"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

2/2 039 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0132172

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RECENT EXPTL. DATA, INCLUDING MEASUREMENT OF THE D., THE COEFF. OF THERMAL EXPANSION, AND THE SPEED OF SOUND IN LIQ. HG, ALLOWED AN EQUATION OF STATE TO BE DEVELOPED FOR LIQ. HG, VALI FROM NEGATIVE 38 TO 1100DEGREES AND FOR PRESSURES OF 1-1000 BARS. FACILITY: MOSK. ENERG. INST., MOSCOW, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

USSR

UDC 8.74

SKOROKHODOV, O. V., YAKOVLEV, A. V.

"Recognition of a Class of Objects by Deterministic Fields of Indicators"

V sb. Avtomat. upr. i vychisl. tekhn. (Automatic Control and Computer Technology -- Collection of Works), No 10, Moscow, "Mashinostroyeniye," 1972, pp 176-189 (from RZh-Matematika, No 9, Sep 72, Abstract No 9V672)

Translation: Certain problems in the recognition of radar objects using the method of deterministic fields of indicators are discussed. Recognition is performed on the basis of constructing regions belonging to different objects on two-dimensional fields of indicators. The informative indicators are the amplitudes and phases of the pulse characteristics under the assumption that noises are absent. A recognition technique and algorithm is proposed and a deterministic logic automaton is described. Quantitative evaluations of the informative capacity of certain indicators which can be used in solving pattern recognition problems are given. Authors abstract.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

USSR

UDC 8.74

SKOROKHODOV, O. V., YAKOVLEV, A. V.

"Recognition of a Class of Objects by the Method of Deterministic Fields of Attributes"

V sb. Avtomat. upr. i vychisl. tekhn. (Automatic Control and Computer Engineering — collection of works), Vyp. 10, Moscow, Mashinostroyeniye Press, 1972, pp 176-189 (from RZh-Kibernetika, No 9, Sep 72, Abstract No 9V672)

Translation: In this paper a study was made of some of the problems of recognizing radar objects by the method of deterministic fields of attributes. Recognition is carried out on the basis of the construction of the regions belonging to various objects in the two-dimensional fields of attributes. The informative attributes are the amplitudes and phases of the pulse characteristics under the assumption that noise is absent.

A procedure and recognition algorithm are proposed. The schematic is presented for a deterministic logical automaton. Qualitative estimates of the informativeness of certain attributes which can be used when solving the pattern recognition problem are presented.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

USSR

UDC 669.14:620.192.43/.49

NIKITIN, B. M., PIROZHKOVA, V. P., and YAKOVLEV, B. F., Zaporozh'ye

"On the Nature of Inclusions in Electroslag Melted Steel"

Moscow, Izvestiya Akademii Nauk SSSR, No 5, 1973, pp 65-68

Abstract: The nature of inclusions on splits and of the mechanism of their generation in electroslag melted steel was investigated in order to clarify observed defects in the production of some steel brands by the ESM method. Microsections of specimens of 30KhGSNA and 38KhMYuA brands of steel, which was produced in industrial furnaces with the application of ANF-6 slag, were investigated by crstallo-optical and chemical methods. The results made it possible to indicate the probable mechanism of the formation of inclusions on splits of electroslag steel. The non-metallic films on the splits in fractures of specimens of electroslag steel contain oxides, nitrides, and sub-oxides or aluminum; the relation between them is determined by the composition of the remeltable steel. In 38KhMYuA steel the nitride inclusions possess a defective crystalline form; they consist for the most part of aluminum nitride and finely dispersed metallic aluminum. Four figures, four formulas, ten bibliographic references.

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

USSR UDC: 621.317.77

KUCHERENKO, G. N., SKRIPNIK, Yu. A., and YAKOVLEV, B. F.

