"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

2/2 011 UNCLASSIFIED PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0115733

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REACTION OF SNCL SUB2 WITH HASO SUB2 IN A HCL SOLN. WAS STUDIED. THE REACTION RATE DEPENDS ON THE CONCNS. OF PD(II) USED AS CATALYST, HASO SUB2, SNCL SUB2, AND HCL. OPTIMUM CONDITIONS ARE: 0.09M SNCL SUB2, 0.02M HASO SUB2, 2.0M HCL, 1 TIMES 10 PRIME NEGATIVE5 M PDCL SUB2. DURING 3 MIN THERE IS A LINEAR DEPENDENCE BETWEEN THE ABOSRBANCE AND PD(II) CONCN. AU(III), PT(IV), RH(III), OS(VIII), HG(II) CATALYZE THE REACTION. LARGE AMTS. OF TEO SUB4 PRIME NEGATIVE NEGATIVE AND SRO SUB4 PRIME NEGATIVE NEGATIVE REACTING WITH SN(II), AS WELL AS I PRIME NEGATIVE, PO SUB4.PRIME3 NEGATIVE, HNO SUB3, AND HCLO SUB4 INTERFERE IN THE REACTION; FE(III), CO(II), NI(II), CU(II), ZN(II), MN(II), SB(III), RU(III), IR(V), AG(I), AND SIO SUB3 PRIME2 NEGATIVE DO NOT INTERFERE. THE INDICATOR REACTION CAN BE USED TO DET. SMALL AMTS. OF PD WITH A SENSITIVITY OF 0.2 MUG-ML. PLACE THE SOLN. TO BE ANALYZED INTO A MIXT. CONTG. 4 ML 0.1M HASO SUB2, 3 ML HCL, 4 ML 10PERCENT SNCL SUB2 AND 1 ML 1PERCENT FRESHLY PREPD. GELATIN AND BEGIN TIMING. TRANSFER INTO A DRY CELL AND MEASURE THE ABSORBANCE FOR 3 MIN BY USING A BLUE FILTER. THE AV. ERROR IN PURE PDCL SUB2 SOLNS. IS 2.5PERCENT; IN SOLNS. CONTG. 70 FOLD AMTS. OF CU(II) CO(II), NI(II), FE(III), MN(II) AND 10 FOLD RU(III), THE ERROR IS 3.5PERCENT. FACILITY: IVANOV. CHEM. TECHNOL. INST., IVANOVO, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

1/2 037 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--KINETICS AND MECHANISM OF THE OXIDATION OF DIETHYLANILINE BY PERIODATE -U-

AUTHOR-(03)-PAYLOVA, V.K., SAYCHENKO, YA.S., YATSIMIRSKIY, K.B.

COUNTRY OF INFO--USSR

SOURCE--ZH. FIZ. KHIM. 1970, 44(3), 658-63

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL KINETICS, CHEMICAL REACTION MECHANISM, OXIDATION, ANILINE, IONIC BONDING, PHOTOEFFECT, QUINONE, IMINE, ACTIVATION ENERGY, IODATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0716 STEP NO--UR/0076/70/044/003/0658/0663

CIRC ACCESSION NO--AP0119623

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

2/2 037 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119623

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FORMATION OF AN INTERMEDIATE COMPLEX OF IO SUB4 PRIME NEGATIVE AND PHNET SUB2 IS SHOWN BY THE RELATIONSHIP BETWEEN THE OXIDN. RATE AND IO SUB4 PRIME NEGATIVE AND PHNET SUB2 CONCN. (NONLINEAR AND LINEAR, RESP.). MAX. OXIDN. RATE IS OBSD. OVER PH 6.3-7.2; THE RATE DECREASES WITH INCREASING IONIC STRENGTH. THE OXIDN. IS REPRESENTED BY: SHOWN ON MICROFICHE. THE VALUE OF ACTIVATION ENERGY EQUAL TO 19.2 KCAL-MOLE CONFIRMS THE PARTICIPATION OF FREE RADICALS IN THE REACTION. FAICILITY: INST. OBSHCH. NEORG. KHIM., KIEV, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

1/2 008 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--TYPES OF MUTUAL EFFECTS OF LIGANDS -U-

AUTHOR--YATSIMIRSKIY, K.B.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(4), 925-30

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--LIGAND, ELECTRIC PROPERTY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1872 STEP NO--UR/0078/70/015/004/0925/0930

CIRC ACCESSION NO--AP0123660

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

2/2 008 UNCLASSIFIED

CIRC ACCESSION NO--AP0123660 PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TRANS, CIS, AND NON DIRECTIONAL MUTUAL EFFECTS OF LIGANDS ARE DISCUSSED. COULOMBIC REPULSION BETWEEN THE SAME CHARGE LIGANDS AND CIS AND TRANS EFFECTS ON S SUBN1 AND S SUBN2 MECHANISMS ARE DISCUSSED ALSO.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR

UDC 546.732 - 386

YATSIMIRSKIY, K. B., SHEKA, Z. A., and SINYAVSKAYA, E. I.

"Reaction of $CoCl_2$ With Triphenylphosphazobenzene"

Moscow, Zhurnal Neorganicheskoy Khimii, Vol 15, No 6, Jun 70, pp 1552-1557

Abstract: A study is reported on the complex formation of $CoCl_2$ with triphenylphosphazobenzene (I), its chemical bonding, and the behavior and properties of these complexes in nonaqueous medium. On the basis of the absorption spectrum determined in the range of 14000-18000 cm^{-1}, $CoCl_2$ and (I) form complexes of tetrahedral structure in tetrahydrofurane solutions. Their formulas are: $CoCl_2[(C_6H_5)_3P{:}NC_6H_5]_2$, and $CoCl_2(C_6H_5)_3P{:}NC_6H_5 \cdot THF$, the former being isolated in crystalline form. Comparison of the properties of these complexes with complexes of $CoCl_2$ and triphenylphosphine oxide showed that the phosphazo complexes are more stable than the phosphine oxide complexes; the covalency of the bonds in $CoCl_2$ complexes with triphenylphosphazobenzene and the effect of π-antibonding in this compound are higher than analogous effects in the $CoCl_2$ complexes with phosphine oxides.

1/1

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

Inorganic Compounds

USSR

UDC 541.49 + 546.65

DAVIDENKO, N. K., BIDZILYA, V. A., DERKACH, G. I. (Deceased), and YATSIMIRSKIY, K. B., Institute of Physical Chemistry Imeni L. V. Pisarzhevskiy, Acad. Sc. USSR

"Reaction of the Lantanum and Neodinium Nitrates With New Types of Organophosphorus Ligands"

Moscow, Zhurnal Neorganicheskoy Khimii, Vol 17, No 9, Sep 72, pp 2369-2375

Abstract: Reaction of lantanum and neodinium nitrates with ligands $(C_2H_5O)_2P(O)CH_2COOC_2H_5$ (L-1), $(C_2H_5O)_2P(O)CH_2COO\text{-tert-}C_4H_9$ (L-2), and $(C_6H_5)_2P(O)CH_2C(O)CH_3$ (L-3) in tetrahydrofuran was studied by the conductometric, spectrophotometric, and proton magnetic resonance methods. The equilibrium constants of the formation of equimolar complexes in tetrahydrofuran have been determined by the differential spectrophotometric method. Solid complexes of the composition $Ln(NO_3)_3 \cdot 2L\text{-}3 \cdot nH_2O$, where Ln = La or Nd, and n = 1 or 2, have been isolated. It has been shown by means of IR spectra that the ligands are coordinated with the metal through the oxygen atom of the phosphoryl group. The complex formation ability of the ligands depends on the substituents at P=O and C=O. OR-substituted ligands at P=O and C=O give less stable complexes than the R-substituted ones (R = alkyl or aryl groups).

1/1

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR

YATSKEVICH, I. M.

"Organization of Loops in Autocoder Programs"

Vychisl. Tekhn. v Mashinostr. Nauch.-tekhn. sb. [Computer Technology in Machine Building], June, 1970, pp 66-71, (Translated from Referativnyy Zhurnal, Kibernetika, No 2, 1972, Abstract No 2 V687 by the author).

Translation: Two methods of organization of loops in autocoder programs are presented in a study of complex logic problems for the Minsk-22 computer. The methods allow the cumbersomeness of programming to be reduced, and also prevent errors in the writing of programs.

1/1

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR UDC:621.791.052:669.14.018.8:620.17

GURDZINSKIY, B. V., STEPANOV, G. A., YATSKOV, A. P., SKOL'TSOV, V. I.

"Influence of Pore Penetration on Strength of Welded Joints of Kh18N10T Steel at Cryogenic Temperatures"

Moscow, Svarochnoye Proizvodstvo, No 12, Dec 73, pp 31-33

Abstract: Failure of welding heat to penetrate the depth of a seam produces a stress concentrator on the cold side of the seam which can be very effective. Specimens of Kh18N10T sheet steel were tested at -196° C to determine the influence of stress concentration on the properties of this metal at this temperature. The reduced ductility of the welded seam at this temperature significantly increases the influence of penetration failures on the strength of a seam. Strength drops by 10-15%. Local failures serve as centers of formation and development of fatigue cracks.

1/1

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR

YATSKOV, L. P., Vladivostok Medical Institute

"Repeated Stings by the Poisonous Jellyfish Gonionemus vertens and Their Residual Effects"

Vladivostok, Biologicheskiye i Meditsinskiye Issledovaniya na Dal'nem Vostoka (Biological and Medical Research in the Far East), Vladivostok, 1971, pp 239-245

Abstract: A jellyfish sting may or may not result in increased sensitivity. Of 20 victims observed by the author, the first sting was more severe than the second in 12 while the reverse was the case in eight. The effects depend on the amount of toxin received (single or multiple stings), site of the lesion (the breasts and genital regions are particularly sensitive), existence of chronic somatic disease (tuberculosis, hypertension, ulcer, rheumatism, otitis, etc.), and type of nervous system. Catamnestic studies of 158 persons who received hospital treatment for jellyfish stings revealed that most (68%) experienced general weakness, paresthesia, and diffuse pain throughout the body 2 to 4 weeks or longer after discharge from the hospital. In some (10%), the asthenic syndrome remained pronounced for more than a year. Six persons suffered from insomnia with nightmares for 3 years after being stung. Hydrophobia persisted in 5% of the cases 2 to 10 years; not only would they not go into the water

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR

YATSKOV, L. P., Biologicheskiye i Meditsinskiye Issledovaniya na Dal'nem Vostoka, Vladivostok, 1971, pp 239-245

themselves, they tried to restrain their relatives and other persons from doing so. Pain in the muscles, joints, and along the spine continued 2 to 6 years in 2%. On the other hand, a few experienced transient benefits from the sting in the form of increased sexual function and lumbar pains diminished in some individuals with chronic radiculitis.

