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UDC 620.17:669.14.018.44

MASLENKOV, S. B., BUROVA, N. N. and ZEMSKAYA, T. V., Central Scientific Research Institute of Ferrous Metallurgy imeni I. P. Bardin (TsNIICHERMET)

"Anisotropy of the Mechanical Properties of Nickel-Base High-Temperature Alloys"

Moscow, Metallovedeniye i termicheskaya obrabotka metallov, No 1, 1972, pp 70-71

Abstract: This study concerns the effect of temperature on the anisotropy of the mechanical properties of high-temperature alloys (with various degrees of alloying) including KhN70MVTYuB (EI598), EI826, EI929, EP109 as well as on various smelting methods such as open induction vacuum-arc and double vacuum-arc remelting. Two factors are shown to affect the anisotropy of the mechanical properties: the chemical inhomogeneity and its related differences in the degree of strengthening of certain areas along and between the axes; nonuniform distribution of insoluble inclusions -- the liquation products. The most resistant in the nickel-base alloys are tungsten liquation inclusions causing nonuniform decay in the fibrous

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MASLENKOV, S. B., et al, Metallovedeniye i termicheskaya obrabotka metallov, No 1, 1972, pp 70-71

structure following hot remelting of castings. At room temperature the anisotropy of the mechanical properties is related basically to the non-uniform distribution of the strengthening phase. At solubility temperatures the anisotropy in plasticity is determined primarily by the amount and distribution of nonmetallic inclusions. To reduce the anisotropy of the mechanical properties of the nickel-base alloys, it would be necessary to refine them with respect to nonmetallic inclusions by double vacuum remelting. (2 illustrations, 1 table, 2 bibliographic references).

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MASLENKOV, S. B.

JPRS 55885
4 MAY 1972

UDC 620.17:669.14.018.44
ANISOTROPY OF THE MECHANICAL PROPERTIES OF HEAT-RESISTANT
ALLOYS ON A NICKEL BASE

[Article by S. B. Maslennikov, N. N. Burova, T. V. Fomenkova, Central
Scientific Research Institute of Ferrous Metallurgy, Moscow;
Metellovedeniye i termicheskaya obrabotka metallov, Russian,
No. 1, 1972, pp. 70-71.]

A sharply expressed dendritic heterogeneity is developed during crystallization in heat-resistant alloys on a nickel base [1]. In the refining process the elements of the dendritic structure and the nonmetallic inclusions are drawn in the direction of the deformation, forming a filamentary structure that is characterized by a chemical and structural heterogeneity. The difference in the chemical composition of the segments corresponding to the axes and interaxes and the different degree of strengthening during dispersion hardening in conjunction with the line arrangement of the insoluble inclusions concentrated in the interaxes produce an anisotropy in the mechanical properties of the deformed metal.

In determining the means for decreasing the anisotropy in the properties it follows to differentiate the influence on the deformation capacity of the metal of the periodic chemical microheterogeneity and of the heterogeneous distribution of the insoluble inclusions. The first type of heterogeneity can be explained by the different degree of alloying of the axial and interaxial volumes as well as by their structural state. The heat resistance of such a heterogeneity is relatively low and may be lowered by high-temperature heating and mechanical refining of the alloy. Decreasing the second type of heterogeneity requires using optimal smelting procedures which will ensure the required degree of refining.

Depending on the composition of the alloy and the cast temperature the relative influence of the structural and chemical

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UDC 669.24.017

MASLENKOV, S. B., BUROVA, N. N., and ZEMSKAYA, T. V.

"Intracrystalline Liquefaction in Ingots of Heat-Resistant Nickel-Base Alloys Produced by Vacuum Arc Remelting"

Spetsial'nyye Stali i Splavy [Special Steels and Alloys--Collection of Works], No 77, Metallurgiya Press, 1970, pp 49-55

Translation: The method of local X-ray spectral analysis is used to study the liquefaction microirregularity in ingots of heat-resistant alloys types EI109, EI929, EI826, and EI598, produced by vacuum arc remelting. The direction of liquefaction and intensity of segregation of the basic components of the alloys are determined. Niobium and titanium, the elements having a high degree of chemical affinity to nickel, are most strongly liquated. The alloying elements can be placed in the following series in order of increasing tendency to liquefaction in nickel-based alloys: aluminum, cobalt, chromium, tungsten, molybdenum, titanium, niobium.

The intensity of segregation of alloying elements increases in the direction toward the axis of the ingot, sharply increasing upon transition from the zone of columnar crystallization to the equilibrium crystallization zone. 2 tables.

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USSR

UDC 669.18.001.5:669.14.015.853

KOZLOVA, N. N., LYAPUNOV, A. I., MASLENKOV, S. B., and BELYAYEVA, V. A.

"Oxidation Resistance of Steels in the System Fe-Cr-Ni-Al as a Function of Relationship of Alloying Elements"

Spetsial'nyye Stali i Splavy [Special Steels and Alloys--Collection of Works], No 77, Metallurgiya Press, 1970, pp 27-32

Translation: Alloys in the system Fe-Cr-Ni-Al were studied in the 1000-1250°C temperature interval. The principal regularities of the influence of alloying elements on the oxidation resistance of the alloys were established, and the dependence of oxidation resistance and phase composition of scale on the relationships of alloying elements was demonstrated. 4 figures; 2 tables; 2 biblio. refs.

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Nickel

UDC 669.245

USSR

BUROVA, N. N., and MASLENKOV, S. B., Moscow

"Intracrystalline Liquefaction in Nickel Alloys, Alloyed With Niobium"

Moscow, Izvestiya Akademii Nauk SSSR, Metallurgy, No 1, Jan 71, pp 91-93

Abstract: This work determines the quantitative characteristics of intracrystalline liquation in binary (Ni-Nd), ternary (Ni-Cr-Nd), and complex-alloy compounds based on type KhN77TYu nickel, in which a portion of the titanium is replaced with niobium, and type KhN50MBVYu -- an alloy with a high content of niobium, which is hardened during aging by separation of the Ni₃Nb phase. In alloys based on nickel, the niobium is found to have a sharply expressed tendency to liquation. The heterogeneity of the distribution of niobium is reinforced in the presence of chromium. An increase in the content of niobium in nickel-chromium alloys causes a change in the direction of liquation of the chromium. The elements included in the composition of the heat-

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BUROVA, N. N., and MASLENKOV, S. B., Izvestiya Akademii Nauk
SSSR, Metally, No 1, Jan 71, pp 91-93

resistant alloys studied can be placed in the following order of
increasing tendency toward liquation: aluminum, chromium, iron,
molybdenum, tungsten, titanium, niobium.

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1/2 025 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--HEAT TREATMENT OF AUSTENITIC HEAT RESISTANT STEELS AND ALLOYS -U-

AUTHOR--(02)--NAZAROV, YE.G., MASLENKOV, S.B.

COUNTRY OF INFO--USSR

SOURCE--METALLOVED. TERM. OBRAB. METAL. 1970, (3) 12-19

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--STEEL HEAT TREATMENT, AUSTENITIC STEEL, HEAT RESISTANT STEEL,
ALLOY PHASE COMPOSITION, DISPERSION HARDENING, BIBLIOGRAPHY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1989/1938

STEP NO--UR/0129/70/000/003/0012/0019

CIRC ACCESSION NO--AP0108267

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--13NOV70

212 025
CIRC ACCESSION NO--AP0108267

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A REVIEW COVERING STRONGLY,
MEDIUM, AND WEAKLY DISPERSED HARDENING ALLOYS. THE TOPICS COVER DOUBLE
QUENCHING, DISPERSION AGING, LAVES PHASES, BORIDE PHASES, STRESS
REMOVAL, NEW DEVELOPMENTS, AND DETRIMENTAL PHASES.

UNCLASSIFIED

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UDC 669.14.018.85:001.18

NAZAROV, YE. G., MASLENNIKOV, S. B., Central Scientific Research
Institute of Ferrous Metallurgy im. I. P. Bardin

"The Present and Future of Heat-Resistant Alloys"

Moscow, Metallovedeniya, No 4, Apr 70, pp 16-28

Abstract: A brief review is given of developments in heat-resistant alloys during the last 30 years. The heat resistance of metallic materials is governed by the following: strengthening the solid solution with dissolution of alloying elements in it and on separation of secondary intermetallics and carbide phases from it; the grain size of the solid solution; dynamics of both hardening and softening; stability of the structure at high temperatures; resistance to scaling and brittleness. Of these factors, the first is constant, while the others are variables and depend on temperature, time, and the medium. With the extension of the service life, great importance is attached to the resistance of alloys to gas corrosion at high temperatures, since oxidation at this stage controls the efficiency of the alloys.

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NAZAROV, YE. G., et al., Metallovedeniye, No 4, Apr 70, pp 16-28

Steels and alloys with carbide strengthening are less heat resistant than alloys strengthened with intermetallides. Primary carbides and chromium carbides have a high dissolution temperature (1150°C and higher) and the presence of some of them in alloys makes possible high-temperature strengthening. Laves phases are thermally stable and have an extended incubation period of formation. Compared to intermetallide γ' -phases, the strengthening effect of the Laves phases is lower. Representative heat-resistant iron-, iron-nickel-, nickel-, and cobalt-base steels and alloys are briefly reviewed, their main features and characteristics described, and designations explained. Tables in the original article provide information on iron- and iron-nickel-base steels and alloys and nickel-, and cobalt-base wrought and cast alloys. The brand names, compositions, origins, service life, and temperatures are also given. Refractor-base alloys with volume-centered cubic lattices, such as vanadium- and chromium-base alloys, are described, including their basic features, compositions, alloying elements, and service temperatures. New trends in the development

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NAZAROV, YE. G., et al., Metallovedeniye, No 4, Apr 70, pp 16-28

of heat-resistant alloys both in the USSR and elsewhere are analyzed. High-chromium nickel alloys are noted. Research in Japanese austenitic steels and alloys is discussed. Of particular interest is the solubility of ruthenium in nickel and the high melting temperature (1550°C) of Ni₃Ru. Platinum-base alloys and radioactive elements as additions to heat-resistant alloys are mentioned. Particular reference is made to alloys containing technetium (melting temperature 2170°C) obtained in nuclear reactors.