"Experimentally Estimating the Accuracy of Electronic Phasemeters"

V sb. Vopr. uluchsheniya tekhn. parametrov vypryamit. i tranzist. priborov (Problems of Improving the Technical Parameters of Rectifiers and Transistorized Devices--collection of works) Leningrad, 1970, pp 213-216 (from RZh-Radiotekhnika, No. 3, March 71, Abstract No. 3A361)

Translation: An indication is given of the high accuracy of phasemeters as checked by phase rotators and by the "self-checking" principle. A description is given of the method of "equal segments" based on the physical compatibility of 0° and 360° values, i.e., on the use of the natural standard of the 360° phase shift. The accuracy of the verification of this method is determined basically by random errors in indications of zero and readout values on the readout device. Bibliography of two. E. L.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

1/2 028 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--PHOTOGENERATION OF CURRENT CARRIERS IN CRYSTALLINE TETRACENE IN A MAGNETIC FIELD -U-

AUTHOR-(03)-YAKOVLEV, B.S., NOVIKOVA, L.I., FRANKEVICH, YE.L.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL EKSPERIMENTAL'NOY I TEORETICHESKOY FIZIKI, 1970, VOL 58, NR 5, PP 1574-1579

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--MAGNETIC FIELD, PHOTOCONDUCTIVITY, FLUORESCENCE, BENZENE DERIVATIVE, SURFACE FILM, ORGANIC CRYSTAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/0024 STEP NO--UR/0056/70/058/005/1574/1579

CIRC ACCESSION NO--AP0127674

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

2/2 028 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0127674

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF A MAGNETIC FIELD ON THE PHOTOCONDUCTIVITY OF A TETRACENE FILM IS INVESTIGATED. BY COMPARING THE RESULTS WITH DATA FROM THE LITERATURE ON THE EFFECT OF A MAGNETIC FIELD ON TETRACENE FLUORESCENCE, IT IS DEMONSTRATED THAT THE EFFECT OF THE MAGNETIC FIELD ON PHOTOCURRENT IS DUE TO AT LEAST TWO DIFFERENT PROCESSES. ONE PROCESS IS DUE TO THE FACT WANNIER TYPE EXCITONS PARTICIPATE IN GENERATION OF CURRENT CARRIERS. WITH DECREASE OF TEMPERATURE THE CONTRIBUTION OF THE FIRST PROCESS OF VARIATION OF PHOTOCURRENT IN THE MAGNETIC FIELD DECREASES WHEREAS THE CONTRIBUTION OF THE SECOND PROCESS INCREASES. FACILITY: INSTITUT KHIMICHESKOY FIZIKI, AKADEMII NAUK SSSR.

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

1/2 016 UNCLASSIFIED

TITLE--PROTECTIVE COATINGS FOR CONCRETE SURFACES -U- PROCESSING DATE--16OCT70

AUTHOR-(05)-ROSHCHUPKIN, V.I., FAYNTSIMER, R.Z., YAKOVLEV, D.A., PINUS, E.R., LISIENKO, S.K.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 260,877

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

DATE PUBLISHED--06JAN70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--PROTECTIVE COATING, CONCRETE, COUMARIN INDENE RESIN, BUTYL RUBBER, FILLER, CHEMICAL PATENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/1094 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0116560

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

2/2 016 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AA0116560

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PROTECTIVE COATINGS BASED ON ORG. COMPDS. ARE USED SHIEFLY FOR CONCRETE SURFACES. THEY HAVE GOOD PHYSICOMECH. PROPERTIES, DESIRED ROUGHNESS, AND A RAPID RATE OF COATING. THEY CONSISTED OF: COUMARONE-INDENE RESIN 1-50, PETROLATUM 5-30, PARAFFIN 0.5-5, BUTYL RUBBER 0.05-2, FILLER 1.0-30, AND AN ORG. SOLVENT 10-200 PARTS-WT. A MIXT. OF ZR WITH AL POWDER IN A 1:10 WT. RATIO IS USED AS THE FILLER. FACILITY: STATE SCIENTIFIC RESEARCH AND PLANNING INSTITUTE OF PETROLEUM MACHINE CONSTRUCTION. FACILITY: STATE ALL UNION SCIENTIFIC RESEARCH INSTITUTE OF HIGHWAYS.

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

USSR

UDC: 8.74

YAKOVLEV, D. O.

"Use of Majority Devices for Construction of Logic Devices With Correction of Failures of Separate Cells"

Izv. Leningr. elektrotekhn. in-ta (News of Leningrad Electrical Engineering Institute), 1971, vyp. 98, pp 49-50 (from RZh-Kibernetika, No 1, Jan 72, Abstract No 1V963)

Translation: The author considers the possibility of using homogeneous structures consisting of majority elements for construction of logic devices. It is shown that since such elements have extensive functional possibilities, they may be modified to perform simpler logic functions of the AND, OR type. In this connection, partial failures of majority elements convert the functions of the latter to logic functions of the same set of elements. V. Mikheyev.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

USSR

UDC 621.372.061:538.56

AZARKIN, V. A., YAKOVLEV, D. P.