2/2

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR

YATSKOV, L. P., Vladivostok Medical Institute

"Treatment and Prevention of Stings by the Poisonous Jellyfish Gonionemus vertens"

Vladivostok, Biologicheskiye i Meditsinskiye Issledovaniya na Dal'nem Vostoka (Biological and Medical Research in the Far East), Vladivostok, 1971, pp 245-251

Abstract: Because of the speed with which the toxin spreads through the body, treatment should be started as soon as the stinging sensation is felt, without waiting for the development of clinical symptoms. The site should be washed with clean water, alcohol, or potassium permanganate. Various pain relievers can be applied to the affected area, e. g., diphenhydramine. In severe cases in which the liver may be involved, intravenous injection of 40% glucose with 5% ascorbic acid solution is recommended. A 5% ephedrine solution is effective in abolishing the histamine-like action of jellyfish toxin. Daily intramuscular injections of dipyrone are effective in relieving severe pain. Novocain is also of value. Alcohol is completely contraindicated. Preventive measures include alerting bathers to the danger of jellyfish stings and to the need for promptly seeking medical care, familiarizing lifeguards with the problem, training clinic

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR

YATSKOV, L. P., Biologicheskiye i Meditsinskiye Issledovaniya na Dal'nem Vostoka, Vladivostok, 1971, pp 245-251

and hospital personnel in appropriate procedures, and, in heavily infested parts of the seashore, building swimming pools with the water passed through fine-mesh nets.

2/2

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR

YATSKOV, L. P., Vladivostok Medical Institute

"Neurological Characteristics of Lesions Produced by the Poisonous Jellyfish Gonionemus vertens"

Vladivostok, Biologicheskiye i Meditsinskiye Issledovaniya na Dal'nem Vostoka (Biological and Medical Research in the Far East), Vladivostok, 1971, pp 234-239

Abstract: Study of 397 cases of persons stung by jellyfish in the sanatorium-health resort zone of Vladivostok showed that all suffered neurological disturbances of varying severity. Three forms of the disease were distinguished according to the intensity and prominence of the clinical symptoms: (a) painful or sensitive form (with primary involvement of the central nervous system) in which symptoms of impaired sensitivity and intense pain were dominant (polyarthralgia, myalgia, paresthesia, radicular symptoms, hyperesthesia, meningeal syndrome) -- observed in 68% of the cases; (b) autonomic form (with primary involvement of the autonomic nervous system) in which visceral disturbances were dominant (abdominal colic, asthma-like state, hyperhidrosis, hypersalivation, tearing, brady- and tachycardia, gastrointestinal dysfunction, etc.) -- observed in 20% of the cases; (c) mixed form (combination of symptoms of somatic

1/2

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR

YATSKOV, L. P., Biologicheskiye i Meditsinskiye Issledovaniya na Dal'nem Vostoka, Vladivostok, 1971, pp 234-239

and autonomic disorders -- observed in 12% of the cases. This form embraced individuals who in addition to other clinical symptoms suffered from psychopathological disturbances (delirium, clouding of consciousness, melancholia, anxiety, fear of death, motor excitation, insomnia).

2/2

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

1/2 027 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--NEW HIGH SPEED STOMATOLOGICAL APPARATUS AND SOME FEATURES SPECIFIC TO THEIR USE -U-

AUTHOR-(03)-PODOBED, A., PEYZAN, R., YATSKOVETS, N.

COUNTRY OF INFO--USSR

SOURCE--STOMATOLOGIYA, 1970, VOL 49, NR 2, PP 75-78

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ORAL DISEASE, MEDICAL APPARATUS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1985/1847 STEP NO--UR/0511/70/049/002/0075/0078

CIRC ACCESSION NO--AP0101892

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

2/2 027 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0101892

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SUMMARY. THE PAPER DISCUSSES THE DESIGNS OF NEW HIGH SPEED STOMATOLOGICAL APPARATUS. THE AUTHORS DESCRIBE THE MAIN TECHNICAL DATA AND THE ADVANTAGES OF UNIVERSAL STOMATOLOGICAL APPARATUS IN COMPARISON WITH SIMILAR EQUIPMENT MANUFACTURED PREVIOUSLY BY THE SOVIET INDUSTRY AND FOREIGN MODELS. INFORMATION IS GIVEN OF THE FEATURESPECULLIAR TO THE OPERATION OF THE REFERRED TO EQUIPMENT AND MAINTENANCE FOR LONG TERM WORK.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

1/2 009 UNCLASSIFIED

TITLE--METALWORKING TOOLS STANDARDIZED WITHIN ONE INDUSTRY -U- PROCESSING DATE--18SEP70

AUTHOR-(04)-EYGER, I.S., VYSOKOVSKIY, YE.S., OLSHEVSKIY, E.R., YATSKOVSKIY, YU.N.

COUNTRY OF INFO--USSR

SOURCE--STANDARTY I KACHESTVO, 1970, NR 2, PP 48-52

DATE PUBLISHED--------70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--TECHNICAL STANDARD, MACHINE TOOL INDUSTRY, CUTTING TOOL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1985/0192 STEP NO--UR/0422/70/000/002/0048/0052

CIRC ACCESSION NO--AP0100716

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

2/2 009

UNCLASSIFIED

CIRC ACCESSION NO--AP0100716 PROCESSING DATE--18SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. WORK IN STANDARDIZATION, WITHIN ONE BRANCH OF INDUSTRY, OF METAL CUTTING TOOLS, SUCH AS TURNING AND MILLING CUTTERS, MILLING TIPS, AND SHAVES, IS DESCRIBED. MOST FACTORIES AND OFFICES IN MECHANICAL ENGINEERING WILL FINE THE ARTICLE INTERESTING.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR

UDC 621.396.677.71

YATSUK, L. P.

"Mutual Effect of Slot Waveguide Radiators with Circular Polarization"

Antenno-fidern. i izmerit. ustroystva svedkhvysok. chastot -- V sb. (Superhigh Frequency Antenna Feeder and Measuring Devices -- Collection of Works), Khar'kov, Khar'kov University, 1971, pp 36-45 (from RZh-Radiotekhnika, No 10, Oct 71, Abstract No 10B30)

Translation: The variation of the ellipticity factor of the field of a criss-cross (or T-type) slot under the effect of the adjacent slot is analyzed. A study is made of the linear systems of identical circularly polarized radiators cut in independently excited rectangular waveguides and in one waveguide. There are 3 illustrations, 1 table and a 10-entry bibliography.

1/1

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR

UDC 621.372.822.092.22

YATSUK, L. P., KATRICH, V. A.

"Parameters of Nonresonance Slots in a Rectangular Wave Guide with a Comb Delay Structure"

Radiotekhnika. Resp. mezhved. nauchno-tekhn. sb. (Radio Engineering. Republic Interdepartmental Scientific and Technical Collection), 1970, vyp. 15, pp 49-55 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4B129)

Translation: Data are presented from calculating the reflection, transmission and radiation coefficients. There are 3 illustrations and a 2-entry bibliography.

1/1

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR UDC 681.335

BLAZHKEVICH, B. I., VOROBKEVICH, V. Yu., MASLOV, V. S., SOLOMCHAK, V. P., and YATSUN, I. A.

"Analogous-Code Measuring Transformer"

V Sb. "Konf. po Avtomatiz. Nauch. Issled. na Osnove Primeneniya EVM, 1972" [In the Collection "Conference on Automation of Scientific Investigations on the Basis of the Application of Electronic Computers, 1972"], Novosibirks, 1972, pp 84-90 (from Referativnyy Zhurnal, No 10, Oct 72. 32. Metrologiya i Izmeritel'naya Tekhnika. Single Issue. Abstract No 10.32.119)

Translation: An analogous-code measuring transformer of tracking action with an input impedance $\geq 10^9$ ohm is discussed. The transformer is designated for remote measuring the slowly changing component of the output voltage of the statical transducer of the electric field intensity in the ± 640 mv range with an error not exceeding 0.025%, at an transmission channel error up to 1%. One illustration, nine bibliographical references.

1/1

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

Radiation Chemistry

USSR

UDC 628.543.661.7

TSUTSARIN, V. V., BYALKOVSKIY, N. N., YATSUN, V. V., ZHIKHAREV, V. S., and VYSOTSKAYA, N. A., Institute of Physical Chemistry, Academy of Sciences UkrSSR, Chemical-Pharmaceutical Plant imeni Lomonosov

"Changes in the Oxidizeability of Aqueous Solutions of Some Organic Materials Due to the Action of Radiation"

Kiev, Khimicheskaya Tekhnologiya, No 3 (57), May-Jun 71, pp 12-15

Abstract: Oxidizeability characterizes total content of the reducing agents in water. It is expressed by the amount of oxygen needed for the oxidation of organic material contained in 1 l of solution to CO_2 and water. Changes of this oxidizeability in waste waters of the Kiev Chemical-Pharmaceutical Plant taking place upin γ-irradiation with a Co^{60} source were studied. These waters contain about 30 inorganic impurities and 70 of the organic nature. In addition, model systems containing methanol, isopropyl alcohol, phenol, metacrylic acid, and their mixtures were investigated. Irradiation was found to lower the oxidizeability, leading occasionally to formation of precipitates. The model system showed more pronounced lowering of the oxidizeability than natural waste waters, because the latter most probably contained many admixtures capable of oxygen consumption.

1/1

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

1/2 018 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--PRECRYSTALLIZATION ANOMALIES OF THE SPEED OF SOUND IN MELTS OF METALS AND INTERMETALLIC A PRIMEII B PRIMEV TYPE COMPOUNDS -U-

AUTHOR-(02)-YATSYK, S.I., FILIPPOV, S.I.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., CHERN. MET., 1970, 13(1), 121-3

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--METAL RECRYSTALLIZATION, INTERMETALLIC COMPOUND, ACOUSTIC PROPERTY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1986/1010 STEP NO--UR/0148/70/013/001/0121/0123

CIRC ACCESSION NO--AT0102944

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

2/2 013 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AT0102944

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PRECRYSTN. PHENOMENA WHICH ANTICIPATE THE APPEARANCE OF THE SOLID PHASE WERE STUDIED BY DETD. THE PROPAGATION RATE FOR LONGITUDINAL ACCOUSTICAL VIBRATIONS IN METALS (ZN, CD) AND SEMIMETALS (SB) AND INTERMETALLIC COMPDS. OF THE A PRIMEII B PRIMEV TYPE (ZN SUB3 SB SUB2, CDSB) BY USING THE METHOD DESCRIBED EARLIER (Y., 1968). FOR THE METALS, THEREIS A LINEAR DECREASE IN THE RATE WITH INCREASING TEMP. WHICH IS ATTRIBUTED TO AN INCREASE IN THE AV. INTERAT. DISTANCES AND THE DESTRUCTION OF LOCAL STRUCTURE. IN SB THE RATE INCREASES WITH TEMP. REACHING A MAX. AT 830DEGREES AND THEN DECREASES ALMOST LINEARLY. THIS IS EXPLAINED BY THE PRESENCE OF 2 STRUCTURES IN THE MELT: A REGION OF SPHERICAL DENSE PACKING OF THE SB PRIMES POSITIVE IONS AND A REGION OF LAMINAR PACKING. THE INCREASE IN THE RATE WITH TEMP. IS ATTRIBUTED TO THE PARTIAL DESTRUCTION OF THE COVALENT, NONMETALLIC STRUCTURE, THE MAX. CORRESPONDING TO THE COMPLETE DESTRUCTION AND THE FORMATION OF SYM. PACKING OF THE IONS. FOR THE COMPDS. THERE IS A CHARACTERISTIC, EXPONENTIAL INCREASE IN THE RATE OVER A LARGE TEMP. RANGE ABOVE THE M.P. THE CHANGE IN THE ACOUSTICAL PROPERTIES IS CALCD. ON THE BASIS OF THE STRUCTURE OF THE ELECTRON ENERGY ZONES IN THE MELT.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR UDC: 621.317.335.3

YATSKINA, N. L., NIKULINA, N. A.