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UDC 620.186.2:669.14.018.44

MASLENKOV, S. B., VERZINA, V. K., GEVELING, N. N., and BUROVA, N. N., Central Scientific Research Institute of Ferrous Metallurgy

"Segregation Microheterogeneity in 4Kh12N8G8MFB (E1481) Heat-Resistant, Electroslag-Remelted Steel"

Moscow, Metallovedeniye, No 9, Sep 72, pp 70-72

Abstract: A comparative analysis was made of intracrystalline segregation in ingots of a 13-8-8 austenitic steel (E1481) produced by open-arc melting followed by electro-slag remelting. The composition of the remelted steel was (in %): 0.39 C, 0.41 Si, 13.4 Cr, 8.2 Mn, 8.0Ni, 1.4 V, 1.3 Mo, and 0.45 Nb. The degree of dendritic heterogeneity was evaluated by the coefficient of segregation K_s , which is the ratio of maximum concentration of an element to the minimum concentration of the element in a dendritic cell. The steel was made at the Elektrostal' Plant in a 20-ton electrical furnace. The resulting electroslag remelted ingot weighed 3200 kg. It was found that E1481 steel, alloyed with strong carbide-forming elements and carbon, experiences inter-axial segregation of the basic components. The segregation heterogeneity is determined by the nature of the macrostructure, and the maximum heterogeneity was the same for both the open-arc and electroslag melted steel. 1 figure, 1 table, 5 bibliographic references.

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MASLENKOV, S. B.

JPRS 58159
6 February 1973

UDC 669.14.018.44.6
TIN AS AN ALLOYING ELEMENT IN HEAVY-RESISTANCE ALLOYS

Article by Ye. G. Sazarov, S. B. Maslennkov, Tserikhovskiy (Central Scientific Research Institute of Ferrous Metallurgy, Leningrad), I. P. Barina; *Metallurgiya* (Moscow), 1972, No. 2, pp. 31-36, 10 refs.

Nickel-base alloys, hardened with intermetallic phases of the type γ_2 Ti, Ni₃Al, Ni₃(Al, Ti), Ni₃Sn are used extensively as refractory materials. However, nickel forms intermetallic compounds similar to the γ' -phase, with aluminum, tin, beryllium, etc.

It has been established that the stress-rupture strength of steels and alloys can be increased with additives of these elements [1-3]. A nickel-titanium alloy, containing 0.5-5% Ti and 1-10% Sn, has been developed.

However, information about the effect of microadditives of nonferrous metals on the properties of refractory alloys is extremely sparse and the principle of their beneficial action on the properties of alloys has not been established.

The effect of tin on the properties and structure of nickel-chromium alloy of the type KMTs (Table 1) is discussed in this article.

Test alloys were melted in a vacuum induction furnace from pure charge materials (Table 1).

The alloys contained 0.02-0.17% Sn, 0.002-0.005% S and up to 0.01% B.

The test specimens were made by extrusion¹ at 1,000-1,020°C.

¹Japanese Patent No. 2696, cl. 10125, 12 April 1958.
Extrusion was carried out under the supervision of G. I. Tarasenko.

USSR

UDC 669.245'26:539.4.015/019

ABRAMOV, I. V., GOLOVANENKO, S. A., MASLENKOV, S. B., and ABRAMOV, O. V.,
Moscow

"Dispersion Hardening of Nichrome Using Oxide Particles"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 6, Nov-Dec 72, pp 227-230

Abstract: Nichrome obtained by metallurgical melting methods and dispersion-hardened, using zirconium dioxide (ZrO_2) and aluminum oxide (Al_2O_3) particles, is studied. At identical levels of strength, the indices of ductility of the produced composition material are more than a unit higher than analog characteristics of the same material produced by the method of powder metallurgy. High-temperature stress-rupture strength of dispersion-hardened nichrome is considerably higher than that of common nickel base alloys and powder nickel hardened by the same oxides. The electronmicroscopic investigations of deformed nichrome, strengthened by finely dispersed particles, show high stability of ZrO_2 inclusions at temperature $1200^\circ C$.

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USSR

UDC 621.78:539.219.3

NOVIKOV, B. A., KONNOVA, I. Yu., SHCHERBEDINSKIY, G. V., GOLOVANENKO, S. A.,
and MASLENKOV, S. B., Moscow

"Carbon Redistribution and Diffusion in Bimetals"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 5, Sep-Oct 72, pp 83-87

Abstract: Using C^{14} and methods of autoradiography and radiometric layer analysis the redistribution of carbon in St. 3+OKh13 bimetal was studied for two variants: without an intermediate layer and with an intermediate nickel layer. It was shown that carbon passes from the carbon steel into the stainless steel both in the process of manufacture and during all subsequent annealings. The presence of a nickel intermediate layer inhibits the passage of carbon from steel St. 3 to OKh13 and strongly varies the nature of carbon redistribution in the contact zone.

For the purpose of selecting the best bimetal cladding layers for long-time service at elevated temperatures the temperature relationships of diffusion coefficients were determined for carbon in OKh13 ferrite steel and EI943 (OKh23N28M3D3T), EI628(OKh23N28M2T), and EI432 (OKh17N13M3T) austenitic steels. Comparison of the data on these steels showed that up to 700°C

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NOVIKOV, B. A., et al., Fizika i Khimiya Obrabotki Materialov, No 5,
Sep-Oct 72, pp 83-87

carbon penetrates EI432 steel to the greatest extent and EI943 steel to the
least extent, while about 700°C carbon penetrates OKh13 steel the greatest
and EI943 steel the least. 3 figures, 1 table, 2 bibliographic references.

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Superalloys

USSR

UDC 669.14.018.8:620.17:620.186

NIKANDROVA, YE. A., and MASLENKOV, S. B., TsNIIChermet (Central Scientific Research Institute of Ferrous Metallurgy imeni I. P. Bardin)

"The Structure and Properties of Nickel-Base Wear-Resistant Alloys"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 2, 1973,
pp 47-51

Abstract: A study was made of the effect of heat treatment on the structure and properties of new N65M20V15 and N55M20V25 corrosion-resistant alloys reserved for work in 30% hydrochloric acid and 70% sulfuric acid at up to 90°C in the capacity of wear-resistant materials. The hardness and strength of these nonmagnetic alloys is the same as of tool materials, the maximum hardness obtained on N55M20V25 alloy being HRC 53. In hardened condition, N65M20V15 alloy has the structure of δ -solid solution with a face-centered cubic lattice and N55M20V25 alloy has the structure of $\alpha + \delta$ -solid solution. The high hardness of these materials after aging is obtained at the expense of falling out of the tetragonal $Ni_4(Mo, W)$ -phase and the M_6C carbide. The advantageous effects of the present α -phase on Mo base in the N55M20V25 alloy, in contrast to the N65M20V15 alloy, are indicated. The $Ni_4(Mo, W)$ -
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NIKANDROVA, YE. A., and MASLENKOV, S. B., Metallovedeniye i Termicheskaya Obrabotka Metallov, No 2, 1973. pp 47-51

phase favors a retention of high hardness up to 600°C at short-term and long-term (up to 1000 hrs) tests. Optimum hardness, strength, and plasticity properties resulted on N55M20V25 alloy in the overaged state. Five figures, three tables.

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UDC 620.186:69.24'25

USSR

GEVELING, N. N., and MASLENKOV, S. B., Central Scientific Research Institute
of Ferrous Metallurgy

"Structure and Composition of Phases in the Crystallization of Eutectic
Ni-Cr Alloys"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 1, Jan 73,
pp 29-35

Abstract: The compositions of phases in eutectic Ni-Cr alloys was investigated for the purpose of a systematic quantitative analysis of distribution of components in the phases in conjunction with the morphological features of structures and the phase diagram features. It was found that in both hypoeutectic and hypereutectic Ni-Cr alloys, close to eutectic in composition, nucleation of primary dendrites of the alpha-phase (rich in chromium) can be observed primarily in the volume of the melt. Conversely, the gamma-phase (rich in nickel) is nucleated on the surface of the cooling ingot and, as an exception, on the primary dendrites of the alpha-phase. Crystallization of the eutectic in alloys rich with chromium, in comparison with the eutectic composition, occurs only after the formation of the gamma-phase ring around the primary dendrites of the alpha-phase. Excess primary
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USSR

GEVELING, N. N., and MASLENKOV, S. B., Metallovedeniye i Termicheskaya Obrabotka Metallov, No 1, Jan 73, pp 29-35

crystals of the alpha- and gamma-phases are characterized by a higher degree of supersaturation of the second component than the same phases solidifying in the composition of eutectic colonies. Relative supersaturation in comparison with equilibrium values for primary and eutectic crystals of the alpha-phase is higher than for gamma-phase crystals. The nature and intensity of precipitation in the solid phases of eutectic alloys have been associated with crystallization form and the corresponding supersaturation of the second component. The most intense precipitation occurs in the dendrites and primary crystals. At the same time precipitation is strongly retarded in the crystals of phases which form eutectic colonies due to the low supersaturation. 3 figures, 1 table, 10 bibliographic references.

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USSR

UDC:669.1.017

~~MASLENKOV, S. V.~~

"The Relationship of Dendritic Liquefaction to the Type of State Diagrams"

Spetsial'nyye Stali i Splavy [Special Steels and Alloys--Collection of Works],
No 77, Metallurgiya Press, 1970, pp 7-11

Translation: The relationship between the degree of dendritic liquefaction and the type of state diagram of binary, ternary, and more complex alloys, established by the author, is presented. It is demonstrated that significant liquefaction is observed only in alloys in which strong chemical interaction of the components occurs in the liquid.

Liquefaction and redistribution of carbon are related to the distribution of the elements influencing its activity. 2 figures; 2 tables; 3 biblio. refs.

1/1

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1/2 013 UNCLASSIFIED PROCESSING DATE--30OCT70
 TITLE--VARIATION IN THE STRUCTURE OF COPPER NICKEL CONVERTER MATTES WITH
 COOLING CONDITIONS -U-
 AUTHOR-(02)-MASLENITSKY, I.N., TRAVNICHEK, M.N.

