23

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CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/0312 STEP NO--UR/0482/69/000/000/0000/0000

CIRC ACCESSION NO--AA0131020

UNCLASSIFIED

2/2 012 UNCLASSIFIED PROCESSING DATE--15JUN70

CIRC ACCESSION NO--AA0131020

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MICROFICHE OF ABSTRACT CONTAINS GRAPHIC INFORMATION. IMPULSE FREQUENCY DIVIDER CONTAINING A SOURCE OF INCOMING SYNC PULSES, TWO KIPP RELAYS AND COINCIDENCE CIRCUIT. INCOMING PULSES PASS THROUGH GATE (1) TO KIPP RELAY (3) AND THE REDUCED FREQUENCY IS APPLIED TO THE OUTPUT TERMINAL. PHASING PULSES FROM TERMINAL (6) PASS TO GATE (2). DURING UNSTABLE CONDITIONS RELAY (4) BECOMES ENERGISED CLOSING GATE (1). RESETTING OF RELAY (4) STARTS TRANSMISSION OF INCOMING PULSES TO RELAY (3) AND BLOCKS GATE (2) DURING THE SYNC PULSE CYCLE. THE CIRCUIT REDUCES THE OUT OF PHASE PERIOD.

UNCLASSIFIED

MEDICINE

Kozlov, A.N.

ULTRASONIC DOPPLER CARDIOGRAPHY IN A MEDICAL MONITORING SYSTEM

[Article by A. N. Kozlov, Moscow, Kosmicheskaya Biologiya i Meditsina, Russian Vol 5, No 2, March-April 1972, pp 43-46, submitted for publication 25 January 1971]

USC 616.12-073.432.1:[illegible]

Abstract: Due to its high information content, stability and comfortable conditions for signal monitoring, ultrasonic Doppler cardiography seems to be promising when used in medical evaluations of cosmonaut men. Use of narrow-band filters, threshold limitations, and selection of the proper site for fixation of sensors make it possible to isolate a single complex from the ultrasonic Doppler cardiographic signal during every cardiac cycle for determining the heart rate in the medical monitoring system.

Recently a number of new methods have been developed for registering biomechanical processes of cardiac activity, broadening the possibilities of medical monitoring under autonomous conditions. In particular, these include ultrasonic Doppler cardiography (USDC). This can be used in a biomedical remote system (A. N. Kozlov). The total USDC signal has a broad information content. It can be used in a phase analysis of the cardiac cycle, determining the rate and acceleration of motion, and also changes in the structural indices of the studied part of the heart. This is most desirable in programs for periodic medical examinations.

The small size of the sensor, whose attachment does not require the use of chemically active pastes, ensures adequately comfortable conditions for signal registry. This method ensures a relatively high immunity to noise of mechanical and electric origin. For example, the method makes it possible to register cardiac activity during heavy physical loads when it is impossible to discriminate signals of electric cardiac activity against a background of all possible types of noise. Displacements of the position of the heart during some types of stresses naturally cause corresponding changes in USDC signals. These circumstances make it possible to use USDC in a medical monitoring

USSR

UDC 621.762.2:669.296

KOZLOV, A. N., DUBININ, G. N., ALEKSANDROVA, I. F., KRAVETSKIY, G. A., RUZINOV, L. P., SLOBODCHIKOVA, R. I.

"Optimization of the Processes of Obtaining Spherical Zirconium Powder by Plasma Atomization of Wire using Mathematical Statistics"

Tr. Mosk. aviats. in-ta (Works of Moscow Aviation Institute), 1971, vyp. 228, pp 130-138 (from RZh--Metallurgiya, No 4, Apr 72, Abstract No 4G401)

Translation: The optimal conditions of plasma atomization of Zr-wire to obtain spherical powder with a particle size of 400-800 microns sufficiently pure with respect to N_2 and O_2 (with a granule microhardness $\leq$300-500 kg/mm^2) are defined. When processing the experimental data, the ranging method was used. A vacuum plasma atomization device was designed and manufactured for obtaining spherical powders of chemically active refractory metals. The optimal conditions of the Zr atomization process are as follows: current 500 $\pm$ 60 amps, argon flow rate 3.2 m^3/hour, rarefaction in the chamber 400 mm Hg, spacing between the wire and the nozzle section 0.5 mm. The yield of the Zr powder fraction 400-800 microns in size is 60%. 5 illustrations, 3 tables, and a 13-entry bibliography.

1/1

USSR

UDC 621.762.2

KOZLOV, A. N., KRAVETSKIY, G. A., BOVINA, T. A.

"Effect of the Environment on the Composition and Microstructure of Spherical Refractory Metal Powder Obtained by the Plasma Atomization Method"

Tr. Mosk. aviats. in-ta (Works of Moscow Aviation Institute), 1971, vyp. 228, pp 139-148 (from RZh--Metallurgiya, No 4, Apr 72, Abstract No 4G400)

Translation: The environment has a noticeable effect on the composition and microstructure of powders obtained by plasma atomization. The Zr powders, the composition of which is similar to the composition of the initial wire, can be obtained by atomization of the Zr in a chamber filled with Ar with cooling of the powder particles in spindle oil. When combining atomization with chemical-heat treatment of the granule during the atomization process, it is possible to obtain Zr granules coated with a film of ZrO_2 (when atomizing in the air and cooling the granules in water). It is also possible to obtain carbide granules or granules with a surface carbide film when atomizing Mo and Zr in hydrocarbon vapors and cooling the granules in transformer oil. In order to obtain pure spherical Mo powder, it is recommended that the atomization take place in Ar and the granules be cooled in water. Six illustrations and a 5-entry bibliography.
1/1