"Problems in the Production and Certification of Standard Specimens of Dielectrics"

Dokl. Vses. nauchno-tekhn. konferentsii po radiotekhn. izmereniyam. T. 1 (Reports of the All-Union Scientific and Technical Conference on Radio Engineering Measurements. Vol. 1), Novosibirsk, 1970, pp 116-117 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1A362)

Translation: Basic requirements to be met by standard specimens of dielectrics used in studying the electromagnetic parameters of radio engineering materials are formulated. Of fundamental importance is the requirement for constancy of these parameters, i. e. their independence of frequency, temperature, etc. The material which best satisfies this requirement is quartz. The six other materials which are recommended are somewhat poorer than quartz. Bibliography of three titles. E. L.

1/1

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR UDC: 621.317.335.3

YATSYUINA, M. I., KARIKH, N. M.

"Behavior of Radio Engineering Materials in the Phase Transition Region"

Dokl. Vses. nauchno-tekhn. konferentsii po radiotekhn. izmereniyam. T. 1 (Reports of the All-Union Scientific and Technical Conference on Radio Engineering Measurements. Vol. 1), Novosibirsk, 1970, pp 155-157 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12A356)

Translation: The authors analyze measurement errors of an installation used for studying the frequency and temperature dispersion of magnetodielectrics and ferroelectrics close to the points of phase transitions. It is shown that the predominant components are errors which depend on the magnetic permeability and thickness of the specimen. A measurement accuracy of up to 1.5-3 percent may be achieved by varying the thickness. One illustration, three titles. N. S.

1/1

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR UDC 621.317.799:621.318.1

YATSYNINA, N. L., KARIKH, N. M., BEL'SKAYA, L. P.

"Problem of Measuring the Bicomplex Permeability of Ferrites"

Tr. Sib. n.-i. in-t metrol. (Works of the Siberian Scientific Research Institute of Metrology), 1969, Vol 2, pp 150-156 (from RZh-Radiotekhnika, No 4, 1970, Abstract No 4A343)

Translation: The Siberian Scientific Research Institute of Metrology developed a series of units for measuring the frequency and temperature spectra of the bicomplex permeability of ferrites. The units are based on the standing wave method and use a variable length, coaxial resonator which makes measurement possible in the 200-10,000 MHz range. The specimen is placed at the junction of two sections of the resonator whose resonance length changes with the aid of two pistons. Specimen temperature is measured from -150 to +600° C with the aid of a cryothermochamber. An analysis of some of the obtained results is given. Original article: 5 illustrations and 4 bibliographic entries. N.S.

1/1

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR UDC 621.317.799:621.318.1

KUGAYEVSKIY, A. F., YATSYNINA, N. L., KARIKH, N. M.

"Measuring the Characteristics of Magnetic Materials at High and Super-High Frequencies Using a System With Distributed Constants"

Tr. Sib. n.-i. in-t metrol. (Works of the Siberian Scientific Research Institute of Metrology), 1969, Vol 2, pp 141-149 (from RZh-Radiotekhnika, No 4, 1970, Abstract No 4A342)

Translation: A summary is given of the various variants of the standing wave method (using a measuring line, a wave guide or a coaxial resonator). Engineering formulas are given. The relative advantages of using the coaxial resonator with respect to measurement loss is noted. A unit, developed by the authors, is described in which the test specimen is located at the junction of the two sections of a half-wave coaxial resonator with movable pistons. Measurement can be automated by using a digital voltmeter or a two-coordinate recording unit. Problems of producing standard measuring equipment are discussed. The original article: 2 illustrations and 7 bibliographic entries. N. S.

1/1

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR

UDC 621.372.413(088.8)

KUGAYEVSKIY, A. F., YATSYNINA, N. L., KARIKH, N. M., IVANNIKOV, YU. A.

"Coaxial Resonator"

USSR Author's Certificate No 252430, Filed 27 May 68, Published 6 Feb 70 (from RZh-Radiotekhnika, No 9, Sep 70, Abstract No 9B127P)

Translation: The proposed resonator is designed for measuring the electrical parameters of materials. It consists of two sections connected to each other. In order to improve the Q-factor of the resonator and increase the accuracy of the measurements, one section of the resonator is fastened on a moving spring-loaded carriage. The internal conductor of the resonator is equipped with a tip which is supported on a threaded bushing of a bracket which is fastened to the base of the carriage. There is one illustration.

1/1

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR 621.318.1:621.317.411

YATSYNINA, N. L., KARIKH, N. M., BEL'SKAYA, L. P.

"The Problem of Measurement of the Bicomplex Permeability of Ferrites"

Tr. Sib. N-I. In-T Metrol. [Works of the Siberian Scientific Research Institute for Metrology], No. 2, 1969, pp 150-156 (translated from Referativnyy Zhurnal Metrologiya I Izmeritel'naya Tekhnika, No. 4, 1970, Abstract No. 4.32.1342, unsigned)

Translation: An investigation of the frequency and temperature spectra of magnetic permeability of ferrites with structure like the mineral magnetoplumbite is performed. An explanation is presented for the resonance maximum and compensation point on the temperature curve. Five illustrations, four biblio. refs.

1/1

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR 621.318.1.089.5

KUGAYEVSKIY, A. F., YATSYNINA, N. L., KARIKH, N. M.

"Measurement of Characteristics of Magnetic Materials at High and Superhigh Frequencies Using Systems With Distributed Constants"

Tr. Sib. N-I. In-T Metrol. [Works of Siberian Scientific Research Institute for Metrology], No. 2, 1969, pp 141-149 (translated from Referativnyy Zhurnal Metrologiya I Izmeritel'naya Tekhnika, No. 4, 1970, Abstract No. 4.32.1348, unsigned)

Translation: A standing wave method realized using a measuring line, waveguide and coaxial resonator is analyzed. Calculation formulas for the dielectric constant and magnetic permiability are given, the maximum and minimum loss values for all cases are determined. The advantages and shortcomings of the measuring systems analyzed are described. Two illustrations, seven biblio. refs.

1/1

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

Acc. Nr. AP0048841 Abstracting Service: CHEMICAL ABST. 5-70 Ref. Code 2U R0459

91077f Correlation between the structure and properties of plasticized poly(vinyl chloride). Shtarkman, B. P.; Yatsynina, T. L.; Belakirskaya, V. L. (USSR). *Vysokomol. Soedin., Ser. A* 1970, 12(1), 149-53 (Russ). Dispersions of com. poly(vinyl chloride) (I) (mol. wt. 150,000) were prepd. at 160-80° in bis(2-ethylhexyl) phthalate (II) and compressed or allowed to solidify into films. The rates of II extn. with MeOH at room temp., gas permeability, elec. cond., and Brilliant Green diffusion rates for the films all decreased with increasing I concn. The elasticity modulus and glass temp. of the films increased with I concn. The plots of I concn. vs. film properties have inflections at ~50% concn. Below 50% I concn. the structure consists of a fibrillar network in a continuous liq. II phase. Above 50% the bubbles of II are encapsulated by I fibrils. CPJR

LD

4/1 7

REEL/FRAME
19800608

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

1/2 . 012 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--ABSORPTION DURING THE DRYING OF NATURAL GAS -U-

AUTHOR-(03)--SABIROV, SH.M., LAVROV, N.V., YATSYUK, P.YE.

COUNTRY OF INFO--USSR

SOURCE--GAZOV. PROM. 1970, 15(2), 43-5

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--NATURAL GAS, ADSORPTION, ETHYLENE GLYCOL, DEHYDRATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/2043 STEP NO--UR/0492/70/015/002/0043/0045

CIRC ACCESSION NO--AP0122272

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

2/2 012 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0122272

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A 6 TRAY ABSORBER OF 2.4,M DIAM., USING 90-9.5PERCENT DIETHYLENE GLYCOL, WAS OPERATED AT 150,000, 170,000, AND 200,000 M PRIME3 -HR, AND AN EMPIRICAL EQUATION DERIVED FOR DETN. OF A COEFF. OF MASS TRANSFER. EQUATIONS WERE ALSO DEVELOPED FOR THE REQUIRED NO. OF TRAYS AND THE WATER CONTENT OF THE GLYCOL TO ACHIEVE A DESIRED LEVEL OF GAS DEHYDRATION.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR UDC: 517.945.72

KHOMA, G. P. and YATSYUK, V. T.

"Shortening the Computing Method for Partial Differential Equations"

Kiev, Ukrainskiy Matematicheskiy Zhurnal, No 3, 1972, pp 418-421

Abstract: The method of the second of the above-named authors, presented in an earlier article (K issledovaniyu sistem differentsial'nykh uravneniy v prostranstve C^{∞}, Sb. Asimptoticheskiye i kachestvennyye metody v teorii nelineynykh kolebaniy -- Investigating Systems of Differential Equations in C^{∞} Space, in the collection Asymptotic and Qualitative Methods in Nonlinear Oscillation Theory, Izd. In-ta matematiki AN UkSSR, Kiev, 1971) is used to shorten the method for computing differential equations containing partial derivatives. A partial differential equation is considered and is transferred to C^{∞} space, a point in which is the computed totality of continuous functions uniformly limited by some constant.

1/1

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR UDC 539.293+621.382.81

ADIROVICH, E. I., Academician of the Academy of Sciences Uzbek SSR; YUABOV, YU. M., and YATUDAYEV, G. R., Physicotechnical Institute imeni S. V. Starodubtsev of the Academy of Sciences Uzbek SSR, Tashkent

"Thin-Film Photodiode Matrices Based on nCdS-pCdTe Heterojunctions"

Moscow, Doklady Akademii Nauk SSSR, Vol 192, No 4, 1 June 1970, pp 764-767

Abstract: A thin-film photodiode matrix is described that is based on nCdS-pCdTe heterojunctions, the characteristics of which (volt-ampere, luxvoltage, spectral, and frequency) were described previously by the authors (Fiz. i Tekhn. Poluprovodnikov, Vol 3, No 1, 1969, p 81). The use of heterodiodes as light receivers is possible mainly due to the fact that they have a wide band of spectral sensitivity with an almost constant quantum yield, which is very essential in processing an optical signal. The matrix consists of an nCdS-pCdTe heterostructure with two mutually perpendicular systems of screen electrodes: bands of SnO_2 through which the structure is illuminated

1/2

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR

ADIROVICH, E. I., et al, Doklady Akademii Nauk SSSR, Vol 192, No 4, 1 June 1970, pp 764-767

and bands of copper serving as upper electrodes. Film matrices with 144 photodiodes per cm^2 were prepared with an active area of the element 0.25 mm^2. The density of elements achieved in these laboratory samples is by no means the technological limit. Care was taken to ensure identical parameters of the photodiodes forming the matrix. The minimum light intensity for which the photocurrent of all elements will be identical is approximately 100 lux. A study of volt-ampere characteristics showed that the dependence of current on voltage and temperature for nCdS-pCdTe heterojunctions does not correspond to the diffusion, emission, and recombination models but is in agreement with the tunnel-recombination theory of Riben and Feucht. It is concluded that the direct current through the heterojunction is caused by a tunnel-recombination mechanism, since a quantitative comparison of experiment and theory shows that the passage of carriers through the heterojunction has a multistep character.

2/2

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR UDC: 681.325.6

LEYTMAN, B. S., YAUNZEM, A. V., Riga Polytechnical Institute

"A Device for Performing Logical Operations on Analog Quantities"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 8, Mar 71, Author's Certificate No 296261, division H, filed 7 Apr 69, published 12 Feb 71, p 191

Translation: This Author's Certificate introduces a device for performing logical operations on analog quantities. The device contains AND and OR diode logic circuits, transistorized switches, and a matching transformer. As a distinguishing feature of the patent, the functional possibilities of the device are extended by connecting the AND and OR diode logic circuits in parallel to the output of the device, while their outputs are connected through controlled transistor switches of opposite conductivity type to the primary windings of the matching transformer.