"Frequency Generators with an Odd Number of Elements in a Selective Four-Terminal Network"

Akust. i ultrazvukovaya tekhn. Resp. mezhved. nauchno-tekhn. sb. (Sonic and Ultrasonic Engineering. Republic Interdepartmental Scientific and Engineering Collection), 1970, vyp. 5, pp 73-83 (from RZh-Radiotekhnika, No 9, Sep 70, Abstract No 9A61)

Translation: This article contains a study of a converter which converts small deviations of resistances, capacitances and inductances into frequency based on RC (RL)-generators with an odd number of elements in selective four-terminal networks. Various versions of modified L-type and double L-type selective RC and RL four-terminal networks with an odd number of elements are presented. There quasiresonance frequencies are determined. Practical recommendations are made with respect to the converters. Converter errors caused by the appearance of additional phase shifts in the amplifier are analyzed. The results of an experimental study are presented. A relative frequency variation on the order of 20-50 percent is achieved in the model converters with variation of the measured variable by one percent. There are four illustrations, five tables and a six-entry bibliography.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

1/2 013 UNCLASSIFIED

TITLE--CONCAVE DIFFRACTION GRATINGS WITH VARIABLE SPACING -U- PROCESSING DATE--27NOV70

AUTHOR-(04)--GERASIMOV, F.M., YAKOVLEV, E.A., PEYSAKHSON, I.V., KOSHELEV, B.V.

COUNTRY OF INFO--USSR

SOURCE--OPT. SPEKTROSK. 1970, 28(4), 790-5

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--DIFFRACTION GRATING, ASTIGMATISM, SPECTROSCOPY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1266 STEP NO--UR/0051/70/028/004/0790/0795

CIRC ACCESSION NO--AP0124917

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

2/2 013 UNCLASSIFIED

CIRC ACCESSION NO--AP0124917 PROCESSING DATE--27NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PROPERTIES OF CONCAVE DIFFRACTION GRATINGS WITH LINEARLY CHANGING LINE DISTANCE ARE DISCUSSED IN RELATION TO THE IMAGE STIGMATISM. A METHOD IS GIVEN FOR THE PREPN. OF GRATINGS WITH VARIABLE SPACING FOR REDUCING ASTIGMATISM IN THE WAVELENGTH REGION USED IN SPECTROSCOPY.

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

USSR

GERASIMOV, F. M.; YAKOVLEV, E. A.; et al

"Concave Diffraction Gratings with Variable Spacing"

Leningrad, Optika i Spektroskopiya; April 1970, pp 790-5

ABSTRACT: The properties of concave spherical gratings in which the distance between the lines varies according to a linear law are studied. With such gratings the focal line for the meridianal rays is shifted from the Rowland circle and can intersect the focal line for the sagittal rays or be tangent to it. Because of this, the image at specified points becomes completely stigmatic, while near them astigmatism of the grating is significantly lessened. A method of producing gratings with variable spacing is described. The results of the experimental study of the properties of concave gratings produced by means of this method are found to be in agreement with theory. It is shown that vy varying the spacing it is possible to decrease significantly the astigmatism of concave gratings in the region of waves of sufficient length for spectrographic studies.

The article includes 7 equations and 5 figures. There are 9 bibliographic references.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

1/2 023 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--SPORT -U-

AUTHOR--YAKOVLEV, F.

COUNTRY OF INFO--USSR

SOURCE--RABOCHAYA GAZETA, AUGUST 18, 1970, P 4, COL 8

DATE PUBLISHED--18AUG70

SUBJECT AREAS--AERONAUTICS

TOPIC TAGS--AIRCRAFT, SCALE MODEL, AIRCRAFT PERSONNEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/1686 STEP NO--UR/9015/70/000/000/0004/0004

CIRC ACCESSION NO--AN0138662

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

2/2 023

UNCLASSIFIED

CIRC ACCESSION NO--AN0138662 PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FIRST PLACES IN THE AIRCRAFT MODEL FLYING COMPETITION IN KIYEV WERE WON BY SEMEN KARPEL FROM KHAR'KOV, BORIS KRASNORUTSKIY AND ALEKSANDR BABICH, AVIATION ENGINEERS FROM KIYEV, A. BUDNITSKIY AND V. TOMILIN FROM THE RUSSIAN FEDERATED REPUBLIC, AND YEVGENIY VERBITSKIY, AN ENGINEER FROM KHAR'KOV.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

1/2 056 UNCLASSIFIED

TITLE--VISCOELASTIC PROPERTIES OF A POLYMER BINDER -U- PROCESSING DATE--16OCT70

AUTHOR-(03)-YAKOVLEV, G.A., GONCHAROV, L.P., GURSKIY, N.G.