COUNTRY OF INFO--USSR
 SOURCE--IZVEST. V.U.Z., TSVETNAYA MET., 1970, (1), 31-34
 DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR
 TOPIC TAGS--SULFIDE MATTE, COPPER, NICKEL, SMELTING FURANCE, ORE
 BENEFICIATION, EXTRACTIVE METALLURGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAME--2000/1550

STEP NO--UR/0149/70/000/001/0031/0034

CIRC ACCESSION NO--AP0125176
 UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--30OCT70

2/2 013

CIRC ACCESSION NO--AP0125176

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

ABSTRACT. THE EFFECT OF COOLING CONDITIONS ON THE STRUCTURE OF CU-NI CONVERTER MATTES WAS STUDIED. INCREASING THE PERIOD OF COOLING CAUSED THE PRODUCTION OF A COARSER STRUCTURE, REDUCING THE PROPORTION OF SEGREGATION IN THE FINE MATTE. AN OPTIMUM STRUCTURE WAS OBTAINED BY COOLING OVER 6-8 DAYS. ANY SHORTENING OF THIS PERIOD HAD A HARMFUL EFFECT ON QUALITY, THIS EFFECT BEING GREATER FOR THE CU AND THE NI CONCENTRATE.

UNCLASSIFIED

1/2 012

UNCLASSIFIED

PROCESSING DATE--16OCT70

TITLE--MAGNETOOPTICAL METHOD FOR STUDYING PHOSPHORIC ACIDS -U-

AUTHOR--(05)-BORISOV, V.M., MASLENNIKOV, B.M., SAMOYLOV, V.A., GUBAREVA, V.N., KONANYKHINA, L.N.

COUNTRY OF INFO--USSR

SOURCE--KHIM. PROM. MOSCOW 1970, 46(3), 190-1

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PHOSPHORIC ACID, MAGNETOOPTIC EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FAME--1996/0886

STEP NO--UR/0064/70/046/003/0190/0191

CIRC ACCESSION NO--AP0118055

UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0118055

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CHANGE IN VERDET'S CONST. DELTA DELTA OF AQ. POLYPHOSPHORIC ACID SOLNS. WAS TRACED (AS A FUNCTION OF P SUB2 O SUB5 CONC.) AT 35DEGREES AND A WAVELENGTH OF 500 NM; DELTA DELTA INCREASED FROM 10 TIMES 10 PRIME NEGATIVES AND THEN DECREASED TO 25 TIMES 10 PRIME NEGATIVES MIN-CM SEC WHEN THE P SUB2 O SUB5 CONC. WAS INCREASED FROM 10 TO 40 TO 70 WT. PERCENT, RESP., AND INCREASED CONTINUOUSLY AT HIGHER P SUB2 O SUB5 CONCNS.

UNCLASSIFIED

UDC 547.341

USSR

~~MASHLYAKOVSKIY~~, L. N., ZAGUDAYEVA, T. A., IONIN, B. I., and
OKHRIMENKO, I. S., Leningrad Technical Institute *meni* Lensovet

"Synthesis of Ester Acid Chlorides, Mixed Esters and Amidoesters of
1,3-Dienylphosphonic Acids"

Leningrad, Zhurnal Obshchey Khimii, Vol 41 (103), No 2, Feb 71,
pp 330-335

Abstract: The reaction of acid dichlorides with primary or secondary alcohols in presence of tertiary bases leads to replacement of Cl atoms with formation of esters of acid chlorides, mixed esters and ester amides 1,3-dienylphosphonic acids. The following compounds were synthesized formula, b.p./mm, d_4^{20} , and n_D^{20} being reported $CH_2=CHC(CH_3)=CHP(O)(CC_2H_5)Cl$, 88°/1.5, 1.1541, 1.5055; $CH_3CH=CHCH=CHP(O)(CC_2H_5)Cl$, 108-110°/2, 1.1622, 1.5172; $CH_3CH=CHCH=CHP(O)(CC_2H_5)N(C_2H_5)_2$, 109-111°/3.5, 1.0214, 1.1167, 1.5002; $CH_2=CHC(CH_3)=CHP(O)(CCH_3)CC_2H_5$, 85.5-86°/1, 1.0674, 1.4832; $CH_2=CHC(CH_3)=CHP(O)(CCH_3)O$ -iso- C_3H_7 , 91-93°/2, 1.0846, 1.4856; $CH_2=CHC(CH_3)=CHP(O)(CCH_3)N(C_2H_5)_2$, 93-94°/1, 1.0225, 1.4928, 1.4852; $CH_3CH=CHCH=CHP(O)(CCH_3)$ -iso- C_3H_7 , 84-86°/3, 1.0519, 1.4797; $CH_2=CHCH=CHP(O)(CCH_3)CC_2H_5$, 79-80°/1, 1.0667, 1.4796.

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USSR

UGC 539.67

ARTYEMENKO, A. G., LEVIN, Yu. N., MASLENNIKOV, E. M., PESIN, M. S., and
POSTNIKOV, V. S.

"Mechanism of Energy Absorption in Diffusion Shape Variation of Impurities
in Binary Alloys"

Sb. "Vnutrenneye treniye v metallicheskih materialakh" (Internal Friction in
Metallic Materials), Moscow, Izd-vo "Nauka," 1970, pp 159-163

Abstract: A short description and an experimental verification by the internal
friction method of the energy absorption mechanism in diffusion shape variation
of impurities in binary alloys are presented.

Alloys of Cd-Ge, Zn-Ge, and Bi-Ag eutectic composition systems were
used as impurity-containing alloys. Peaks related to diffusion, occurring
along the impurities boundaries as a result of the onset of an inhomogeneous
stress state during measurements, were obtained on internal friction
amplitude-dependence curves.

The results obtained confirm the theory of the impurities diffusion shape
variation mechanism developed earlier. 2 figures, 6 references.

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USSR

UDC: 621.373.431

SEMAKOV, P. M., MASLENNIKOV, G. B.

"A Master Ultralow-Frequency Oscillator"

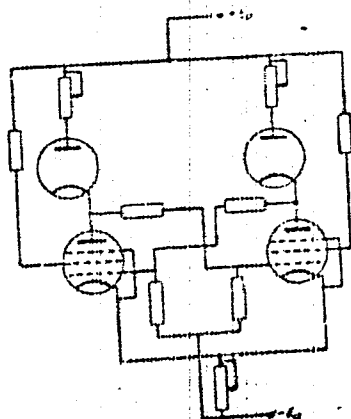
Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztuy, Tovarnyye Znaki, No 4, 1970, p 31, patent No 260676, filed 19 Jun 68

Abstract: This Author's Certificate introduces a master ultralow frequency oscillator based on a two-pentode push-pull circuit. As a distinguishing feature of the patent, the frequency range is extended and operating stability and reliability are improved by connecting a self-heating diode in the plate circuit of each pentode, the cathode of this diode being connected to the plate of the pentode, while the anode is connected to the load resistor of the same pentode.

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USSR

SHMAKOV, P. M., MASLENNIKOV, G. B., Otkrytiya, Izobreteniya, Promyshlennyye
Obraztsy, Tovarnyye Znaki, No 4, 1970, p 31, patent No 260676, filed 19 Jun 68



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USSR

UDC 621.646.2

MASLENNIKOV, G. P., KRASIL'NIKOV, G. V., TARAKANOV, Ye. V., and SOKOLOV, A. D.,
Technological and Scientific Research Institute of Planning, Ministry of the
Motor Vehicle Industry of the USSR

"A Programmed Control Device"

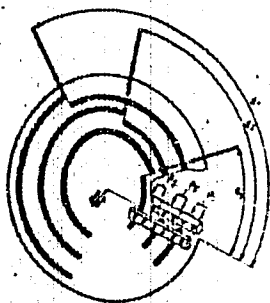
Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki,
No 22, Aug 71, Author's Certificate No 309355, Division G, filed 1 Sep 69,
published 9 July 71, p 186

Translation: This Author's Certificate introduces a programmed control device for test stands. The device contains a program cycle input controller, a comparison module, a parameter data unit, and a parameter regulator. As a distinguishing feature of the patent, the design is simplified by making the comparison module in the form of a disc with open slots mounted on the axle of the parameter data unit. Each pair of slots is displaced by an angle corresponding to the predetermined value of the parameter. The disc is located between supply and reception nozzles, the first being connected in pairs to the outputs of the program cycle input controller, while the second are connected to the parameter regulator.

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USSR

MASLENNIKOV, G. P., et al., Otkrytiya, izobreneniya, promyshlennyye obraztsy, tovarnyye znaki, No 22, Aug 71, Author's Certificate No 309355, Division G, filed 1 Sep 69, published 9 July 71, p 186



2/2

USSR

UDC 547.241

LAVRENT'YEV, A. N., MASLENNIKOV, I. G., and SOCHILIN, Ye. G., Leningrad Technological Institute imeni Lensovet

"Synthesis of Tris(heptafluoropropyl)phosphine and Mixed Tertiary Phosphines"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 12, Dec 73, pp 2663-2665

Abstract: Tris(heptafluoropropyl)phosphine, b.p. 142° has been obtained from bis(heptafluoropropyl)iodophosphine and heptafluoroiodopropane in presence of metallic antimony. Analogously trifluoromethylbis(heptafluoropropyl)phosphine, b.p. 112-113° and bis(trifluoromethyl)heptafluoropropylphosphine, b.p. 67-68° and some mixed tertiary phosphines were obtained.

1/1

- 50 -

AA0047845

MASLENNIKOV, N.R.