1/1

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR

UDC 513.88.513.83

YAUNZEM, A. Ya.

"Quasicomplements in Vector Spaces in Dualities"

Lavt. mat. yezhegodnik (Latvian Mathematical Annual), Vol 8, 1970, pp 241-247 (from Referativnyy Zhurnal -- Matematika, No 7, July 71, Abstract No 7B641, by M. Kadets)

Translation: Suppose X and Y are vector spaces in dualities alloted by weak topology. Conditions are specified which, when satisfied, provide that each subspace in X (or in Y) has a quasicomplement.

1/1

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR

UDC 513.88:513.85

YAUNZEM, A. Ya.

"Generalized Vedenisov Theorem and Its Applications"

Latv. mat. vezhegodnik (Latvian Mathematical Annual), Vol 8, 1970, pp 249-258 (from Referativnyy Zhurnal -- Matematika, No 7, July 71, Abstract No 7B661, by M. Kadets)

Translation: Fundamental theorem. Suppose H_0 and H_1 are subsets of the topological space S. Then for the existence of the function $f(s) \in C(S)$ such that $0 \leq f(s) \leq 1$; $[f(s) = i] \equiv s \in H_i$, it is necessary and sufficient that H_0 and H_1 are divided by C(S) and are sets of the type A_δ. (The set $H \subset S$ is called a type A_δ set if $H = \bigcap A_n$, where H and $S \setminus A_n$ are divided by C(S)). Applications to linearly topological spaces are indicated.

1/1

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR

YAVERBAUM, P. M.

UDC 615.916:546

"Activity of Certain Enzymes in the Liver During Expressed Lead Intoxication in White Rats"

Nauch. tr. Irkutsk. med. in-t (Scientific Works of the Irkutsk Medical Institute), 1972, vyp 110, pp 110-111 (from RZh--Farmakologiya, Khimioterapevticheskiye Sredstva. Toksikologiya, No 3, Mar 73, Abstract No 3.54.660)

Translation: Daily for seven days, the rats were hypodermically administered 0.5 mℓ of 40 percent $PbNO_3$ solution. The weight of the liver in these animals was 9.1 grams immediately after the last injection (first group), 15 days after the end of poisoning (second group) it was 11.2 grams, in the control (third group) it was 5.6 grams. The dry residue of the liver was 23.4, 15.5 and 31.7 percent respectively of its total weight, and the Pb concentration in the liver was 1.48, 1.54 and 0.32 mg%. The greater part of the Pb was localized in the peripheral sections of the cytoplasm of the liver cells. The activity of the aldolase was reduced in the animals in the first group, and it was not distinguished in the second and third groups. The

1/2

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR

YAVERBAUM, P. M., Nauch. tr. Irkutsk. med. in-t, 1972, vyp 110, pp 110-111

activity of the lacetate-dehydrogenase in the animals of the first group was ~twice that in the third group, and that in the second group was six times that in the third group. The activity of the aspartate-aminopransferase of the animals in the first group dropped somewhat by comparison with the third group, and it normalized in animals of the second group. Attention is attracted to the continuation of the development of the intoxication after cessation of injection of the Pb into the organism of the animals.

2/2

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR

UDC 621.317.799

NEDOSTUP, L. A., YAVICH, A. A.

"Automation of Control for Long-Term Testing of Equipment"

Obmen opytom v radioprom-sti (Exchange of Experience in the Radio Industry), vyp. 5, Moscow, 1970, pp 77-79 (from RZh-Radiotekhnika, No 9, Sep 70, Abstract No 9A133)

Translation: On the basis of the operating experience of one of the enterprises, the advantages of using automatic control devices when performing long-range reliability tests on electronic measuring equipment are demonstrated.

1/1

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

Corrosion

USSR

UDC 620.193.46

YAVICH, A. A., ZHAMAGORTSYANTS, M. A., and VAGRAMYAN, A. T., Academy of Sciences USSR, Institute of Physical Chemistry

"Effect of Bromine Ions on Electrochemical Behavior of Nickel in $NiSO_4$ Solutions at 25-200°"

Moscow, Zashchita Metallov, Vol 8, No 3, May-Jun 72, pp 270-272

Abstract: The article describes results of a study of the electrochemical behavior of nickel in $NiSO_4$ solutions in the presence of Br^- ions at 25-200°. At low temperatures the bromine ions somewhat accelerate the deposition of nickel, but slow down its dissolution, while at high temperatures the bromine ions have practically no effect on the electrochemical behavior of nickel.

1/1

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

(3)

SO: JPRS 59277
14 JUNE 73

RELATION BETWEEN THE DEPOSITION CONDITIONS AND THE VOLT-AMPERE CHARACTERISTICS OF EPITAXIAL p-n-JUNCTIONS

p-n- semiconductors

[Article by I. B. Sladkov, V. V. Tuchkevich, B. S. Yavich, Novosibirsk, Protsessy Rosta i Struktura Monokristallicheskikh Sloyev Poluprovodnikov -- Trudy Simpoziuma, Russian, Part 2, 1969, pp 15-21]

The epitaxial process successfully used to create silicon microelements encounters defined difficulties when developing powerful power devices the basis for which is the structurally and electrophysically uniform layer of semiconductor several tens of microns thick and from tens to hundreds of square millimeters in area. The publications pertaining to the given problem are only a few. Li [1] reported on the junctions obtained by the diffusion of gold into an epitaxial silicon film having a breakdown voltage of 100 volts in an area of 1 mm^2. Mize and Renyan [2] prepared an epitaxial controllable diode with a breakdown voltage of 500 volts in an area of 1 mm^2. In the paper by Howard and Jones [3], the creation of an epitaxial diode with a breakdown voltage of 3 kilovolts in an area of 0.2 cm^2 was indicated. According to the estimate of Lathrop[4], a thick (to 250 microns) epitaxial layer can be obtained in sections of the substrate not exceeding 13 mm in diameter. This is connected with statistical contamination -- silicon particles settling on the hot parts of the reactor -- getting on to the growing layer.

The epitaxial silicon films obtained from the gas phase form defects during the growth process (tripyramids and packing defects), which worsen the properties of the p-n-junctions, giving them soft characteristics and decreasing the breakdown voltage [5, 6]. In order to obtain a high-quality p-n-junction it is necessary that the substrate surface not have any chemical or mechanical defects.

In this paper a study was made of the deposition factors affecting the morphology and the resistance of the epitaxial layers of silicon obtained by reducing the silicon tetrachloride by hydrogen. The inverse volt ampere characteristics of the p-n-junctions are presented which were formed by the following procedures:

1) Deposition of the unalloyed n-type layer on the p-type substrate;

YAVICH, B.S.

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

JPRS 59208
6-73

3

X-10. AUTOALLOYING OF EPITAXIAL LAYERS OF SILICON WITH BORON

[Article by Y. V. Tuchkevich, N. M. Shmidt, B. S. Yavich, Leningrad; Novosibirsk, III Simpozium po Protsessam Rosta i Sinteza Poluprovodnikovykh Kristallov i Plenok, Kuybyshev, 12-17 June, 1972, p 138]

A report was made on the autoalloying of epitaxial layers of silicon with boron in a number of papers; however, the transport mechanism of this admixture under the conditions of the epitaxial process has not been studied in practice.

The given paper is devoted to studying the causes of autoalloying when growing epitaxial layers from an unalloyed gas phase. In order to estimate the autoalloying level, the growth of the epitaxial layers was realized on high-resistance substrates placed in the interstitial layers with a boron content of $2 \cdot 10^{19}$ atoms/cm^3. This statement of the experiment permitted us to trace the variation of the concentration of the boron transported through the gas phase from the interstitial layer to the face of the substrate, excluding the phenomenon of autodiffusion. Growth was carried out from mixtures of SiH_4 with hydrogen or helium with a controlled moisture and oxygen content. The concentration and profile of the boron distribution with respect to depth of the epitaxial layer were measured by the C-V method. It was established that the accumulation of boron on the substrate surface takes place in the high-temperature annealing stage. The boron concentration depends on the annealing temperature and remains the same in the hydrogen and helium atmosphere. This fact indicates that the probable cause of autoalloying is the boron transport through the gas phase in the form of oxide.

YAVICH, B.S.

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

JPRS 57208
6-73

XII-4. SELECTIVE EPITAXIAL GROWTH OF SILICON IN THE SiH_4-H_2 SYSTEM

[Article by V. V. Tuchkevich, B. S. Yavich, Leningrad; Novosibirsk, III Simpozium po Protsessam Rosta i Sinteza Poluprovodnikovykh Kristallov i Plenok, Russian, 12-17 June 1972, p 167]

This paper is devoted to the study of the conditions of selective epitaxy of silicon in the SiH_4-H_2 system. The silicon was deposited in the 1,150-1,250° C interval on a substrate of (111) orientation. The thermally grown layer of silicon dioxide 0.5-0.8 microns thick was used as the mask. The structures obtained were studied using an electron microscope, a scanning electron microscope and a metallographic microscope.

It was established that under the deposition conditions preventing the occurrence of silicon crystallites on the SiO_2 surface, noticeable variation of the mask configuration takes place. Therefore, a study was made of the effect of the high temperature treatment on the stability of the SiO_2 layers in silicon in an atmosphere of H_2, He and a mixture of H_2 and SiH_4. The data from a thermodynamic analysis of the Si-O-H system were used to explain the experimental results.

Further confirmation of the role of the migration of silicon crystallites along the surface of the mask during the selective epitaxy process are presented. The crystallographic peculiarities of the lattices obtained using masks with a hole size of 5-7 microns are discussed.

YAVICH, B.S.

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

1/2 029 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--DISTRIBUTION OF ANTIMONY IN AUTO EPITAXIAL SILICON FILMS OBTAINED BY THE SILANE AND CHLORIDE METHODS -U-

AUTHOR-(04)-SLADKOV, I.B., TUCHKEVICH, V.V., SHMIDT, N.M., YAVICH, B.S.

COUNTRY OF INFO--USSR

SOURCE--FIZIKA I TEKHN. POLUPROV., APR. 1970, 4, (4), 796-798

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, MATERIALS

TOPIC TAGS--ANTIMONY, SILICON, SILANE, CHLORIDE, PHYSICAL DIFFUSION, EPITAXIAL GROWTH, METAL FILM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/0148 STEP NO--UR/0449/70/004/004/0796/0798

CIRC ACCESSION NO--AP0129404

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

2/2 029 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0129404

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AUTO EPITAXIAL SI FILMS WERE GROWN BY THE SILANE AND CHLORIDE METHODS AND THE RESULTANT IMPURITY (SB) DISTRIBUTION WAS MEASURED. IN FILMS OBTAINED BY THE CHLORIDE METHOD, IN PARTICULAR, THE SB DISTRIBUTION DIFFERED CONSIDERABLY FROM THAT CALCULATED FROM THE ORDINARY DIFFUSION EQUATION. IN THE CASE OF FILMS GROWN BY THE SILANE METHOD THEORY AND EXPERIMENT AGREED CLOSELY. THE DIFFERENCE MAY HAVE BEEN DUE TO EFFECTS TAKING PLACE ON THE BACK OF THE SUBSTRATE.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR Circuit Theory

UDC: 621.372.82

MALORATSKIY, L. G. and YAVICH, L. R.