COUNTRY OF INFO--USSR

SOURCE--PRIKL. MEKH. 1970, 6(1), 57-61

DATE PUBLISHED--------70

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

TOPIC TAGS--VISCOELASTICITY, POLYMER BINDER, PLASTIC MECHANICAL PROPERTY, EPOXY RESIN, LAMINATED PLASTIC, GLASS FABRIC, TEST METHOD, ROCKET ENGINE, VIBRATION TEST, PARAMETER/(U)ED6 EPOXY RESIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/1302 STEP NO--UR/0198/70/006/001/0057/0061

CIRC ACCESSION NO--AP0116762

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

2/2 056 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0116762

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE STRESS DEFORMATION CHARACTERISTICS WERE DETD. OF EPOXY RESIN ED-6 UNDER THE DYNAMIC AND QUASI STATISTICAL TESTING CONDITIONS. THE PARAMETERS OF THE EQUATIONS OMEGA EQUALS A SUBTAU; TAU EQUALS TAU-A SUBTAU (J. D. FERRY, 1963) WERE DETD. FROM THESE DATA THE TEMP. DISTRIBUTION IN ED-6 RESINS (USED AS BINDERS FOR GLASS CLOTH LAMINATES) SUBJECTED TO VIBRATIONS, SUCH AS OCCUR IN ROCKET ENGINES, CAN BE PREDICTED. FACILITY: INST. MEKH., KIEV, USSR.

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

USSR

UDC 621.315.592

BRANDT, N.B., SVISTOV, YE.A., SVISTOVA, YE. A., YAKOVLEV, G.D. [Moscow State University imeni M.V. Lomonosov]

"Electrical Instabilities In BiSb Alloys"

Fizika i tekhnika poluprovodnikov, Vol 6, No 4, Apr 1972, pp 654-660

Abstract: The instability is experimentally investigated of voltage originating in the electron-hole plasma created as the result of an interband breakdown in the semiconductor alloy $Bi_{0.912}Sb_{0.088}$ at T = 4.2° K. The 10 specimens used were cut from a monocrystalline ingot with a purity of components greater than 99.9999 percent, produced at the LGPI [?Leningrad Semiconductor Institute] in the laboratory of G.A. Ivanov. In weak electrical fields at T =4.2° K the specimens had an electron conductivity $n_0 = 3 \cdot 10^{14} cm^{-3}$ and a mobility $\mu_0 \simeq 10^6 cm^2/v.sec$. The dependences were measured of the amplitude and frequency variations on the magnitude of the current through the specimens I and also the region of existence of instability with various intensities of the exterior magnetic field H and the relative orientation of H and I. On the basis of the results obtained an assumption is made concerning the nature of the instabilities discovered: the variations originate in the region of the existence of the pinch effect and are connected with oscillations of the pinch. 9 fig. 13 ref.
Received by editors, 12 July 1971.
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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

USSR

UDC 621.791.037

SHNAYDER, B. I., Institute of Electric Welding imeni Ye. O. Paton, SERGEYEV, Yu. Ye., VERBITSKIY, V. G., GETSONOK, A. L., and YAKOVLEV, G. Kh., Ufa Aviation Institute imeni S. Ordzhonikidze

"Controlling Automatic Tungsten Electrode Argon Arc Welding of Thin-Sheet Parts with Curvilinear Contours"

Kiev, Avtomaticheskaya Svarka, No 12, Dec 70, pp 15-18

Abstract: Welding of parts with curvilinear contours such as those used in the manufacture of piping and nozzles, is a process which can best be done automatically. The seams in this type of welding are curved, in the vertical plane, and the parameters controlled in the welding process are the length of the arc, the welding rate consisting of a horizontal and vertical component, the angle of inclination of the electrode to the profile, and the angle of inclination of the part profile along the seam line relative to the horizontal plane. If this last factor is not controlled, its effect on the quality of the seam must be compensated by correcting the welding rate or the current. The authors found also that in the development of an automatic control system of arc welding, the inertia of the arc must be

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

USSR

SHNAYDER, B. I., et al, Avtomaticheskaya Svarka, No 12, Dec 70, pp 15-18

taken into account. Results obtained in the article were produced through the automatic AGK-1 welding machine.