UR 0482

Soviet Inventions Illustrated, Section III Mechanical and General, Derwent, 1/70

241837 INERTIA COUPLING consisting of a driving shaft with a disc 2 and driven shaft with cruciform disc 4. In order to provide simplicity of design, the driving disc has inertia triangles 6 which can rotate on axes 5. When the driving shaft begins to rotate, the triangles turn under the effect of effort P and the coupling is rigid, since the transmission of the driving shaft's effort is made through the fixed contact between the edges of the triangle and the cruciform disc. As the revolutions increase there is an increase in centrifugal force F, which is applied to the mass centre of each triangle. Forces F and P create moments M_1 and M_2 round axes 5, and when moment M_1 increases with the revolutions to exceed M_2 the triangles start to turn clockwise on their axes, and the transmission of effort is then through the points of contact between the triangles and the cruciform arms. At established revs. the triangles will occupy a position where $M_1 = M_2$

257

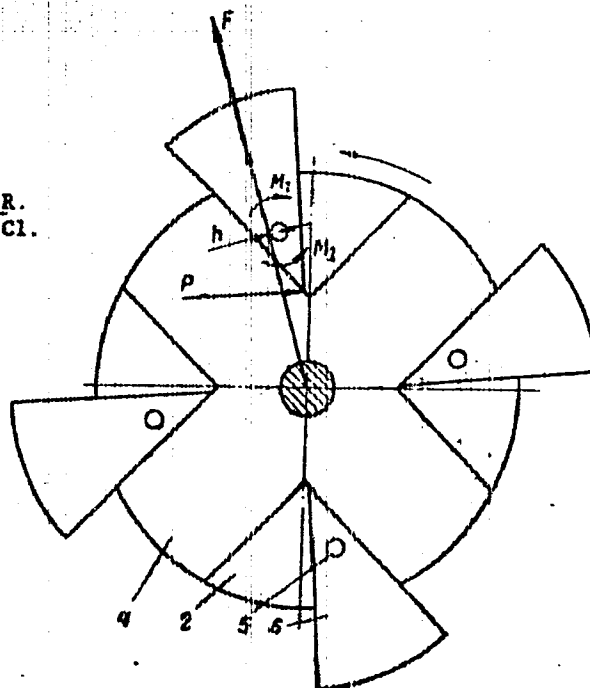
1/2

18

19791506

AA0047845

30.1.67. as 1129716/25-27, MASLENNIKOV, N.R.
(4.9.69) Bul. 14/18.4.69. Class 47c, Int. Cl.
F 16d.



19791507

USSR

UDC: 621.317.3:[621.315.61+621.315.592]

3

URYVSKIY, Yu. I., SYNOROV, V. F., CHURIKOV, A. A., POPOV, V. A., KONONOV,
V. I., LAVRENT'YEV, K. A., MASLENNIKOV, P. N.

"Ellipsometric Method of Checking Dielectric and Semiconductor Films"

Elektron. prom-st'. Nauch.-tekhn. sb. (The Electronics Industry. Scientific and Technical Collection), 1972, No 2, pp 82-83 (from RZh-Radiotekhnika, No 12, Dec 72, abstract No 12A393 by A. K.)

Translation: The ellipsometric inspection method is distinguished by high information capacity and resolution: It enables simultaneous measurement of the thickness and index of refraction of the film on a substrate during production with accuracy of up to 1 nm and 0.05 respectively. The method is based on determining the change in parameters of polarized light reflected from the surface being studied.

1/1

USSR

UDC 621.315.592.3

RUDNEV, V. V., MASLENNIKOV, P. N., NAZAROV, V. A., ZOLOTAREVA, R. V.,
ANTROPOV, V. D.

"Ion Implantation -- New Method of Alloying Semiconductors"

Elektron. tekhnika. Nauchno-tekhn. sb. Materialy (Electronic Engineering,
Scientific and Technical Collection. Materials), 1970, vyp. 5, pp 148-149
(from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G483)

Translation: Results are presented of studying ion alloying of semiconductors on the basis of materials published in Soviet and foreign literature. The basic areas of application of ion beams in the technological process for manufacturing semiconductor instruments are investigated. The effect of penetration of the ions into amorphous and crystalline substrates is described in detail. The effect of the energy of the incident ions, the atomic mass of the substrate, and its crystallinity and orientation on the magnitude of the ion path in the solid state is investigated. A procedure for calculating the mean ion path is presented.

1/1

- 61 -

USSR

UDC 621.377.015.021.79.021(005.5)

KONDRAT'YEV, A. B., MASLENNIKOV, P. N., KONDRAT'YEV, V. P., ZEMSKOV, O. A.,
DANILOV, O. M., and ZENGIN, V. V.

"Apparatus for the Electrochemical Treatment of Small Diameter Holes"

USSR Author's Certificate No 284879, Filed 25 Jun 68, Published 6 Mar 72 (from
Referativnyy Zhurnal -- Khimiya, No 21(II), 1972, Abstract No 211288P by
A. D. Davydov)

Translation: The new patented apparatus contains a tank for electrolyte, the
power source, and a cathode in the shape of a thin rod. It is suitable for the
treatment of small diameter holes in items made of low-magnetic alloys such as
VK6, VK8, and VK15. It differs from other similar apparatus by the presence of
a magnetic lens (in a shape of the shielded coil), with the cathode-instrument
placed within its field. The cathode is made of paramagnetic material, in order
to prevent the concentration of magnetic power lines in it.

1/1

USSR

UDC: 621.317.743

SHAKHMARDANOV, Sh. M., MASLENNIKOV, M. K.

"A Noise Generator"

Uch. zap. Azerb. in-t nefti i khimii (Scientific Notes of the Azerbaydzhani Institute of Petroleum and Chemistry), 1970, ser. 9, No 1, pp 29-32 (from RZh-Radiotekhnika, No 2, Feb 71, Abstract No 2A277)

Translation: The authors describe a noise generator developed for laboratory studies of the interference resistance of reception equipment in a hydraulic communications channel designed for transmitting depth parameters during turbodrill well boring. The generator is designed for a noise frequency of 0.8-5 Hz. The basic elements of the generator circuit are a step switch and a multivibrator with a prf of 10 Hz which controls operation of the step switch. Four illustrations, bibliography of two titles. N. S.

1/1

- 50 -

USSR

UDC 547.26*118

KRYSOV, V. V., ~~MASLENNIKOV, V. P.~~, SERGEYEVA, V. P.

"Synthesis and Some Physical and Chemical Properties of Sec-Butyl Peroxydiethyl Phosphate"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), No 7, Jul 72, p 1649

Abstract: The sodium salt of sec-butyl hydroperoxide reacted with diethyl chlorophosphate to give sec-butyl peroxydiethyl phosphate $(C_2H_5O)_2P(O)OCH(CH_3)C_2H_5$. The compound is easily hydrolyzed. Thermal dissociation in n-hexane at $140^{\circ}C$ gives a high yield of methyl ethyl ketone and diethylphosphoric acid.

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the first being less stable at room temperature than the second. In n-nonane solution (I) decomposes quite rapidly at 90°, while (II) just begins to decompose at 130°, yielding a series of compounds. This thermal decomposition is well described by a kinetic equation of the zero order with regard to the peroxide. Changing the specific surface of the vessel has no effect on the rate of decomposition, which points out the homogeneity of the process. Increasing the
1/2

USSR

UDC 547.26.1.18

MASLENNIKOV, V. P., SERGEYEVA, V. P., SUKHICH, N. G., Gor'ki State University imeni N. I. Lobachevskiy, Gorkiy, Ministry of Higher and Secondary Specialized Education RSFSR

"Decomposition of Some Phosphorus-Containing Peroxides in n-Nonane"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 9, Sep 70, pp 2019-2021

Abstract: Di-tert-butylperoxyethylphosphonate (I) and tert-butyl-
ethylphosphonate (II) ^{20 1 1988} ^{20 1 001} were

USSR

MASLENNIKOV, V. P., et al. Zhurnal Obshchey Khimii, Vol 40, No 9,
Sep 70, pp 2019-2021

initial concentration of the peroxides increases the reaction rate. However, the decomposition products have an effect on the reaction rate and activation energy of the process. It is proposed that decomposition of (I) and (II) occurs by a homolytic and a heterolytic mechanism concurrently.

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USSR

U DC 517.26'118

MASLENNIKOV, V. P., SERGEYEVA, V. P.

"Synthesis and Some Properties of tert-Butylperoxyphenylethoxyphosphonate"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 8, Aug 70, p 1906

Abstract: tert-Butylperoxyphenylethoxyphosphonate (d_4^{20} 1.052, n_D^{20} 1.4852) was obtained from the reaction of sodium salt of tert-butylhydroperoxide and phenylethoxychlorophosphonate.

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Acc. Nr:

AP0053427

Abstracting Service:
CHEMICAL ABST.

Ref. Code:

4R 0079

110597u Decomposition of tris(tert-butyl peroxy)boron to hydrocarbons. Gerbert, G. P.; Maslennikov, N. F.; Shushunov, V. A. (Nauch.-Issled. Inst. Khim., Gor'k. Gos. Univ. im. Lobachevskogo, Gorki, USSR). *Zh. Obshch. Khim.* 1970, 40(1), 131-5 (Russ). Kinetic data were presented for pyrolysis of $(Me_3CO)_2B(I)$ in nonane and in cumene in the 130-90° interval. The reaction products were H_2BO_2 , Me_3COH , CH_4 , and esters of H_2BO_2 . In cumene the latter esters were not formed, but they amounted to some 0.48 mole in nonane after pyrolysis at 160°. The product distribution was tabulated for the various temps.; while CH_4 was a minor product, Me_3COH was the main decompn. product. A reaction scheme was proposed. Addn. of the principal reaction products to the mixt. did not affect the rate of conversion of I but addn. of $(Me_3CO)_2$ did accelerate the reaction, as expected. The effective rate const. could be calcd. for the overall reaction on the basis of 1st order kinetics. The activation energy for the reaction in nonane is 18.4 kcal/mole.

G. M. Kosoiapoff

REEL/FRAME
19830452

Acc. Nr:

AP0049122

Abstracting Service:

CHEMICAL ABST. 5/70

Ref. Code:

UR 0029

100195x Synthesis and thermal decomposition of dibutoxy-cumylperoxyboron in n-nonane. Maslennikov, V. P.; Gerbert, G. P.; Khodaley, G. E. (USSR). *Zh. Obshch. Khim.* 1970, 40(1), 245 (Russ). (BuO)₂BCl and NaO₂CMe₂Ph gave (BuO)₂BO₂CMe₂Ph, d₄²⁰ 0.975, n_D²⁰ 1.4767, which is hydrolyzed by moisture at extraordinary rate. Pyrolysis of it in nonane gave 75% PhMe; COH, 20% AcPh, 20% CH₄, 98% esters of H₃BO₃, and 4.5% dinonyl. Hydrolysis of the mixt. gave nonyl alc. indicating the presence, in the decompn. products of borate esters, of the solvent radical component. Evidently in the attack of the peroxide by the nonyl radical a displacement occurs at the cumyloxy grouping. The reaction is free radical. G. M. Kosolapoff.