Proyektirovaniye i raschet SVCh elementov na poloskovykh liniyakh (Design and Computation of UHF Elements Using Ribbon Lines), Moscow, "Sovetskoye radio," 1972, 232 pp

Abstract: Primarily a designer's handbook, this volume deals with miniaturized ultra high frequency circuits, their design and computation. It comprises five chapters and two appendices. The first chapter considers relationships between currents and voltages in many types of devices, required for understanding the mathematical transformations in the investigation of uhf elements, and demands comprehension of matrix theory as prerequisite. The next chapter investigates ribbon lines, which it defines as a line with a ribbon, square, or circular cross-sectioned conductor at some distance from a metal plane or between two metal bases. The following three chapters are concerned with uhf filter design, directional couplers, and couplers with connecting lines. In these chapters, as in the first and second, the accent is on design practice with little in the way of mathematical profundity. The two appendices contain tables of matrix relationships meant as computation aids, and tables for converting power and voltage ratios

1/2

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR

UDC: 621.372.82

MALORATSKIY, L. G., et al, Design and Computation of UHF Elements Using Ribbon Lines, Moscow, "Sovetskoye radio," 1972, 232 pp

into decibels and nepers. A final bibliography contains 72 titles.

2/2

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR

UDC: 621.372.82

MALORATSKIY, L. G. and YAVICH, L. R.

Proyektirovaniye i raschet SVCh elementov na poloskovykh liniyakh (Design and Computation of UHF Elements Using Ribbon Lines), Moscow, "Sovetskoye radio," 1972, pp 231-232

Translation:

TABLE OF CONTENTS

Foreword 3

Chapter 1. Problems in the Theory and Computation of Multi-Polar Networks 4

1.1. Fundamental characteristics and parameters of four-terminal networks 4

1.2. Computing four-terminal networks 16

1.3. Parameters and characteristics of eight-terminal networks 18

1/5

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR

MALORATSKIY, L. G. and YAVICH, L. R., Proyektirovaniye i raschet SVCh elementov na poloskovykh liniyakh, "Sovetskoye radio," 1972, pp 231-232

1.4. Deriving four-terminal from eight-terminal networks 30
1.5. Computing symmetrical eight-terminal networks. 35
1.6. Computing symmetrical six-terminal networks. 44
1.7. Matrix relationships for coupled lines 50

Chapter 2. Ribbon and Integrated-Circuit Ribbon Transmission Lines 57

2.1. Basic types of line. 57
2.2. Operating frequency bands; wavelengths 60
2.3. Limiting power 62
2.4. Attenuation and Q. 63
2.5. Wave resistance. 68
2.6. Geometrical line dimensions. 72
2.7. Coupled ribbon and miniature ribbon lines. 75
2.8. Substrate and semiconductor materials. 81
2.9. Ribbon junctions 84

2/5

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR

MALORATSKIY, L. G. and YAVICH, L. R., Proyektirovaniye i raschet SVCh elementov na poloskovykh liniyakh, "Sovetskoye radio," 1972, pp 231-232

Chapter 3. UHF Filters 89

3.1. Prototype circuits for uhf filters 89
3.2. Approximate method for designing bandpass filters with the same coupled lines. 95
3.3. Precise method for designing bandpass filters with coupled lines 112
3.4. Designing bandpass filters using the same ribbon lines with gaps 118
3.5. Designing low-frequency filters. 122
3.6. Designing band-trap filters. 126

Chapter 4. Ring Dividers: Ring and Loop Directional Couplers

4.1. Six-terminal ring power dividers (summators). 132
4.2. Operating characteristics and classification of directional couplers. 150

3/5

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR

MALORATSKIY, L. G. and YAVICH, L. R., Proyektirovaniye i raschet SVCh elementov na poloskovykh liniyakh, "Sovetskoye radio," 1972, pp 231-232

4.3. Ring directional couplers. 153
4.4. Loop directional couplers. 175
4.5. Applications for ring and loop directional couplers 191

Chapter 5. Couplers Using Coupled Lines. 196

5.1. Analysis and synthesis of single-stage directional couplers 196
5.2. Operation with unmatched loads 202
5.3. Couplers using coupled lossy lines 208
5.4. Multistage couplers using coupled lines. 210
5.5. Computing different types of coupler 214
5.6. Using couplers in coupled lines. 218
5.7. Comparative characteristics of directional couplers 221

4/5

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR

MALORATSKIY, L. G. and YAVICH, L. R., Proyektirovaniye i raschet SVCh elementov na poloskovykh liniyakh, "Sovetskoye radio," 1972, pp 231-232

Appendix 1

Matrix relationships and notations used in Soviet and foreign literature. 225

Appendix 2

Conversion of power and voltage ratios into decibels and nepers. 226

Bibliography. 227

Editor, L. V. Golovanova
Art editor, Z. Ye. Vendrova
Technical editor, Z. N. Ratnikova
Proofreaders, Ye. P. Czeretskaya, L. A. Maksimova

5/5

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

1/2 012 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--PRINCIPLES OF THE SORPTION OF TANNIN, PYROGALLOL SERIES, ON ION EXCHANGERS -U-

AUTHOR-(04)-YAVICH, P.A., RIZAYEV, N.U., BERIDZE, P.Z., SARABUNOVICH, A.G.

COUNTRY OF INFO--USSR

SOURCE--SOOBSHCH. AKAD. NAUK GRUZ. SSR 1970, 57(1), 101-4

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ADSORPTION, TANNIC ACID, ION EXCHANGE RESIN/(U)KB4 ION EXCHANGE RESIN, (U)KU2 ION EXCHANGE RESIN, (U)AN1 ION EXCHANGE RESIN, (U)AN2F ION EXCHANGE RESIN, (U)AV16 ION EXCHANGE RESIN, (U)EDE10P ION EXCHANGE RESIN, (U)AN31 ION EXCHANGE RESIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1372 STEP NO--UR/0251/70/057/001/0101/0104

CIRC ACCESSION NO--AP0128772

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

2/2 012 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0128772

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SORPTION DYNAMICS WAS STUDIED BY USING A COLUMN PACKED WITH 3 G DRY ION EXCHANGER, FILTRATION RATES OF 0.47-2.85 ML-MIN, AND TANNIN (I) SOLNS. OF EXTS. FROM TURKISH GALL NUTS, EACH CONTG. 7.5-8.5PERCENT I. THE SORPTION CAPACITY FOR I SOLNS. INCREASED IN THE FOLLOWING SERIES OF ION EXCHANGERS: KB-4, KU-2, KU-1, AN-1, AN-31, AN-2F, AV-16, EDE-10P, AV-17, WHEREAS FOR I EXTS. IN THE SERIES: KU-2, KU-1, KB-4, AN-1, AN-31, AN-2F, AV-17, EDE-10P, AV-16. THERE WAS A LITTLE DIFFERENCE BETWEEN THE SORPTION OF I FROM SOLNS. AND EXTS. THE SORPTION OF I WAS ACCOMPANIED BY THAT OF MINERAL IONS. HOWEVER, THEIR PRESENCE REDUCED THE SORPTION CAPACITY WITH RESPECT TO I. IT ALSO DROPPED MARKEDLY WITH INCREASING FILTRATION RATE, WHEREAS THE SORPTION WITH RESPECT TO MINERAL IONS DROPPED ONLY SLIGHTLY. WEAKLY BASIC ION EXCHANGERS FAILED TO SORB I OVER THE FLOW RATE RANGE 1.8-2.85 ML-MIN CM PRIME2, WHEREAS STRONGLY ACIDIC ONES SORBED LARGE AMTS. OF I EVEN AT HIGH RATES. I EXTS. CAN BE LIBERATED FROM MINERAL SALTS, ACIDIC COMPONENTS, AND NATURAL DYES BY FILTERING THEM THROUGH ION EXCHANGERS. IT IS ALSO POSSIBLE TO REMOVE I LIKE SUBSTANCES FROM PLANT EXTS. USING A SYSTEM COMPRISING A STRONGLY ACIDIC CATION EXCHANGER AND A STRONLY BASIC ANION EXCHANGER. FACILITY: INST. FARMAKOKHIM. IM. KUTATELADZE, TBILISI, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

1/2 007 UNCLASSIFIED

TITLE--ION EXCHANGE REFINING OF TANNIN -U- PROCESSING DATE--04DEC70

AUTHOR-(04)-RIZAYEV, N.U., BERIDZE, P.Z., YAVICH, P.A., SARABUNOVICH, A.G.

COUNTRY OF INFO--USSR

SOURCE--SOOBSHCH. AKAD. NAUK. GRUZ. SSR 1970, 57(3), 597-600

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ION EXCHANGE RESIN, TANNIC ACID, CHEMICAL PURITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/0983 STEP NO--UR/0251/70/057/003/0597/0600

CIRC ACCESSION NO--AP0136413

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

2/2 007 UNCLASSIFIED

CIRC ACCESSION NO--AP0136413 PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DIFFERENT CATION AND ANION EXCHANGE RESINS WERE EMPLOYED FOR THE REFINING OF TANNIN FROM TWO SOURCES. IN SOME REFININGS THE PURITY OF TANNIN WAS AS HIGH AS 94.5PERCENT. THE MERITS OF THESE RESINS ARE DISCUSSED FROM AN EXPTL. VIEW. FACILITY: INST. FARMAKOKHIM. IM. KUTATELADZE, TBILISI, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR

UDC 533.6.011.3

SOLOV'YEV, L. S., YAVLINSKIY, Yu. N.

"The Hydrodynamic Instability of Cylindrical Ruptures"

Moscow, Doklady Akademii Nauk SSSR, No 2, 1971, pp 309-311

Abstract: An investigation is made of the hydrodynamic instability of the cylindrical flow of an ideal fluid. If the velocity gradients v and the density gradients ρ of the fluid are sufficiently great, so that the change of v and ρ may be approximated by a rupture, the solution of the problem of stability can be expressed in terms of precise solutions of the oscillation equations. 7 bibliographic entries.

1/1

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

Acc. Nr: AP0048364 Abstracting Service: CHEMICAL ABST. 5-70 Ref. Code: UR0007

102743y Distribution of the platinum group elements and rhenium in iron meteorites. Yavnel, A. A. (USSR). *Geokhimiya* 1970, (2), 228-42 (Russ). On the basis of published data on the content in Fe meteorites of Pt metals and Re it is shown that these elements divide into 3 groups: (*1*) Re, Os, Ir, (*2*) Rh, Ru, Pt, and (*3*) Pd, with a sufficiently const. ratio of their content within the 1st 2 groups: Re:Os:Ir = 1:10:10; Rh:Pu:Pt = 1 – 3:10:10. When comparing logarithms of element concns., a pos. correlation of Re, Os, Ir with regard to Rh, Ru, Pt, and a neg. correlation of all these elements with regard to Pd and Ni in different Ga-Ge groups of Fe meteorites. Discontinuities of the continuous concn. series of Pt metals and Re between genetically related Ga—Ge Groups II*a* and II*b*, as well as III*a* and III*b* are traced. In accordance with this the presence of 3 differentiation stages of Pt metals and Re in meteoritic material is assumed. BLJR

1/1

REEL/FRAME
19800072

12

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR UDC 621.791.753.93:621.014.3:669.295

KUDOYAROV, B. V., Candidate of Technical Sciences, and NIKOLAYEV, A. A., POLYAKOV, V. M. and YAVNO, E. I., Engineers

"Semiautomatic Pulse-Arc Welding of Titanium Alloys Using Consumable Electrode in Inert Gas"

Moscow, Svarochnoye Proizvodstvo, No 11, Nov 70, pp 17-19

Abstract: The authors of this article have developed equipment and technology for semiautomatic pulsed-argon welding of titanium alloys capable of solving problems encountered earlier in this work. The "Impul's-1" device provides for reliable feed of the welding wire and good quality protection of the welding bath. The best results as concerns stability of arc and external formation of welded bead are produced when helium is used as the protective gas. The mechanical properties of the welded seams and joints are equivalent to the properties produced by manual argon-arc welding. The use of the semiautomatic pulsed arc welding device allows the productivity of labor to be increased and the welding deformations to be decreased, mechanizing the welding of structures of titanium and its alloys in all positions.