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

USSR UDC: 621.392.3:621.317.7

YAKOVLEV, G. L.

"On One Method of Compensating for Nonhomogeneities in the SHF Channels of Measuring Equipment"

Dokl. Vses. nauchno-tekhn. konferentsii po radiotekhn. izmereniyam. T. 2 (Reports of the All-Union Scientific and Technical Conference on Radio Engineering Measurements. Vol. 2), Novosibirsk, 1970, pp 64-65 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12A309)

Translation: The proposed method of compensating for nonhomogeneities is based on introducing a nonhomogeneity of the series inductance or shunting capacitance type into the line. Some relationships are derived which can be used to determine the parameters of the compensation circuit. Bibliography of one title. E. L.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

USSR

YAKOVLEV, G. M., CHERNYKH, N. L., and PETRAKOVSKAYA, Ye. A., Tomsk Medical Institute

"On the Question of Registering Changes in Blood Quantity and the Possibility of Determining Overall Blood Volume in an Organism by Means of Measuring Electrical Resistance of the Human Body"

Moscow, Doklady Akademii Nauk SSSR, Vol 201, No 2, 1971, pp 510-512

Abstract: Experiments were conducted in an effort to correct and refine claims made by other investigators that blood loss from a region and the entire volume of blood in circulation can be calculated from a recorded change in the electrical resistance of tissue. The present authors, discovering an error in previous mathematical formulas, showed that calculation of the entire volume of blood in circulation was no longer possible on the basis of existing theories. Then, using corrected equations and comparing those values with results from empirical studies, the authors found that change in electrical resistance was an accurate gauge of blood loss from regions of limited extent. However, because the measured value of electrical resistance in tissue was not uniform throughout the body, the present method for determining blood loss in the whole organism was unsatisfactory.

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

USSR

UDC 541.49:546.79

YELESIN, A. A., ZAITSEV, A. A., IVANOVICH, N. A., KARASEVA, V. A., and YAKOVLEV, G. N.

"Complex Formation of Trivalent Americium, Curium, and Promethium Ions with Hydroxymethylphosphonic Acid and Hydroxymethylethylphosphinic Acid"

Leningrad, Radiokhimiya, Vol 14, No 4, 1972, pp 546-551

Abstract: Dissociation constants of hydroxymethylphosphonic acid [HMPA] and hydroxymethylethylphosphinic acid [HMEPA] were determined at 25°C; it was found that in their strength these acids are close to phosphonic acid. Using the ion exchange method on a cation exchange resin, the complex formation of Am^{3+}, Cu^{3+} and Pm^{3+} with HMPA and HMEPA was studied. HMPA forms two complexes: $[M(HA)]^{2+}$ and $[M(HA)_2]^{+}$, while HMEPA is capable of only one complex formation of the $[MA]^{2+}$ type. It was shown that no additional binding between the metal ions and hydroxy groups of these acids takes place.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

USSR

UDC 548.736

KAPSHUKOV, I. I., VOLKOV, Yu. F., MOSKVICHEV, Ye. P., LEBEDEV, I. A., and YAKOVLEV, G. N., Scientific Research Institute of Atomic Reactors, Melekess

"Crystal Structure of Uranyl Tetranitrates"

Moscow, Zhurnal Strukturnoy Khimii, Vol 12, No 1, Jan-Feb 71, pp 94-98

Abstract: The structure of complex uranyl compounds of the type $M_2[UO_2(NO_3)_4]$ was studied, where M = NH_4, Rb, and Cs. All the compounds are isomorphous, monoclinic. The structure of ammonium and rubidium tetranitrouranylates was elucidated by means of three-dimensional diffraction data; the cesium complex was studied by projection. The structure consists of cations M^+ and complex anions $[UO_2(NO_3)_4]^{2-}$. In the centrally symmetric anion complex two nitrate groups are attached to the uranium atom bidentantly and the other two -- monodentantly. In this fashion a hexacoordinated equatorially planar system of oxygen atoms around the uranium is formed. The U-O bond is hortened, being 1.78, 1.77, and 1.85 Å for NH_4, Rb, and CS respectively.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

USSR

UDC 541.49:(546.799.5+546.799.6+546.658)

YELESIN, A. A., ZAITSEV, A. A., KAZAKOVA, S. S., and YAKOVIEV, G. N.