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REEL/FRAME
19800926

7A

USSR

UDC 547.26'118

MASLENNIKOV, V. P., SERGEYEVA, V. P., and SHUSHUNCV, V. A. (deceased), Gor'ki State University Imeni N. I. Lobachevskiy

"Decomposition of Organophosphoric Peroxide Compounds"

Moscow, Doklady Akademii Nauk SSSR, Vol 209, No 5, Apr 73, pp 1109-1112

Abstract: The aim of this study has been the investigation of the effect of organic fragment connected to the phosphorus atom and of the radicals on the peroxide link oxygen on the reactivity of phosphorus containing peroxides. It has been established that during the thermal decomposition of organophosphoric peroxides the primary reactions appear to be the homolytic split of the peroxide bond and rearrangement of the starting material into the isomeric product. The rate of the conversion of organophosphoric peroxides in n-nonane is independent of the type of radical connected to the phosphorus atom. The use of solvents with high dielectric permeability or those specifically reacting with the substrate results in a breakdown of the peroxide via a rearrangement.

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USSR

UDC: 621.375.132

MASLENNIKOV, V. V.

"Low-Frequency Selective RC Amplifiers Using Field-Effect Transistors"

Moscow, Elektrosvyaz', No. 12, 1970, pp 42-44

Abstract: The advantage of RC selective circuits is the small space they occupy, especially in the form of integrated circuitry. The author proposes such an amplifier, with two differentiating circuits in a direct amplification strip and a frequency-independent series feedback circuit for current consisting of field-effect transistors with p-n junctions. In this circuit made up of identical, balanced amplifiers in cascade, the junction capacitances together with the inverse feedback circuit provide the selective amplitude-frequency characteristic. Field-effect transistors are used because their amplification factors change only slightly in the +20°C to 70°C range, and because their low drain currents result in low power demands. A schematic of the circuit and a table

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USSR

MASLENNIKOV, V. V., Elektrosvyaz', No 12, 1970, pp 42-44

of its parameters for the two temperature extremes are presented, and design formulas are given. During the tuning procedure, done by varying one of the differentiating circuit capacitances, the Q and resonance amplification are practically constant.

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- 2 -

USSR

UDC: 621.375.132

MASLENNIKOV, V. V.

"Transistorized Selective RC Amplifiers With Electronic Frequency Control"

V sb. poluprovodn. pribory v tekhn. elektrosvazi (Semiconductor Devices in Technical Electrical Communications--collection of works), Moscow, "Svyaz", 1970, pp 22-34 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1D11)

Translation: The author considers the circuit of a three-stage selective amplifier with two and three integrating circuits in the forward amplification channel and a frequency-independent series-connected negative feedback circuit. Conditions are presented for independence of the resonance frequency of the amplifier with respect to transistor parameters. Results are given from temperature tests of an amplifier with resonance frequency control by means of two or three varactors. Bibliography of 14 titles.

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1/2 020 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--INTERACTION OF HIGH VOLTAGE PORCELAIN WITH GLAZE -U-

AUTHOR--(02)-MASLENNIKOVA, G.N., KOCHETKOVA, N.F.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(3), 542-6

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--PORCELAIN, THERMAL EXPANSION, SPECIALIZED COATING, HIGH VOLTAGE LINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0632

STEP NO--UR/0363/70/036/003/0542/0546

CIRC ACCESSION NO--AP0119544

UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119544

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INFLUENCE OF THE INTERACTION BETWEEN GLAZE AND HIGH VOLTAGE PORCELAIN ON THE CHANGE IN THE THERMAL EXPANSION COEFF. OF THE INTERMEDIARY GLAZE LAYER WAS INVESTIGATED. THIS REACTION CAN BE CONSIDERED AS BEING A REACTION OF THE DISSOLN. OF THE SOLID PHASE OF PORCELAIN IN THE LIQ. PHASE OF THE GLAZE. IT IS THUS SHOWN THAT DURING THE FIRING OF PORCELAIN ARTICLES THE PORCELAIN INTERACTS WITH THE GLAZE THEREBY FORMING AN INTERMEDIARY LAYER, BEING A GLAZE WHICH HAS ASSIMILATED UP TO 40-5PERCENT PORCELAIN (1320DEGREES). AS A RESULT OF THIS, THE CHEM. COMPN. OF THE GLAZE COATING CHANGES, AND CONSEQUENTLY ALSO ITS THERMAL EXPANSION COEFF., THEREBY EXERTING AN EFFECT ON THE MECH. STRENGTH VALUE OF THE GLAZED SAMPLES. THE THERMAL EXPANSION COEFF. OF THE INTERMEDIARY LAYER DECREASES AS COMPARED TO THE THERMAL EXPANSION COEFF. OF PORCELAIN, WHICH ENHANCES INCREASED MECH. STRENGTH OF GLAZED PROCELAIN ARTICLES AS COMPARED TO THE NONGLAZED ONES. WHEN SELECTING THE GLAZES FOR INTERACTION WITH HIGH VOLTAGE PORCELAIN ONE MUST TAKE INTO CONSIDERATION THE ROLE OF THE INTERMEDIARY LAYER, THE CHEM. AND THE PHASE COMPN. OF WHICH DIFFER FROM THE CHEM. AND THE PHASE COMPN. OF THE GLAZE COATING. FACILITY: MOSK. INZH.-EKON. INST. IM. OROZHONIKIDZE, MOSCOW, USSR.

UNCLASSIFIED

Inorganic Compounds

USSR

UDC 543.422

MASLENNIKOVA, I. S., and SHEMYAKIN, V. N."The Metal Complexes of o-Aminophenylarsonic Acid"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 46, Vyp 4, 1972, pp 1004-1005

Abstract: Complexes of o-aminophenylarsonic acid (HL) were prepared from CoCl_2 , NiCl_2 , CuCl_2 , CuBr_2 , $\text{Cu}(\text{NO}_3)_2$, CuSO_4 , $\text{Cu}(\text{acetate})_2$, ZnCl_2 , CdCl_2 , CdBr_2 , and CdI_2 . Although the ligand may coordinate with the central atom through either of two groups, analysis of the IR spectra in the N-H vibration range (about 3200 to 3450 cm^{-1}) indicates that N is the bond donor. Other parameters measured were the N-H bond length - 1.01 Å, the H-N-H bond angle - 113° , the overlap interval I_s - 0.6474, and the additional positive charge on the N - from 0.38 to 0.65 with most of the values around 0.44.

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USSR

UDC 612.58

ISAAKYAN, L. A., MASLENNIKOVA, L. S., OL'NYANSKAYA, R. P., and TRUBETSINA, G. A.
Group for the Study of the Physiology of Biadaptation, Institute of Physiology
imeni I. P. Pavlov, USSR Academy of Sciences, Leningrad

"On Certain Changes in Oxygen Metabolism in the Animal Organism and Tissues
During Cold Adaptation"

Leningrad, Fiziologicheskii Zhurnal SSSR imeni I. M. Sechenova, Vol 59,
No 11, Nov 73. pp 1.742-1.749

Abstract: White rats and golden hamsters were subjected to intermittent adaptation to 4°C. Control animals were maintained at 22°C. In vivo and in vitro studies demonstrated that oxygen consumption was greater in cold-adapted animals, as well as in their organs and tissues. However, increased oxygen consumption was not accompanied in the adapted animals by increased contractile function of the muscles. Muscle bioelectric activity in cold-adapted animals was lower than in control animals. The calorogenic effect of norepinephrine was greater and longer in adapted animals than in controls; a possible explanation of this effect was dissociation of oxidative phosphorylation in the adapted animals.

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Acc. Nr: **AP0055923**

Abstracting Service:
CHEMICAL ABST. 4-70

Ref. Code:
480078

M

116345g Infrared spectra of complexes of methylamine and ethylamine with cupric chloride. Kononov, L. V.; Maslennikova, L. S.; Shemyakin, V. N. (USSR). *Zh. Neorg. Khim.* 1970, 15(2), 371-2 (Russ). The ir absorption max. of N-H shifted to lower frequencies on coordination of MeNH₂ or EtNH₂ to CuCl₂. CuCl₂·2MeNH₂·2HCl and CuCl₂·2EtNH₂·2HCl (I) had ν(CuN) at 580 cm⁻¹ and νCuCl at 312 and 294 cm⁻¹, resp. When I was prepd. in alc. instead in aq.-alc. soln., a strong new (not yet assigned) band appeared at 228 cm⁻¹. IIMJR

pc

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19841252

USSR

ANZON, Z. V., et al, Institute of Nuclear Physics, Academy of Sciences, Kazakh SSR, Alma-Ata; BOZOKI, G., et al, Central Research Institute of Physics, Budapest; DALAKHAZHAY, N., et al, High-Energy Laboratory, Joint Institute of Nuclear Research, Dubna; BABETSKIY, Ya., et al, Laboratory of High-Energy Physics, Institute of Nuclear Research, Polish Academy of Sciences, Krakow; MASLENNIKOVA, N. V., TRET'YAKOVA, M. I., CHERNYAVSKIY, M. M., Physics Institute imeni P. N. Lebedev of the Academy of Sciences, USSR, Moscow; ALENSEYEV, K. I., Scientific Research Institute of Nuclear Physics, Moscow State University, Moscow; CHERNEV, Kn., TODOROV, P. T., Institute of Nuclear Physics, Academy of Sciences of the People's Republic of Bulgaria, Sofia; TUVDENDORZH, D., SHARKHI, D., CHADRAL, V., Institute of Physics and Mathematics of the Academy of Sciences, Mongol People's Republic, Ulan-Bator); AZIMOV, S. A., et al, Institute of Nuclear Physics Academy of Sciences, Uzbek SSR, Tashkent

"Coherent Generation of Particles by π -Mesons With Momenta of 45 and 60 Giga-electron-Volts/Sec on the Basis of Photoemulsion Nuclei"

Moscow, Izvestiya Akademii Nauk SSR. Seriya Fizicheskaya, No 9, 1970, pp 1938-1943

Abstract: In the present report are presented data concerning the coherent generation of π -mesons by π -mesons at 45 and 60 gigaelectron-volts/sec, obtained by means of nuclear photoemulsion by the laboratories of a number of institutes

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USSR

ANZON, Z. V., ET AL, Izvestiya Akademii Nauk SSR. Seriya Fizicheskaya, No 9, 1970, pp 1938-1943

of the Soviet Union and countries of the Soviet bloc. The joint study was organized by the Photoemulsion Committee of the Joint Institute of Nuclear Research. The preliminary results of this project were presented at the International Conference on Elementary Particles in Lund in June 1969 and at the International Conference on Cosmic Rays in Budapest in August 1969. The path value of the coherent generation of three and five charged particles is obtained from the distribution of charged particles and the angular characteristics of secondary particles on the basis of multiplicity. Comparison of the path value with the corresponding values at lower and higher energies shows a decrease of the run (and, consequently, an increase of the coherent particle-generation cross section) as the energy increases. 5 figures, 11 bibliographic entries.