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR

KOTOV, N. V., YAVOR, A. A.

"Influence of Boundary Between Layers on Mechanical Properties of Metal Multilayer Composite Materials"

Tr. Volgogr. Politekhn. In-ta [Works of Bolgograd Polytechnical Institute], 1972, No 4, pp 198-206 (Translated from Referativnyy Zhurnal Mekhanika, No 5, 1973, Abstract No 5V 1209, by A. A. Khvostunkov).

Translation: Results of tensile testing of multilayer specimens of a number of steels are discussed. The number of layers varied from 3 to 11 with identical specimen thickness. The strength of multilayer materials of 1Kh18N10T and VKS-1 steels decreases with increasing number of layers, while for two other materials tested the strength first increases, then decreases. The maximum strength in these two cases was that of five-layer specimens. Residual deformation decreased with increasing numbers of layers, the even deformation remaining the same while local deformation in the rupture zone was increasingly localized. This indicates the presence of cracks in the material. Metallography shows that the cracks are located in the areas where the layers are joined.

1/2

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR

KOTOV, N. V., YAVOR, A. A., Tr. Volgogr. Politekhn. In-ta, 1972, No 4, pp 198-206.

The presence of cracks causes the strength to drop as the number of layers increases. 16 biblio. refs.

2/2

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR

UDC 621.172:62-408.3

PASHKOV, P. O., YAVOR, A. A., SAVCHENKOV, E. A., KOTOV, N. V., SKLYAROV, N. M., MIKHEYEV, A. A., and PLATONOV, A. A., Volograd Polytechnic Institute, All Union Scientific Research Institute of Aviation Materials

"Properties of High-Strength Clad Sheet Steel in Tension"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 12, 1973, pp 37-40

Abstract: Specimens of VKS-1 steel, 1.5 mm thick, clad with the corrosion-resistant KhN78T (EI435) alloy, 13-15% of sheet thickness, were tested for mechanical properties by the method: axial tension - static bending - biaxial tension - tensile fracture (crack sensitivity). The investigation results indicate that VKS-1 clad steel possesses higher strength and plasticity in comparison with steel without cladding and higher resistance to rupture. The strength of VKS-1 steel in biaxial tension comes up to maximum values; besides, the strength in axial tension is 20-25% higher than the strength of homogeneous VKS-1 steel. The application of electroslag remelting contributes to increased plasticity under tension for high-strength clad steel, but to a smaller degree than for homogeneous steel. Three figures, two tables, seven bibliographic references.

1/1

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR UDC 539.4:669-419.4

YAVOR, A. A., and YAROSHENKO, A. P., Volgograd Polytechnic Institute

"On the Strength of Clad Steels"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 8, 1971, pp 14-20

Abstract: The article considers the mechanical properties of clad structural sheet steels. The mechanical properties of clad steel are determined by the thickness ratio of the layers (soft and hard). There is reduced strength and increased ductility with an increase in the proportion of soft steel, but not according to linear law. The article attempts to establish the character of this dependence so as to determine the most rational cladding and reinforcement limits. Materials studied include hardened steel 30KhGSA, two-ply steel of the composition 30KhGSA + 25-percent Kh18N10T, two-ply steel Kh18N10T + 65G, three-ply

1/2

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR

YAVOR, A. A., and YAROSHENKO, A. P., Metallovedeniye i Termicheskaya Obrabotka Metallov, No 8, 1971, pp 14-20

steels 65G + Kh18N10T + 65G and Kh18N10T + 65G + Kh18N10T, five-ply steel Kh18N10T + 65G + Kh18N10T + 65G + Kh18N10T, alloy KhN78T + VKS type steel + alloy KhN78T. The structural strength and ductility of high-strength steels can be increased by two-sided cladding with plastic steels of the austenitic class.

2/2

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

Acc. Nr: AP0046017 Abstracting Service: INTERNAT. AEROSPACE ABST. Ref. Code: 5-70 2U R0057

IAVOR, I. P.

A70-25116 # **Excitation and ionization of atoms under Knudsen conditions of operation of a cesium diode (Vozbuzhdenie i ionizatsiia atomov v Knudsenovskikh rezhimakh raboty tseziev.go dioda).** E. P. Busygin, V. G. Grigor'iants, B. G. Zhukov, and I. P. Iavor (Akademiia Nauk SSSR, Fiziko-Tekhnicheskii Institut, Leningrad, USSR). *Zhurnal Tekhnicheskoi Fiziki*, vol. 40, Jan. 1970, p. 211-217. 10 refs. In Russian.

Description of the measurement method employed and summary of the results obtained in an experimental study of the processes of excitation and ionization of cesium atoms in the interelectrode space under Knudsen conditions of operation of a narrow-gap cesium diode. The special features leading to luminescence in the gap under undercompensated conditions are noted. It is shown that under these conditions excitation is caused by an accelerated-electron beam. From the results of spectroscopic measurements the electron energy distribution in the region of the boundaries of line manifestation and in the anode region of the gap is determined for both small and large anode voltages. It is observed that the conditions of excitation of atoms change with the start of ionization in the interelectrode space. A.B.K.

REEL/FRAME
19781078

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR

UDC 537.533.331

LYUBCHIK, Ya. G., MOKHNATKIN, A. V., Candidate of Sciences, CHENTSOV, Yu. V., Doctor of Sciences and YAVOR, S. Ya.

"Electron-Optical System of Nonaxisymmetrical Elements for Building a Microprobe"

Leningrad, Optiko-mekhanicheskaya promyshlennost' No 11, Nov 71, pp 7-9

Abstract: The use of nonaxisymmetrical elements such as quadrupoles and octupoles for correction of spherical aberration in microprobe systems is suggested. A model of a triplet consisting of four similar five-electrode electrostatic quadrupole-octupole lenses is described. The small excitation regimes and a part of strong excitation regimes of quadrupoles (up to V = 3-3.5 kv) were experimentally investigated at magnification ratio not higher than 1/3. Coefficients of linear magnification were determined using a fine mesh screen as an electron-optical object. The excitation values and coefficients of linear magnification obtained experimentally and by computation on a BESM-4 computer, presented in graphs, show good agreement.

1/1

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR

UDC 616.12-007-053.1-089.5-06

SERGIYEVSKIY, V. S., TASHPULATOV, A. T., CHERNOV, V. K., NUGMANOV, YE. K., YAVORSKAYA, G. V., ERENBURG, T. A., LIZUNKOVA, L. P., and TSYBANEVA, N. G., Department of Cardiovascular Surgery, Kazakh Institute of Clinical and Exeperimental Surgery, Ministry of Public Health, Kazakh SSR, Alma-Ata

"Operative Complications During Correction of Congenital Heart Defects Under Conditions of Moderate Hypothermia"

Moscow , Grudnaya Khirurgiya, No 2, 1970, pp 57-62

Abstract: A total of 230 operations were performed using hypothermia at the institute from 1965 to 1969, operations were conducted to correct septal defects, pulmonary and aortic stenosis, tetralogy of Fallot, combined and rare defects. Among the life-threatening complications encountered in the operations were asystole, ventricular fibrillation, aeroembolism of the coronary vessels, loss of blood, atrioventricular and bundle-branch heart block. The causes of the complications are analyzed and suggestions made to prevent them and to control those that occur. With the present level of knowledge, mortality during operations performed under moderate hypothermis should not exceed 1%.

1/1

7676

- END -

CSO: 1840 (92 pages)

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

1/2 017 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--ON THE MECHANISM OF FORMATION OF METALLO POLYMERS BASED ON EPOXY THIOKOL COMPOSITION AND COLLOIDAL LEAD -U-

AUTHOR-(05)-ULBERG, Z.R., KOMPANIYETS, V.A., ILINA, Z.T., YAVORSKAYA, N.V., NATANSON, E.M.

COUNTRY OF INFO--USSR

SOURCE--KOLLOIDNYY ZHURNAL, 1970, VOL 32, NO 2, PP 278-281

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--METAL CONTAINING POLYMER, EPOXY RESIN, LEAD, POLYSULFIDE RUBBER, FREE RADICAL, CHEMISORPTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1551 STEP NO--UR/0069/70/032/002/0278/0281

CIRC ACCESSION NO--AP0112545

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

2/2 017 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0112545

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INTERACTION OF AN EPOXY THIOKOL MIXTURE WITH COLLOIDAL LEAD DURING ITS THERMAL FORMATION INVOLVES THE APPEARANCE IN THE SYSTEM OF FREE RADICALS AT THE TEMPERATURE 240 PLUS OR MINUS 10DEGREES. THE INTERACTION BETWEEN THE EPOXY THIOKOL MIXTURE AND THE SURFACE OF COLLOIDAL LEAD IS OF A CHEMISORPTIVE NATURE. THE TEMPERATURE CONDITIONS OF PREPARATION OF METALLO POLYMERS BY THE THERMAL METHOD HAVE BEEN ESTABLISHED. THE DEGREE OF SWELLING OF METALLO POLYMERS DECREASES WITH RISING METAL CONCENTRATION.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR

UDC 576.858.23(Coxsackie)

YAVOROVSKAYA, V. YE., BALANDINA, A. M., and GICHEVA, T. A., Medical Institute Novosibirsk

"A Study of Some Genetic Traits of Coxsackie A13 and A18 Viruses Circulating Under Natural Conditions. A Study of Reproductive Activity and Thermal Resistance"

Moscow, Voprosy Virusologii, No 4, Jul/Aug 1972, pp 480-482

Abstract: Genetic traits of wild Coxsackie A13 and A18 viruses were compared with those of viruses obtained from rheumatic patients in order to reveal any possibilities for differentiating between these groups of viruses. Results indicated that traits describing thermal resistance are identical for almost all 11 strains investigated. All viruses had reduced reproduction at 24°C and were relatively unaffected at 40°C. At 32°C 2 subgroups had relatively unaffected reproduction and 1 revealed reduced reproduction. Heating for 1 hour at 50 and 56°C decreased reproduction of all strains. Thermal resistance in the presence of Mg^{2+} was relatively unaffected, while heating at 50°C at pH 2.0 and 12.0 reduced thermal resistance of all strains. Basic medium had a more rapid inactivating effect than acid medium. Similarity in thermal resistance responses prevents employment of these traits for differentiating the strains tested.