"Complex Formation of Trivalent Americium, Curium, and Promethium Ions With Phosphonoacetic Acid"

Leningrad, Radiokhimiya, Vol 14, No 4, 1972, pp 541-545

Abstract: Dissociation constants were determined for phosphonoacetic acid [PAA] at 25°C and an ionic strength of 0.2 (NH_4ClO_4). By means of the ion exchange method on a cation exchange resin, complex formation of Am^{3+}, Cu^{3+} and Pm^{3+} with PAA was investigated. It was shown that in the $1 \cdot 10^{-3}$ -- $1 \cdot 10^{-1}$M concentration range of PAA and at pH 2, 3, and 4 all trivalent americium, curium and promethium ions form complexes of the composition $[M(H_2A)]^{2+}$, $[M(HA)]^{+}$ and $[M(HA)_2]^{-}$. Stability constants for these complexes were determined and compared to respective complexes with acetate, phosphate, and methylphosphonic acid ions. The stability of the complexes with single charge PAA anion is similar to the stability of analogous complexes with methylphosphinic acid. Doubly charged ion complexes $[M(HA)]^{+}$ are practically equal in their stability to the acetate complexes $[M(A)_2]^{+}$

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USSR

UDC 539.67

VLADIMIROVA, N. N., GLOTOVA, L. S., GORFINKEL', V. B., DUNAYEV, F. N., LOBANOVA, N. B., and YAKOVLEV, G. P.

"Effect of Magnetic Structure on Internal Friction of Nickel and Ferronickel Alloys"

Sb. "Vnutrenneye treniye v metallicheskikh materialakh" (Internal Friction in Metallic Materials), Moscow, Izd-vo "Nauka," 1970, pp 187-191

Abstract: The effect of tensile stresses and heat treatment on the ferromagnetic internal friction of nickel, permalloy-66, and permalloy-50 is studied.

It is shown that the effect of external static tensile stresses on internal friction and vibration period depends on both the magnitude and sign of saturation magnetostriction of a given material. Hysteresis of the logarithmic decrement δ and of vibration period T was experimentally revealed from the magnitude of tensile stresses.

The effect of heat treatment for 66%Fe, 80%Ni alloys was determined. The magnetic structure obtained as a result of heat treatment affects the internal friction. 4 figures, 3 references.

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USSR

UDC 539.67

DUNAYEV, F. N., LOBANOVA, N. B., MAN'KO, L. M., and YAKOVLEV, G. P.

"Kinetics of Local Directional Order-Disorder Transformation in Permalloy-66"

Sb. "Vnutrenneye treniye v metallicheskikh materialakh" (Internal Friction in Metallic Materials), Moscow, Izd-vo "Nauka," 1970, pp 175-178

Abstract: The effect of holding time at various temperatures on the logarithmic decrement of damping and period of low-frequency torsional vibrations of Fe-66% Ni alloy samples, preliminarily annealed and cooled at different rates in the presence and absence of a magnetic field is investigated.

It is shown that curves of temperature dependence $\delta(t)$ and $T(t)$ reflect the kinetics of local directional order-disorder transformation. Relaxation times of this transformation depend weakly or not at all on the initial pattern of pair distribution of identical atoms. The activation energy of local directional order-disorder transformation is close to or coincides with the activation energy of the opposite process, i.e., the thermomagnetic treatment effect. 2 figures, 6 references.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

USSR

UDC: 619:616.981.42-084.47

KOSILOV, I. A., KARPOV, EL GL, SYRTLANOV, R. M., and YAKOVLEV, I. A., Siberian Scientific Research Veternary Institute

"Inagglutinogenic Brucellosis Vaccine From Strain B-1"

Moscow, Veterinariya, No 2, 1971, pp 46-48

Abstract: The reactivity of the newly developed brucellosis vaccine from inagglutinogenic Br. abortus strain B-1 was studied in 4,800 cattle, 3,200 of which had previously been inoculated with vaccine from strain 19. After vaccination some of the healthy animals (1 to 5%) responded in the agglutination and complement-fixation reactions with standard antigens in 3 to 5 months. After revaccination there was no increase in the number of animals reacting or in the length of time the antibodies remained. Complement-fixing antibodies with homologous antigen were found in 85% of the animals 20 to 30 days after inoculation. The vaccine produced the same degree of immunity in young cows subsequently inoculated with a virulent culture from the Br. abortus 54 strain as the widely used vaccine from strain 19. For example, Brucella were isolated from the regional lymph nodes of only 9 of 16 animals vaccinated with B-1 vaccine. The immunity conferred by the