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USSR

UDC 517.946

MASLENNIKOVA, Y. N., Mathematics Institute imeni V. A. Steklov, Academy of Sciences USSR

"Asymptotic Behavior, Given $t \rightarrow \infty$, of Solution of Cauchy Problem for a Hyperbolic System Describing Motion of a Rotating Fluid"

Minsk, *Differentsial'nyye Uravneniya*, Vol 8, No 1, Jan 72, pp 85-96

Abstract: The following linear system describing the motion of a rotating compressible fluid (acoustic system) is considered:

$$\begin{cases} \frac{\partial \vec{v}}{\partial t} - [\vec{v}, \vec{\omega}] \cdot \text{grad } P = \vec{F}(x, t), \\ \alpha^2 \frac{\partial P}{\partial t} + \text{div } \vec{v} = W(x, t) \end{cases} \quad (1)$$

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USSR

MASLENNIKOVA, V. N., *Differentsial'nyye Uravneniya*, Vol 8, No 1, Jan 72: pp 85-96

in the region $\{x \in E_3, t \geq 0\}$, where $\vec{v}(x, t) = (v_1, v_2, v_3)$,
 $\vec{\omega} = (0, 0, \omega)$, $\omega = \text{const}$, $[\vec{v}, \vec{\omega}]$ is the vector product, $\alpha = \text{const}$ is
 the compressibility factor. System (1) is symmetric hyperbolic according to
 Friedrichs with multiple characteristics in a previous article the author
 obtained an explicit solution of the Cauchy problem

$$\vec{v}(x, t)|_{t=0} = \vec{v}^0(x), P(x, t)|_{t=0} = P^0(x) \quad (2)$$

for system (1) and noncoercive evaluations in L_p for this solution. At the
 same time, it was shown that there can be no "coercive" evaluations in L_p ; i.e.,
 evaluations of the type

2/4

USSR

MASLENNIKOVA, V. N., *Differentsial'nyye Uravneniya*, Vol 8, No 1, Jan 72, pp 85-96

$$\|\vec{v}\|_{L_p} + \|P\|_{L_p} \leq C (\|\vec{v}^0\|_{L_p} + \|P^0\|_{L_p}),$$

given $p \neq 2$. The present article gives complete proof of a theorem on the rate of decrease in the solution of problem (2) for the homogeneous system

$$\begin{cases} \frac{\partial \vec{v}}{\partial t} - [\vec{v}, \vec{\omega}] + \text{grad } P = 0, \\ \alpha^2 \frac{\partial P}{\partial t} + \text{div } \vec{v} = 0, \end{cases}$$

given $t \rightarrow \infty$. The theorem states that the solution decreases in t as $O\left(\frac{1}{t}\right)$

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USSR

MASLENNIKOVA, V. N., *Differentsial'nyye Uravneniya*, Vol 8, No 1, Jan 72, pp 85-96

for any x belonging to an arbitrary compact. A comparison is made of the corresponding asymptotic behavior for the system considered and for a system without compressibility. It is shown that it is the same, and the dominant terms are determined by the lowest terms $[\vec{v}, \vec{\omega}]$ in system (1) rather than by one of the leading terms $\alpha^2 \frac{\partial P}{\partial t}$. This is apparently due to the presence of multiple characteristics in the system.

4/4

- 6 -

USSR

UDC 621.378

BORISEVICH, N. A., KALOSHA, I. I., LAVRUSHIN, V. F., MASLENNIKOVA, V. P.,
TOLKACHEV, V. A.

"Generation Capacity of Isomer 1,4-Dipyrazolenylbenzenes"

Minsk, Zhurnal Prikladnoy Spektroskopii, No. 1, Jan 72, pp 45-48

Abstract: A large group of the 1,4-dipyrazolenylbenzenes of the structure 1,4-di(n' - R_n ,- m' - m' - R_m ,- Δ^2' -pyrazolenyl- k') benzene was investigated; where n denotes 1 or 3 positions; m is 3, 5; k is 1, 3, or 5; and R_n and R_m are aryl or methyl substitutes in the position n' and m' . The fluorescence and desorption spectra and the relative quantum yield of this class have been thoroughly investigated. Three groups of compounds were studied under excitation of the second harmonic of a ruby laser: 1,4-di(1'-aryl-3'-aryl- Δ^2' -pyrazolenyl-5') benzenes (16 substances) and 1,4-di(1'-methyl-3'-phenylpyrazolenyl-5') benzenes (A); 1,4-di(1'-aryl-5'-aryl- Δ^2' -pyrazolenyl-3') benzenes (12 substances) and 1,4-di(1'-methyl-5'-phenylpyrazolenyl-3') benzene (B); and 1,4-di(5'-aryl-3'-aryl- Δ^2' -pyrazolenyl-1') benzenes (8 substances) (C). Only compounds of group (B) are generated. Generation on two wavelengths corresponding to the

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USSR

BORISEVICH, N. A., et al, Zhurnal Prikladnoy Spektroskopii, No. 1, Jan 72,
pp 45-48

oscillatory maxima of the fluorescence spectra was observed in the majority of (B) compounds. The generation wavelength is in the range 425-500 nm. The relationship between the generation capacity and the structural chain of the compound is analyzed.

2/2

- 104 -

measured in chloroform and dioxane solns. In comparison with chalcone with the absorption max. at 310 or 305 nm, the di-chalcone band is shifted 11-15 nm, the isodichalcone band 45 nm to longer wavelengths; in addn., a new band appears at 270-5 nm for the compds. A as well as B. Donor groups cause a bathochromic shift in A, whereas in B the effect is considerably smaller. The shift in the former case, expressed in wavenums., can be correlated with the Hammett σ -consts. of the substituents in R. Electron acceptor groups have a negligible effect on the spectra. In the series R = biphenyl, naphthyl, anthryl in A, a bathochromic shift as well as a hyperchromic effect occurs and the naphthalene or anthracene vibrational structure appears.

1/2

REEL/FRAME
19801670

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AP0049755

A red shift is obsd. on the transition from the dioxane to the chloroform solns., on account of the H bonds between the latter solvent and the solute C:O groups. The compds. A and B show no luminiscence, in contrast to 1,4-distyrylbenzene. This is attributed to the adverse effect of the $\pi \rightarrow \pi^*$ levels. In the compds. A with strong electron donor groups or with long conjugated chains, the $\pi \rightarrow \pi^*$ level energy decreases more rapidly than the $n \rightarrow \pi^*$ energy and the compds. exhibit luminiscence.

P. Adamak

2/2

19801671

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Acc. Nr.

AP0049755

- CHEMICAL ABST. 5/10

410368

Electron spectra of isomeric p-bichalcones and some

Hydrobiology

USSR

IVASIK, V. M., MASLENNIKOVA, Ye. I. and SOBOLEV, Yu. A.

Biologicheskaya Produktivnost' Ryb i Druyikh Zhivotnykh (Biological Productivity of Fish and Other Animals) by G. I. Shpet, Urozhai, 1965, 92 pp

Kiev, Gidrobiologicheskii Zhurnal, Vol 6, No 3, May/Jun 70, pp 135-136

Abstract: This book is concerned with the productivity of terrestrial, fresh-water, and marine plants and animals. Topics of discussion include the potential productivity and evolutionary prosperity of fish species, the comparative productivity of marine invertebrates, river crayfish and their productivity, the geometric progression of the potential capacity of animal propagation, the "economic" use of feedstuffs for the growth of fish and other animals, and the dependence between size, occupied space, and the biological productivity of several marine species. It is emphasized that potential productivity is calculated by adding the terms of the propagation progression, which is different in principle from a geometric progression. The factors determining productivity may interact or counteract. Animal productivity varies with the time conditions of the medium, as well as with human interferences. Productivity is enhanced during evolution. This book will be valuable for developing methods of evaluating potential production capacities of various species for use in breeding and culturing, in the acclimatization of species, and in forecasting reproduction.

1/1

USSR

UDC:661.862(541.444+546.12);541.49

ALPATOVA, N. M., GAVRILENKO, V. V., KESSLER, Yu. M., OSIPOV, O. P., and MASLIN, D. N.

"Complexes of Organometallic, Hydride, and Halide Compounds of Aluminum"

Kompleksy Metalloorganicheskikh, Gidridnykh i Galoidnykh Soyedineniy Alyuminiya [English Version Above], Moscow, Nauka Press, 1970, 296 pages

Annotation: This book deals with the physical and chemical properties and synthesis of complexes of aluminum formed of its organic, hydride, and halide compounds with organic and inorganic addends. Particular attention is given to the molecular structure of the complexes and the strength of bonds in them. The spectral characteristics of complexes and the role of complex formation in the synthesis of compounds of aluminum and their solubility are analyzed. Plans of the dissociation of complexes in the liquid phase are discussed, and the nature of ions is analyzed in detail. Cathode and anode processes

1/10

USSR

UDC:661.862(541.444+546.12);541.49

ALPATOVA, N. M., GAVRILENKO, V. V., KESSLER, Yu. M., OSIPOV, O. P.,
MASLIN, D. N., Kompleksy Metalloorganicheskikh, Gidridnykh i Galoidnykh
Soyedineniy Alyuminiya, Moscow, Nauka Press, 1970, 296 pages

in the electrolysis of melts and solutions and problems of practical
electrodeposition of aluminum and electrochemical synthesis in non-
aqueous media are discussed.

The book is designed for a broad range of persons interested in
general problems of complex formation, chemicals operating with
organic aluminum and hydride compounds, and electrochemists special-
izing in non-aqueous solutions. The broad range of factual material
allows the book to be used as a reference work as well. 94 tables;
45 figures; 1,697 biblio. refs.