1/1

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR

UDC 615.281:8:547.775

SARATIKOV, A. S., YAVOROVSKAYA, V. YE., PRISHCHEP, T. P., BLAGERMAN, S. K., KISELEVA, V. N., IL'INSKIY, N. N., and GICHEVA, T. A., Chair of Pharmacology, Tomsk Medical Institute, Tomsk, and Chair of Microbiology, Novosibirsk Medical Institute, Novosibirsk

"The Antivirus Effect of Some Pyrazolone Derivatives in a Cell Culture in Vitro"

Moscow, Farmakologiya i Toksikologiya, Vol 36, No 1, Jan/Feb 73, pp 67-73

Abstract: In experiments carried out with human fibroblast cell cultures, butadion, stearic acid antipyrylamide, and p-aminobenzoic acid N-methyl-N-antipyrylamide had an antivirus effect on the Coxsackie A13 virus with which the cell culture was infected. This effect was due to the formation by the culture cells of an inhibitor which was not identical with interferon, because it was inactivated at pH 2.2. The pyrazolone derivatives studied stimulated the functional activity of the culture cells and did not damage their nuclear structures. These derivatives had no bactericidal effect on hemolytic streptococci. However, the culture liquid containing the inhibitor had a bacteriostatic effect on these streptococci. Hemolytic streptococci are often present together with Coxsackie virus A 13 in patients with rheumatic fever, particularly in the acute stage of this disease.

1/1

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR UDC 576.858:616-002.77

BOCHAROV, Ye. F., YAVOROVSKAYA, V. Ye., SHKURUPIY, V. A., BLINOVA, L. I., and KAZNACHEYEV, V. P., Novosibirsk Medical Institute, and Central Order of Lenin Institute of Advanced Training of Physicians, Moscow

"Morphogenesis of Coxsackie A 13 Virus Isolated From Rheumatic Fever Patients"

Novosibirsk, Izvestiya Sibirskogo Otdeleniya Akademii Nauk SSSR, Seriya Biologicheskikh Nauk, No 10 (190), 1971, pp 131-137

Abstract: Light and electron microscope examination of human embryonic fibroblasts infected with Coxsackie A 13 virus, strain 689, isolated from rheumatic fever patients, showed that the nature and dynamics of the observed changes were identical to those in fibroblasts infected with the prototype virus. Signs of degeneration were evident within 6 to 8 hours when the virus began to reproduce and emerge from the cells. Two hours later eosinophilic and basophilic inclusions appeared in most of the affected cells. As the infection developed, the nucleus shifted to one of the poles. Structural changes in the cell organelles, especially the mitochondria, were prominent. Complex membranous-vesicular structures consisting of cytoplasmic vacuoles formed around the cells. Discrete granules were scattered about the cytoplasm. Virus particles concentrated on the periphery of the cells. These findings

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR

BOCHAROV, Ye. F., et al., Izvestiya Sibirskogo Otdeleniya Akademii Nauk SSSR, Seriya Biologicheskikh Nauk, No 10 (190), 1971, pp 131-137

are in agreement with the results of morphological studies on other picorna viruses and support the view that virus isolated from rheumatic fever patients belongs to the enterovirus group.

2/2

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

Optics & Spectroscopy

USSR UDC 53:371.3

YAVORSKIY, B. M., MOLOTKOV, N. YA

"Some Demonstrations in Centimeter-Wave Optics"

Tomsk, Izvestiya Vysshikh Uchebnykh Zavedeniy, Fizika, No 2, February 1971, pp 138-140

Abstract: Experimental procedures are presented for demonstrations in centimeter-wave optics including 1) double refraction, 2) the operation of a polarizer and an analyzer, and 3) transmission of a plane wave through a dielectric interface. Radio-physical models of artificial dielectrics are used in the experiments. In the experiment in double refraction, the length of certain dipoles of the proposed model l_x = 18 mm was greater than the half wave-length of the emission used (λ = 32 mm), and the length of others l_y = 14 mm was less than $\lambda/2$. Thus, the natural frequencies of the dipoles were on both sides of the resonance frequency. This choice of dipole lengths made it possible to create an artificial dielectric with sharp anisotropy and to obtain circular polarization. Crossed dipoles forming a rectangular lattice were used as the polarizer and analyzer model. Artificial dielectrics consisting of two planes and six planes were used for the interface experiment.

1/1

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR

UDC 549.212+66.0943

YAVORSKIY, I. A., Institute of Physicochemical Bases for the Treatment of Mineral Raw Materials, Siberian Branch of the Academy of Sciences USSR

"Interaction of Atomic and Molecular Oxygen With Atomic Carbon and Monocrystalline Graphite"

Moscow, Khimiya Tverdogo Topliva, No 1, Jan/Feb 71, pp 119-130

Abstract: A quantum-chemical approach was used to explain the phenomena of atomic carbon oxidation. The stages in the formation of the electronic structure of CO and CO_2 molecules by the reaction of atomic oxygen with carbon were analyzed in terms of the spatial distribution of generalized MO (molecular orbitals). Schemes were presented for the formation of generalized orbitals in the interaction of molecular oxygen with atomic carbon as well as the interaction of atomic oxygen with atomic carbon. A characteristic feature of the CO molecule is that the unshared electron pairs of the carbon atom $3\sigma(s_c-p_{x_c})$ have electron-donor properties and can form a bond with originally unfilled molecular orbitals. In the formation of CO with nine electrons, one electron is set free, providing electrical conductivity of the gas current in the high-temperature combustion of carbon to CO. In the inter-

1/2

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR

YABORSKIY, I. A., Khimiya Tverdogo Topliva, No 1, Jan/Feb 71, pp 119-130

action of oxygen with carbon crystallites in which the C atoms are at least partially, if not completely, arranged in aromatic ring structures involving covalent bonds with sp^2 hybridization, oxygen is adsorbed at the surface under formation of various C-O complexes, at temperatures of $\sim 1500^\circ K$. Various types of interaction are analyzed in terms of MO theory. The number of stages of the combustion process (of carbon by oxygen) was found to depend on the arrangement of the carbon atoms in the crystallite. This number, in turn, will determine the rate of formation of the final electronic structure. Chemical interaction at the base plane of carbon lattices can occur only at a high energy level of the system, achieved by a transition of the carbon atoms to an sp^3-hybrid state.

2/2

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR

UDC 541.182.2/3

YAVORSKIY, I. A., TEREBENIN, A. N., and BYKOV, A. P., Institute of Physical Chemical Principles of the Processing of Raw Mineral Material, Novosibirsk

"Precipitation of Aerosols in a Medium Supersaturated With Water Vapor"

Novosibirk, Izvestiya Sibirskogo Otdeleniya Akademii Nauk SSSR, No 8 (203), Jun 72, pp 86-92

Abstract: Highly dispersed aerosols may be precipitated very effectively out of the gasseous phase by cooling the dusty gasses saturated with water vapor in a fine gage nozzle. The effectiveness of the aerosol precipitation on the condensation-diffusion filter depends on the specific quantity of the condensing moisture, velocity of the gas, the type, width and height of the condenser, nozzle channels and on the initial dust content of the gas. The laminated nozzle appears to be the most reasonable type of nozzle for the condenser. The precipitation of aerosol particles and drops in a condensation-diffusion nozzle takes place principally on account of the diffusion forces.

1/1

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

1/2 033 UNCLASSIFIED

TITLE--NAZAROVO LIGNITE STUDIED AFTER ITS PREPARATION FOR COMBUSTION AS A DUST -U- PROCESSING DATE--13NOV70

AUTHOR-(02)-YAVORSKIY, I.A., RIVKIN, A.S.

COUNTRY OF INFO--USSR

SOURCE--KHIM. TVERD. TOPL. 1970, (2), 125-33

DATE PUBLISHED--------70

SUBJECT AREAS--PROPULSION AND FUELS

TOPIC TAGS--COMBUSTION R AND D, SOLID FUEL, STEAM BOILER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/0968 STEP NO--UR/0467/70/000/002/0125/0133

CIRC ACCESSION NO--AP0133054

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

2/2 033 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0133054

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SAMPLES OF NAZAROVO LIGNITE DUST WERE TAKEN AT A POINT CLOSE TO THE BURNERS OF A STEAM BOILER AND THE DUST WAS SCREEN CLASSIFIED INTO 7 FRACTIONS OF SMALLER THAN 40, 40-75, 75-90, 90-140, 140-200, 200-500, AND LARGER THAN 500 MU. THE FRACTIONS AND THEIR ASH CONTENTS (RESULTING FROM MILD COMBUSTION AT 550DEGREES) WERE ANALYZED AND THE TEMP. PROPERTIES OF THE ASH WERE DETD. THE DUST FRACTIONS WITH PARTICLE SIZE SMALLER THAN 90 MU CONTAINED 72PERCENT OF THE TOTAL AMT. OF THE MINERAL COMPONENTS IN THE LIGNITE AND 87PERCENT OF THE COMPONENTS WERE PRESENT AS FREE MINERAL PARTICLES. THE SMALLER THEN 40 MU FRACTION CONTAINED SIMILAR TO 38PERCENT OF THE TOTAL DUST AMT. AND WAS QUITE DIFFERENT FROM OTHER FRACTIONS IN THAT THE ASH CONTENT (10PERCENT) WAS MAX., THE ASH CONTAINED MAX. AMTS. OF SIO SUB2 MOSTLY AS FREE QUARTZ PARTICLES, AND THE ASH WAS EASILY MELTED. THE SMALLER THAN 40 MU FRACTION IS THEREFORE CHIEFLY RESPONSIBLE FOR SLAG FORMATION ON THE SCREENS AND HEATED SURFACES OF THE STEAM BOILER. FACILITY: VSES. GOS. TREAT ORG. RATSIONAL. RAION. ELEKTROSTA. SETEI, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

Ion Exchange

USSR UDC 552.57:66.074.7:669.783

ADAMENKO, I. A., LOSEV, B. I., and YAVORSKIY, I. A., Institute of Combustible Minerals

"Separation of Germanium by the Ion Exchange Method"

Moscow, Khimiya Tverdogo Topliva, No 3, May-June 72, pp 65-71

Abstract: In this paper the behavior of germanium in very dilute aqueous solutions, obtained after treating Kuzbas coal, and its reaction with ion exchange resins of type EDE-10P, are examined. These are significant in the process of precipitation of this element on ion exchange resins. The mechanism of active extraction of germanium from the waters, the quantitative rules in the process of concentration, and the basic functions of ion-exchange equilibria in the germanium-ion-exchange system were determined. The results include the following: (1) basic anion exchange resins such as EDE-10P are useful for precipitating germanium from dilute solutions; (2) the ion exchange capacity increases more than 100 times in going from acidic (1 N HCl) to basic (pH 13) environments; (3) treatment of the exchanger did not noticeably influence its ion-exchange capacity; (4) the germanium was desorbed from the resin by acidic and basic solutions; (5) the absorbing capacity of the anion exchange resin increases with increasing concentration of germanium ions in solution; (6)

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR

ADAMENKO, I. A., et al., Khimiya Tverdogo Topliva, No 3, May-June 72, pp 65-71

germanium may be concentrated to 7 mg/ml by recirculating a 6 N HCl solution 6 times through a column containing the anion exchange resin saturated with germanium; (7) it is possible to adsorb germanium by a fluidized bed of the anion exchange resin; (8) suspended material (sols) did not reduce the exchange of the fluidized bed of anion exchange resin with respect to germanium if it were taken in a 1:1 ratio; (9) the separation of ion exchange resin from the sol particles was practically complete; and (10) losses of anion exchange resin up to about 5% are possible owing to its abrasion.

2/2

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR

USSR Differential & Integral Equations UDC 517.948

ADAMYAN, V. M. and YAVORSKIY, M. T.