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USSR

KOSILOV, I. A., et al, Veterinariya, No 2, 1971, pp 46-48

two vaccines diminished steadily and after 23 to 30 months most of the animals could not resist experimental infection. However, revaccination at this time with either vaccine restored immunity.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

USSR

UDC 661.791.1

YAKOVLEV, I. V., Novosibirsk

"Explosive Cladding of Lead with Some Metals and Alloys"

Novosibirsk, Fizika goreniya i vzryva, Vol 8, No 4, 1972, pp 570-578

Abstract: A survey of known procedures for joining metals to lead, explosive cladding for joining lead and copper and utilizing interstitial layers, obtaining reinforced lead anodes by explosive cladding, cladding of AMG6 aluminum alloy with lead and selecting the cladding system are discussed. The results of simulating the launching process on a streak camera and the utilization of the results of the simulation for lead cladding are described. X-ray analysis data are presented for explosive cladding of lead and brass, lead and steel, lead and aluminum, lead and zirconium, lead and niobium and lead and titanium. The absence of intermetallides formed in the experiment indicates satisfactory electrical conductivity of a Pb-Ti anode.

The cladding scheme finally adopted from the experimental results is as follows:

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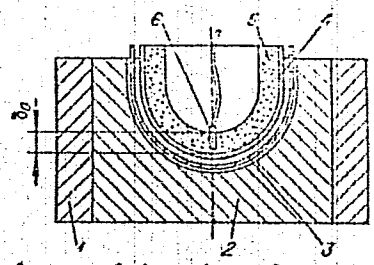
USSR

YAKOVLEV, I. V., Fizika goreniya i vzryva, Vol 8, No 4, 1972, pp 570-578



Key: 1—steel housing; 2 -- product; 3 -- aluminum layer; 4 -- lead layer; 5 -- explosive charge; 6 -- detonator

The optimal thickness of the explosive layer required to obtain a high-quality weld was determined. For a lead shell 5 mm thick and an aluminum shell 1 mm thick, the charge thickness was 18-20 mm.

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USSR UDC 531.383

BARANOV, I. A., KAN, S. G., SEVODIN, YE. P., YAKOVLEV, I. V., Moscow Aviation Engineering Institute

"Vibration of Gyromotors With Spherical Air Bearings"

Leningrad, Izvestiya vysshikh uchebnykh zavedeniy - Priborostroyeniye, No. 11, 1971, pp 86-88

Abstract: Comparative studies of the vibration parameters of gyromotors with air and ball bearings are reported. The studies were conducted on synchronous gyromotors with a kinetic moment of 500 g cm sec at a rotation rate of the rotor of 24,000 rev/min. The mean square value of the amplitude A_Σ of the axial and radial vibration acceleration was measured experimentally and the amplitude spectrum of the axial and radial vibration acceleration was recorded. A_Σ was measured in the three regimes of acceleration, working revolutions and coasting while the amplitude spectrum was taken only at working revolutions. The results showed that the vibrograms of the gyromotors with air bearings were considerably different from the vibrograms of gyromotors with ball bearings both qualitatively and quantitatively. Gyromotors with ball bearings showed a characteristic

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smooth increase in the amplitude of A_Σ in the acceleration process and a decrease at the time of coasting with a small number of resonance peaks. At working revolutions, the amplitude A_Σ was not constant and varied over time. The amplitude A_Σ of gyromotors with air bearings rose sharply at startup as a result of dry friction in the bearings. After the formation of a supporting gas film in the bearing, A_Σ dropped sharply and then rises smoothly until the rotor goes into working revolutions. A similar picture, but in the reverse order, occurs at coasting. Both under acceleration and in coasting there are no clearly expressed resonance peaks, thus indicating the good damping properties of air bearings. The amplitude A_Σ of gyromotors with air bearings at working revolutions is 50-100 times less than the amplitude of A_Σ of gyromotors with ball bearings. The amplitudes of the components of the vibration spectrum are less by an order of magnitude.

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UDC 681.3(07)

KSENOFONTOV, I. S., LEMBERG, V. M., PUCHKO, A. N., ZHUKOVYEMEL'YANOV, O. D., and YAKOVLEV, K. A.