2/10

USSR

UDC:661.862(541.444+546.12);541.49

ALPATOVA, N. M., GAVRILENKO, V. V., KESSLER, Yu. M., OSIPOV, O. P.,
MASLIN, D. N., Kompleksy Metalloorganicheskikh, Gidridnykh i
Galoidnykh Soyedineniy Alyuminiya, Moscow, Nauka Press, 1970, 296 pages

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3/10

USSR

UDC:661.862(541.444+546.12);541.49

ALPATOVA, N. M., GAVRILENKO, V. V., KESSLER, Yu. M., OSIPOV, O. P.,
MASLIN, D. N., Kompleksy Metalloorganicheskikh, Gidridnykh i
Galoidnykh Soyedineniy Alyuminiya, Moscow, Nauka Press, 1970, 296 pages

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4/10

USSR

UDC:661.862(541.444+546.12);541.49

ALPATOVA, N. M., GAVRILENKO, V. V., KESSLER, Yu. M., OSIPOV, O. P.,
MASLIN, D. N., Kompleksy Metalloorganicheskikh, Gidridnykh i
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USSR

UDC:661.862(541.444+546.12);541.49

ALPATOVA, N. M., GAVRILENKO, V. V., KESSLER, Yu. M., OSIPOV, O. P.,
MASLIN, D. N., Kompleksy Metalloorganicheskikh, Gidridnykh i
Galoidnykh Soyedineniy Alyuminiya, Moscow, Nauka Press, 1970, 296 pages

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USSR

UDC:661.862(541.444+546.12);541.49

ALPATOVA, N. M., GAVRILENKO, V. V., KESSLER, Yu. M., OSIPOV, O. P.,
 MASLIN, D. N., Kompleksy Metalloorganicheskikh, Gidridnykh i Galoidnykh
 Soyedineniy Alyuminiya, Moscow, Nauka Press, 1970, 296 pages

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USSR

UDC:661.862(541.444+5+6.12);541.49

ALPATOVA, N. M., GAVRILENKO, V. V., KESSLER, Yu. M., OSIPOV, O. P.,
MASLIN, D. N., Kompleksy Metalloorganicheskikh, Gidridnykh i Galoidnykh
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UDC:661.862(541.444+546.12);541.49

ALPATOVA, N. M., GAVRILENKO, V. V., KESSLER, Yu. M., OSIPOV, O. P.,
MASLIN, D. N., Kompleksy Metalloorganicheskikh, Gidridnykh i Galoidnykh
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USSR

UDC:661.862(541.444+546.12);541.49

ALPATOVA, N. M., GAVRILENKO, V. V., KESSLER, Yu. M., OSIPOV, O. P.,
MASLIN, D. N., Kompleksy Metalloorganicheskikh, Gidridnykh i Galoidnykh
Soyedineniy Alyuminiya, Moscow, Nauka Press, 1970, 296 pages

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10/10

UNCLASSIFIED PROCESSING DATE--11DEC70
IT--FOR EXCHANGE TECHNOLOGY IN THE HYDROMETALLURGY OF GOLD -U-

UTPWA-(09)-FRIEDMAN, I.S., POLIKINA, L.E., ZBOROVA, E.P., BEK, R.YU.,
MASLIY, A.I.

COUNTRY OF INFO--USSR

SOURCE--ISVET. METAL. 1970, 43(3), 70-4

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--HYDROMETALLURGY, GOLD, ION EXCHANGER, EXTRACTIVE
METALLURGY/(U)APZ ANION EXCHANGER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--0001/1407

STEP NO--UR/0135/70/043/003/0070/0074

CIRC ACCESSION NO--AP0176945

UNCLASSIFIED

2/2 CC9 UNCLASSIFIED PROCESSING DATE--11DEC70
IR2 ACCESSION NO--AP0126945
SSTRACT/EXTRACT--(U) GP-Q- ABSTRACT. A TECHNOL. SCHEMATIC DIAGRAM FOR
THE FILTERLESS SORPTION PROCESS IN THE EXTN. OF AU FROM CYANOGEN PULPS
BY USE OF ANION EXCHANGER AP 2 IS GIVEN. AP 2, BASED ON
CHLOROMETHYLATED COPOLYMER STYRENE DIVINYLBENZENE AND TERTIARY AMINE,
WAS SYNTHESIZED UNDER LAB. CONDITIONS. THE INCREASE IN SELECTIVITY OF
AP 2 FOR GOLD IS 2-2.5 TIMES AND ITS CAPACITY IS 1.3-1.5 TIMES THAT OF
OTHER ANION EXCHANGERS UNDER ANALOGOUS CONDITIONS.

USSR

M UDC 622.342:541.183.12 4

FRIDMAN, I. D., POCHKINA, L. YE., ZDOROVA, E. P., BEK, I. YU., MASLIY, A. I.,
FUNISHKO, O. A., POCHIVALOV, I. N., and STAFFEYVA, L. B.

"Ion-Exchange Technology in Gold Hydrometallurgy"

Moscow, Tsvetnyye Metally, No 3, Mar 70, pp 70-74

Abstract: Ion-exchange technology permits the use of filter-free systems, thus eliminating both costly equipment and cumbersome operations -- filtration of pulp and washing of precipitates as well as precipitation of Au from solutions. Sorption leaching, which is more complete in dissolving Au from ore and reduces the loss of dissolved gold in the dump pulp, offers much better conditions for higher Au extraction. In order to provide satisfactory results, the new technology requires the use of anionites, which are selective with respect to Au, and also have high kinetic, mechanical, and regeneration properties. The selectiveness of the AP-2 anionite, synthesized at the Kemerov Scientific-Research Institute for the Chemical Industry, was found to be 2--2.5 and its capacity -- 1.3--1.5 times that of similar anionites. The anionite was tested on a semi-industrial unit using a counter-current system. The high desorption capacity of the bifunctional AP-2 anionite with respect to metal impurities makes it possible to simplify the regeneration process and reduce the number of required elements. The process

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USSR

FRIDMAN, I. D., et al, Tsvetnyye Metally, No 3, Mar 70, pp 70-74

includes the following phases: desorption of CN, Zn, and Ni with HNO_3 or H_2SO_4 solutions; desorption of Au, Ag, and Cu by chloride and sulfide solutions of thio-urea during electroelution, and desorption of Fe by NH_4NO_3 alkaline solutions at $50\text{--}55^\circ\text{C}$. The high desorption capacity of the AP-2 anionite determines the relatively short duration of the regeneration process: desorption of CN, Zn, and Ni -- 5 hrs; desorption of Au, Ag, Cu during electroelution -- 3--5 hrs; desorption of Fe--5 hrs. The complete procedural flow chart is given in the original article.

2/2

- 26 -

1/2 018 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--EFFECT OF SLOT SHAPE AND SIZE ON CURRENT DISTRIBUTION IN A SLOT
CELL -U-
AUTHOR--(03)-MASLIY, A.I., PODDUBNYI, N.P., PIROGOV, B.YA.
COUNTRY OF INFO--USSR M
SOURCE--ELEKTROKHTIMIYA 1970, 6(1) 70-3
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, ELECTRONICS AND ELECTRICAL ENGR.
TOPIC TAGS--ELECTRODE, ELECTROLYTIC CELL, ELECTRIC CURRENT, ANODE, CATHODE

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1989/0464 STEP NO--UR/0364/70/006/001/0070/0073
CIRC ACCESSION NO--AP0107070
UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0107070

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN A PARALLEL ELECTRODE CELL IN WHICH THE ANODE WAS A FRACTION OF THE AREA OF THE CATHODE, THE CURRENT DISTRIBUTION AT THE CATHODE WAS CALCD. AS A FUNCTION OF THE RELATIVE AREA OF THE 2 ELECTRODES. THE SHAPE OF THE CURRENT DISTRIBUTION CURVE WAS BELL SHAPED, WITH THE MAX. VALUE OCCURRING AT THAT SEGMENT OF THE CATHODE WHICH WAS DIRECTLY OPPOSITE THE ANODE; AS THE RELATIVE SIZE APPROACHED 1, THE DISTRIBUTION BECAME MORE UNIFORM. IF THE ANODE WAS T SHAPED SO THAT PART OF IT WAS PERPENDICULAR TO THE CATHODE, THE CURRENT DISTRIBUTION AT THE CATHODE WAS STILL BELL SHAPED AND BECAME LESS UNIFORM AS THE RELATIVE AREA OF THE ANODE AND CATHODE APPROACHED 1.

UNCLASSIFIED

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010 021.557.1.009.210.1
BEK, R. YU., MASLIY, A. I., and LAVROVA, T. A.

"The Rate of Electrolytic Separation of Gold from Thiourea Solutions"

Izvestiya Sibirskogo Otdeleniya AN SSSR, Seriya Khimicheskikh Nauk, Vyp 1,
No 2, 1972, pp 25-31 (from Referativnyy Zhurnal -- Khimiya, Svodnyy Tom,
Abstract No 231244 by E. Z. Napukh)

Translation: The effect of electrolysis conditions on the electrodeposition rate of Au from thiourea solutions was studied in laboratory and industrial pilot plant. A dependence of the mass transfer coefficient on cathode potential, temperature, evolution rate of H_2 , and the electrolyte flow rate was established. A rapid flow of electrolyte secured the maximal Au deposition rate. Formulas are given for the calculation of the mass transfer coefficient and the removal of gold from eluate with respect to time.

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USSR

UDC 632.95

2

STEPANOV, M. K., OSIPYAN, V. T., KAZHDAN, V. B., MASLIY, L. K., GRABOVSKIY, B. S., and DUNAYEVA, I. D.

"A Method of Controlling Fleas"

USSR Author's Certificate No 263328, filed 16 Mar 62, published 26 May 70
(from RZh-Khimiya, No 3, 10 Feb 71, Abstract No 3N569)

Translation: Hexamethylenecarbamide (I) is proposed for use as a flea repellent. The substance is an oily, colorless, odorless liquid with a boiling point of 153°C/3 mm, d_4^{20} 1.0489, n_D^{20} 1.5161. Compound I is synthesized by bubbling COCl_2 at 5-10°C through a solution of hexamethylene diamine in an appropriate solvent. The preparation is stable. In 30 days of storage under conditions of intense ventilation, 20-25 percent of compound I or less was volatilized.