"The Theory of Systems of Canonical Differential Equations on the Semi-Axis"

Yerevan, Doklady Akademii Nauk Armyanskoy SSR, vol 61, No 2, 1973, pp 71-78

Abstract: The purpose of this paper is to clarify some aspects in the spectral theory of the differential operator D_n specified by $(D_n f)(x) = -H^{-1}(x)Jf'(x)$ for a set of smoothly and rapidly decreasing vector functions, of $(2n \times 1)$ matrices, on the $(0,\infty)$ semi-axis, such that $P_0 Jf(0) = 0$, where J is a matrix of order $2n$ and $P_0 J P_0 = 0$. Some of the characteristics of the fundamental vector functions of D_n are given, a theorem is stated for its expansion in terms of the characteristic vector functions, and a group of unitary operators in $L_2^{(2n)}(0,\infty;H)$ Hilbert space generated by D_n is considered. The differential system

$$-J\frac{d}{dx}Y(x,\lambda) = H(x)Y(x,\lambda)$$

is also examined. Here, $Y(x,\lambda)$ is a matrix function, λ being a

1/2

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR

UDC: 517.948

ADAMYAN, V. M., et al, Doklady Akademii nauk Armyanskoy SSR, vol 61, No 2, 1973, pp 71-78

complex parameter.

2/2

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR

UDC 669.15'295

YAVOYSKIY, V. I., KOSTEREV, L. B., AYYUB, A. A., and RASTORGUYEV, L. N., Moscow

"Activity and Concentration of Oxygen in Fe-Ti Melts"

Moscow, IAN SSSR, Metally, No 2, Mar-Apr 71, pp 50-57

Abstract: The deoxidizing capacity of titanium was studied by the method of electromotive forces and an indirect method based on study of the interaction of a melt with the walls of a crucible. The emf method allows the activity of oxygen in the melt to be determined directly. The indirect method has an advantage in the study of the deoxidizing capacity of strong deoxidizers, since the determination of very low concentrations of oxygen in the liquid ion, which is analytically difficult, is not required. The use of the two different methods increases the reliability of the results produced. The results indicate that the composition of the reaction products from the deoxidation of ion by titanium depends on the concentration of the titanium. Individual oxides of titanium exist over broad titanium concentration intervals.

1/2

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR

YABOYSKIY, V. I., et al., IAN SSSR, Metally, No 2, Mar-Apr 71, pp 50-57

The thermodynamic characteristics of equilibrium of the deoxidation reaction for titanium determined by the two methods agree well. As titanium concentration rises to over 1%, the activity of oxygen in the Fe-Ti melt increases. Based on experimental data, the interaction parameter e_O^{Ti} is calculated. The high value of e_O^{Ti} (-0.65 at 1600°C) indicates the strong influence of titanium on the activity of oxygen in liquid iron.

2/2

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

Instrumentation and Equipment

USSR UDC 669.183:621.746.75

KOZLOV, G. S., BLIZNYUKOV, S. A., YAVOYSKIY, V. I., GOL'DSHTEYN, L. G., and USHKOVA, A. N., Moscow Institute of Steel and Alloys

"The Use of an Emission Microscope for the Investigation of Micrometallurgical Processes"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy — Chernaya Metallurgiya, No 11, 1970, pp 44-49

Abstract: The use of the EF-6 emission microscope for the investigation of new phase formations in the crystallization process of metals is described. The EF-6 provides three types of reaction on the test piece: thermo-electron emission with heating up to 2500°C, controlled primary electron beam action up to 15 kev, and primary ion flux action of various gases with a disruption voltage of 20 kev. The EF-6 was used for studying the behavior of nonmetallic inclusions at the moment of their generation in the steel recrystallization process in the system Fe-O and in the system Fe-O with deoxidation of nonmetallic inclusions in the melting-crystallization cycles. The temperature dependence of the wetting of Fe-Si-Mn-O alloys by manganese and iron silicates is demonstrated.

1/1

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR UDC [illegible].771.08

TERESHCHENKO, V. T., YAVOYSKIY, V. I., TIN'KOVA, Ye. V., and KONDRATYUK, A. M., Moscow Institute of Steels and Alloys; Donetsk Metallurgical Plant

"Surface Quality of Rolled Products in Out-of-Furnace Deoxidation"

Moscow, Metallurg, No 8, Aug 70, pp 42-44

Abstract: The object of this study was to examine the effect of the method of deoxidation on the quality of rolled products. The experimental melts involved the following four groups of steels: I--low-and medium-carbon (St.[illegible], St.[illegible], St.45, and St.35); II--low-carbon (St.3sp, St.4sp); III--medium-carbon manganese (45G2); and IV--low-carbon manganese (09G2). Both furnace and [illegible] deoxidation methods were used. With respect to surface quality the rolled products were divided into the following groups: 1) billets with a perfectly clear surface sometimes requiring chisel sampling; 2) billets with surface defects (small cracks, hairline cracks, fissures, etc.); 3) billets [illegible] the external defects did not require chiseling an arbitrary double length of the billets; 4) billets with large surface defects requiring [illegible]. Analysis of the test data suggests that the quality of the surface of the rolled product is basically determined by conditions of teeming and rolling

1/2

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR

TERESHCHENKO, V. T., et al, Metallurg, No 8, Aug 70, pp 41-[illegible]

and depends little on the method of deoxidation. Since the method of deoxidation affects the fluidity of the metal, the tendency to form films and crust on the meniscus, and the viscosity and composition of the floating scum, it can be responsible for the appearance of sand particles in the surface layer of the plates.

2/2

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

1/2 018 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--DEOXIDATION OF CARBON AND LOW ALLOY OPEN HEARTH STEELS -U-

AUTHOR-(03)-YAVOYSKIY, V.I., TUONG, V.M., GOROKHOV, L.S.

COUNTRY OF INFO--USSR

SOURCE--SAL' 1970, 30(3), 228-33

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--LOW ALLOY STEEL, CARBON STEEL, NONMETALLIC INCLUSION, FERROUS LIQUID METAL, STEEL DEOXIDATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/1994 STEP NO--UR/0133/70/030/003/0228/0233

CIRC ACCESSION NO--AP0118953

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

2/2 018

UNCLASSIFIED

CIRC ACCESSION NO--AP0118953 PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FORMATION OF NONMETALLIC INCLUSIONS DIRECTLY AFTER ADDN. OF AL AND SI TO MOLTEN METAL, ABOVE ITS LIQUIDUS, AND BETWEEN ITS LIQUIDUS AND SOLIDUS WAS CALCD. THERMODYNAMICALLY BY USING EQUATIONS LOG K SUB SI EQUALS LOG ((SI) (ALPHA O) PRIME3) EQUALS MINUS (27860-T) PLUS 10.28 AND LOG K SUBAI EQUALS LOG ((AI) PRIME2- (ALPHA SUBO) PRIME3) EQUALS MINUS (82580-T) PLUS 33.96 BY ASSUMING THAT EQUIL. CONST. OF THE DEOXIDN. REACTION HOLD DOWN TO SOLIDUS TEMP. AND THAT DIFFUSION PROCESS IN LIQ. METAL IN INGOT MOLDS ASSURE MASS EXCHANGE NECESSARY FOR NONMETALLIC FORMATION. THE RESULTS WERE CHECKED BY O ACTIVITY AND O CONTENT DETNS. OF OPEN HEARTH PRODUCTION HEATS. THE FORMATION OF THE LATTER 2 GROUPS OF NONMETALLICS CAN BE GREATLY REDUCED BY THE USE OF THE PERMISSIBLE MAX. OF THE DEOXIDIZER IN THE FURNACE OR LADLE AND PROTECTING THE STREAM OF METAL FROM SECONDARY OXIDN. CONVENTIONAL STIRRING SPEEDS THE REMOVAL OF AL SUB2 O SUB3 CONTG. INCLUSIONS, WHICH CAN BE VERY FAST, AND RETARDS RISING OF SILICATES. THE ORDER OF DEOXIDIZERS ADDN. IN THE FURNACE DOES NOT AFFECT THE EXTENT OF DEOXIDN. AND ONLY SLIGHTLY AFFECT THE RATE OF NONMETALLIC REMOVAL.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR

UDC 615.28:547.831

SHINKORENKO, S. V., PILYUGIN, T. G., SIDORCHUK, I. I., and YAVORSKIY, V. M.,
University of Chernovtsy, Chernovtsy Medical Institute

"Synthesis and Some Biological Properties of Quinaldinium Azomethines"

Moscow, Khimiko-Farmatsevticheskiy Zhurnal, Vol 6, No 1, Jan 72, pp 25-29

Abstract: Studying antimicrobial activity of various preparations, a series of azomethine derivatives of quinaldine was synthesized containing alkyl and aryl groups at the nitrogen heteroatom, various substituents at the quinaldine moiety and a free or a substituted amino group at the benzene ring. Reaction of equimolar quantities of quaternary quinaldinium salts with aromatic nitro compounds takes place in ethanol containing catalytic amounts of piperidine. The products are strongly colored crystalline materials soluble in common organic solvent, insoluble in benzene, ether, and water; their physical properties are tabulated. The azomethines synthesized showed a wide spectrum of antimicrobial and antifungal activity, especially towards strains resistant to antibiotics. The disinfecting activity of some of these compounds exceeds the activity of phenol.

1/1

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR UDC: 621.372

CHAPOVSKIY, M. Z., YAVORSKIY, V. P.

"Electronic Impedance Transformers"

V sb. Poluprovodn. pribory v tekhn. elektrosvyazi (Semiconductor Devices in Electrical Communications Technology--collection of works), vyp. 7, Moscow, "Svyaz'", 1971, pp 196-205 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6D71)

Translation: The paper deals with elements of the theory, principles of construction, and the order of planning and design of electronic impedance transformer circuits. Possible regions of application are discussed as well as associated future prospects. Three illustrations. Resumé.

1/1

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR

UDC 669.046.5

UDC 669.046.5

PETROV, B. S., VISHKAREV, A. F., TYURIN, Ye. I., DANILIN, V.I., SELIVANOV, V. M., and YAVOYSKIY, V. I.

"Degree of Oxidation of Stainless Steels With 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 196-198

Abstract: Results are presented of a study on the degree of bath oxidation with oxygen blowing during decarburization at less than 0.20% C content (nickel-free steels with 6-8 and 14-16% Cr and steels with 14-16% Cr, and 11 and 30% Ni). It is established that the degree of metal oxidation depends strictly on carbon concentration, although the oxidation level is determined by the initial Cr and Ni concentrations. 1 figure, 2 references.

1/1

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3

USSR

UDC 669.15'295

YAVOYSKIY, V. I., KOSTEREV, L. B., AYYUB, A. A., and RASTORGUYEV, L. N., Moscow

"Activity and Concentration of Oxygen in Fe-Ti Melts"

Moscow, IAN SSSR, Metally, No 2, Mar-Apr 71, pp 50-57

Abstract: The deoxidizing capacity of titanium was studied by the method of electromotive forces and an indirect method based on study of the interaction of a melt with the walls of a crucible. The emf method allows the activity of oxygen in the melt to be determined directly. The indirect method has an advantage in the study of the deoxidizing capacity of strong deoxidizers, since the determination of very low concentrations of oxygen in the liquid ion, which is analytically difficult, is not required. The use of the two different methods increases the reliability of the results produced. The results indicate that the composition of the reaction products from the deoxidation of ion by titanium depends on the concentration of the titanium. Individual oxides of titanium exist over broad titanium concentration intervals.

1/2

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203620012-3"