1/1

1/2 018 UNCLASSIFIED M PROCESSING DATE--27NOV70
TITLE--METHODS FOR COMBATTING FLEAS -U-
AUTHOR--(05)-STEPANOV, M.K., OSIPYAN, T.V., KAZHDAN, V.B., MASLIY, L.K.,
GRABOVSKIY, B.S.
COUNTRY OF INFO--USSR
SOURCE--U.S.S.R. 263,328
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970, 47(7)
DATE PUBLISHED--04FEB70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--FLEA, INSECTICIDE, CHEMICAL PATENT, AMIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3002/1561 STEP NO--UR/0482/70/000/000/0030/0000
CIRC ACCESSION NO--AA0128956
UNCLASSIFIED

2/2 018
CIRC ACCESSION NO--AA0128956
ABSTRACT/EXTRACT--(U) GP-0-
A FLEA REPELLENT.

UNCLASSIFIED

PROCESSING DATE--27NOV70

ABSTRACT. HEXAMETHYLENECARBAMIDE WAS USED AS

UNCLASSIFIED

Acc. Nr: APC053451 Abstracting Service: M 5/90
CHEMICAL ABST.

Ref. Code: 4R0366

110710a Reaction of the diethylamide of chlorosulfonic acid with butylmagnesium bromide. Maslji, L. N.; Petrov, A. A. (USSR). *Zh. Org. Khim.* 1970, 6, 37-39 (Russ). An attempt to prep. alkylsulfamides by reacting $\text{Et}_2\text{NSO}_2\text{Cl}$ with BuMgBr gave only SO_2 , Et_2NH , and BuCl . The reaction at -40° evidently proceeds with the formation of $[\text{Et}_2\text{N}(\text{SO}_2\text{Cl})\text{MgBu}]^+\text{Br}^-$, which during the work up with 5% HCl soln. decomps. CPJK

misc

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19830476

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UDC 632.95

USSR

VASHKOV, V. I., DEDOV, V. S., DREMOVA, V. P., ~~SMIRNOVA, S. N.~~ OSIPYAN, V. T.,
MASLIY, L. K., KOCHANOVA, A. P., and MARKINA, V. V.

"Entomological and Toxicological Characteristics of a New Repellent --
Carboxide"

Tr. VNII dezinfektsii i steriliz. (Works of All-Union Scientific Research
Institute of Disinfection and Sterilization), 1971, vyp. 21, Vol 2, pp 30-37
(from RZh-Khimiya, No 14, 25 Jul 72, Abstract No 14N465 by T. A. Belyayeva)

Translation: Carboxide is an effective repellent for mosquitoes, midges, and
some species of horseflies and mites. As creams and ointments are made,
protective film-forming substances must be put in since carboxide is absorb-
able through the skin. Refined carboxide, when used in its various forms
(ointment, cream etc.), causes no lesions on exposed areas of the body and has
no side effect on the human organism. Use of unrefined (industrial) carboxide
to make various forms of the repellent can induce skin irritation.

1/1

1/2 007 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--ON THE SYNTHESIS OF C SUB5 A SUB3 IN PRESENCE OF CR SUB2 O SUB3 -U-
AUTHOR--(03)-MASILY, YE.N., URYVAYOVA, G.O., LOGVINENKO, A.T.
COUNTRY OF INFO--USSR *M*
SOURCE--IZVESTIYA SIBIRSKOGO OTDELENIYA AKADEMII NAUK SSSR, NO 4, SERIYA
KHIMICHESKIKH NAUK, 1970, NR 2, PP 168-171
DATE PUBLISHED--70

SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--CHROMIUM OXIDE, CHEMICAL SYNTHESIS

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1993/0572 STEP NO--UR/0289/70/000/000/0168/0171
CIRC ACCESSION NO--AP0113463
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--13NOV70

2/2 007

CIRC ACCESSION NO--AP0113463

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF 0.3-15PERCENT CR SUB2 O SUB3 ON THE SYNTHESIS OF C SUB5 A SUB3 WAS STUDIED. IT WAS FOUND THAT THE PRESENCE OF 0.8-1.1PERCENT CR SUB2 O SUB3 CAUSED THE BREACH OF C SUB5 A SUB3 STRUCTURE BECAUSE OF A10 SUB4 IN EQUILIBRIUM CRO SUB4 SUBSTITUTION. WHEN 10 AND 15PERCENT CR SUB2 O SUB3 WAS ADDED THE MANY PHASES (C SUB5 A SUB3, CACR SUB2 O SUB7, CR SUB2 O SUB3, AND C SUB5 A SUB3) WAS FOUND. FACILITY: INSTITUT FIZIKO-KHIMICHESKIKH OSNOV PERERABOTKI MINERAL'NOGO SYR-YA SO AN SSSR, NOVOSIBIRSK.

UNCLASSIFIED

UDC: 519.2

USSR

MALYSHEV, V. A.

"Asymptotic Behavior of Stationary Probabilities for Two-Dimensional Positive Random Walks"

Sib. mat. zh. (Siberian Mathematics Journal), 1973, 14, No 1, pp 156-169 (from RZh-Kibernetika, No 5, May 73, abstract No 5V84 by the author)

Translation: A continuation of a previous paper by the author (RZhMat, 1973, 4V102). The asymptotic form of stationary probabilities π_{mn} is found. The qualitative particulars of asymptotic behavior are described in the language of turbulence theory. Extensive use is made of the ideas of Morse theory in deriving the results.

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UDC: 519.2

USSR

MAMATOV, M.

"Local Limit Theorems for Sums of a Random Number of Random Quantities"

Tashkent, Sluchayn. protsessy i stat. vyvody--sbornik (Random Processes and Statistical Inferences--collection of works), vyp. 2, "Fan", 1972, pp 77-83 (from RZh-Kibernetika, No 5, May 73, abstract No 5V29 by the author)

Translation: Proofs are given for local limit theorems for densities of the normalized sum of a random number of random quantities, and estimates are found for the residual terms in these theorems.

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- 20 -

UDC: 519.2

USSR

MANEVICH, D. V.

"On Convergence of Sums of Dependent Random Quantities to Poisson Law"

Uch. zap. Tashkent. gos. ped. in-t (Scientific Notes. Tashkent State Pedagogical Institute), 1972, 100, pp 72-78 (from RZh-Kibernetika, No 5, May 73, abstract No 5V39 by the author)

Translation: Various schemes of dependent random quantities are considered, and conditions are indicated for convergence of their sums to Poisson law. These conditions are very similar to those found by B. V. Gnedenko for independent random quantities.

1/1

USSR

UDC: 519.2

MANEVICH, D. V.

"Concerning Asymptotic Distributions for Sums of Dependent Random Quantities"

Uch. zap. Tashkent. gos. ped. in-t (Scientific Notes. Tashkent State Pedagogical Institute), 1972, 100, pp 66-71 (from RZh-Kibernetika, No 5, May 73, abstract No 5V38 by the author)

Translation: A set of limiting distributions is established for sums of dependent random quantities satisfying certain conditions which are free of the requirement for existence of moments of any order.

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USSR

UDC: 519.2

MANEVICH, D. V.

"Conditions of Convergence to Stable Laws for Stationary Processes"

Uch. zap. Tashkent. gos. ped. in-t (Scientific Notes. Tashkent State Pedagogical Institute), 1972, 100, pp 50-65 (from RZh-Kibernetika, No 5, May 73, abstract No 5V37 by the author)

Translation: The paper gives necessary and sufficient conditions of convergence to stable laws other than normal for sequences which are stationary in the narrow sense and satisfy conditions of strong intermixing. In addition, sufficient conditions of convergence to stable laws are indicated.

1/1

D. Programming and Mathematical Machine Theory

USSR

UDC: 8.74

MASHKEVICH, A. S.

"Set of Input/Output Equipment for the Automated Control System of an Enterprise With Production of Discrete Type"

Tr. In-ta elektron. upravl. mashin (Works of the Institute of Control Computers), 1972, vyp. 17, pp 86-90 (from RZh-Kibernetika, No 5, May 73, abstract No 5V737 by V. Mikheyev)

Translation: The paper describes peripheral equipment used in the "SDV-4" discrete information input/output system. The "SDV-4" system is part of a set of third generation computer facilities and is used for connecting various types of I/O devices to the "M-400" processor for use in automated control systems for enterprises with production of discrete type. All the I/O equipment connected to the SDV-4 is divided into two groups: 1) discrete data pickups; 2) terminal devices. In the first category are I/O devices for direct monitoring of the technological production process. This group includes positional pickups with binary or code output, and pulse-code

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USSR

MASHKEVICH, A. S., Tr. In-ta elektron. upravl. mashin, 1972, vyp. 17, pp 86-90

data sensors. The I/O devices belonging to the second group are used for feeding formalized messages to the computer input, and for output of necessary information to service personnel. In this group are: terminals of the "URI-4" and "Konsul-260" type. The URI-4 is designed for input of digital data to the central computer while simultaneously producing a printed output of the message. The URI keyboard contains the digits from 0 to 9 and necessary auxiliary symbols: "+" add, "-" subtract, ":" word division, "[" message begins, "]" message ends, "?" error in the message.

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- 50 -

1/2 013 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--LEUCO 1,4,5,8 TETRAHYDROXYANTHRAQUINONE -U-
AUTHOR--(05)--BELKIN, I.D., BRIGICER, YU.Z., MASLOSH, V.Z., SANKO, L.G.,
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ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. LEUCO 1,4,5,8
TETRAHYDROXYANTHRAQUINONE (I) WAS PREPD. FROM 1,8 DIHYDROXYANTHRAQUINONE
BY NITRATION, REDN. OF THE RESULTANT NITRO DERIV. WITH NA SUB2 S IN THE
PRESENCE OF NA SUB2 S SUB2 O SUB4.2H SUB2 O; FILTRATION, RINSING,
HYDROLYSIS IN THE PRESENCE OF AQ. NAOH AND NA SUB2 S SUB2 O SUB4.2H SUB2
O, AND SEPN. OF I.

UNCLASSIFIED

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UDC 532.501.34:532.517.2

GAPONOV, S. A. and MASLOV, A. A.

"Numerical Solution of the Problem of Full Stabilization of the Boundary Layer"

Novosibirsk, Zhurnal Prikladnoy Mekhaniki i Tekhnicheskoy Fiziki, No 2,
March-April 1972, pp 39-43

Abstract: A method is proposed for a numerical solution of the problem of full stabilization of a supersonic boundary layer. It is shown that with considerable cooling of the surface, the curve of neutral stability splits into two curves. The temperatures of full stabilization for both neutral curves are calculated. Comparison of the results of the present work with asymptotic calculations shows that above Mach 2, the asymptotic method yields incorrect results. 4 figures. 11 references.

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