Elektronnyye Tsifrovyye Vychislitel'nyye Mashiny (Dopushcheno Ministerstvom Vysshego i Srednego Spetsial'nogo Obrazovaniya SSSR v Kachestve Uchebnogo Posobiya dlya Tekhnikumov) (Electronic Digital Computers [Authorized by the USSR Ministry of Higher and Secondary Specialized Education as a Textbook for Tekhnikums]), Moscow, "Mashinostroyeniye," 1970, pp 369-371

Translation:

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KSENOFONTOV, I. S., et al., Elektronnyye Tsifrovyye Vychislitel'nyye Mashiny (Dopushcheno Ministerstvom Vysshego i Srednego Spetsial'nogo Obrazovaniya SSSR v Kachestve Uchebnogo Posobiya dlya Tekhnikumov) (Electronic Digital Computers [Authorized by the USSR Ministry of Higher and Secondary Specialized Education as a Textbook for Tekhnikums]), Moscow, "Mashinostroyeniye," 1970, pp 369-371

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KSENOFONTOV, I. S., et al., Elektronnyye Tsifrovyye Vychislitel'nyye Mashiny (Dopushcheno Ministerstvom Vysshego i Srednego Spetsial'nogo Obrazovaniya SSSR v Kachestve Uchebnogo Posobiya dlya Tekhnikumov) (Electronic Digital Computers [Authorized by the USSR Ministry of Higher and Secondary Specialized Education as a Textbook for Tekhnikums]), Moscow, "Mashinostroyeniye," 1970, pp 369-371

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USSR

UDC 669.71.43

MERKULOV, L. G., YAKOVLEV, L. A., GUSEVA, YE. K., LAZAREV, G. I., MARAYEV, S. YE.

"New Method of Ultrasonic Control of the Purity of Aluminum Ingots Purified by Zone Melting"

Tr. Vses. n.-i. i proyektn. in-ta alyumin., magn. i elektrodn. prom-sti (Works of the All-Union Scientific Research and Planning and Design Institute of Aluminum, Magnesium and Electrode Industry), 1970, No 71, pp 128-134 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G176)

Translation: The ultrasonic method of controlling the purity of aluminum is based on the effect of dislocation absorption of the ultrasonic vibrations in crystalline materials. Practical implementation of this procedure is realized as applied to the problem of finding the boundary of the pure part of the aluminum ingots obtained by zone melting. Comparison of the data from ultrasonic measurements and the method of residual electrical resistance demonstrated good correspondence of the results. Application of the ultrasonic method of finding the boundary of the pure part of the ingots permitted the yield of Al type A999 to be increased by 8% on the average under plant conditions. The

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

USSR

MERKULOV, L. G., et al., Tr. Vses. n.-i. i proyektn. in-ta alyumin. magn. i elektrodn. prom-sti, 1970, No 71, pp 128-134

procedure developed was used during the process of developing the optimal technological process for zone purification of large aluminum ingots weighing up to 70 kg. High sensitivity, simplicity, and reliability of the ultrasonic method permit it to be recommended as an express method of industrial control of aluminum purified by zone melting. There are 3 illustrations.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

USSR UDC: 621.391:519.2

PER'KOV, V. V., YAKOVLEV, L. A.

"On the Time of Establishing the Communication of a Receiver in a Wide-Band Radio Communications System"

Tr. uchebn. in-tov svyazi. M-vo svyazi SSSR (Works of Educational Institutes of Communications. Ministry of Communications of the USSR), 1970, vyp. 48, pp 79-88 (from RZh-Radiotekhnika, No 2, Feb 71, Abstract No 2A79)

Translation: The authors consider a device for receiver synchronization in a wide-band radio communications system when using composite signals formed according to the law of a double pseudorandom sequence. The mean time for netting the receiver is determined for the case of additive jitter. The optimum threshold value in the synchronization device is found (for a single-beam channel with constant parameters) which minimizes the average netting time. Resumé.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

USSR

UDC 669.71.43(088.8)

MERKULOV, L. G., YAKOVLEV, L. A., and GUSEVA, Ye. K.

"Ultrasonic Device for Determination of Pure Metal Boundary in Ingots"

USSR Author's Certificate No 265527, Filed 28/09/67, Published 10/07/70, (Translated from Referativnyy Zhurnal-Metallurgiya, No 2, 1971, Abstract No 2 G162 P)

Translation: An ultrasonic device is suggested for determination of the boundary of pure metal in ingots, for example of Al, produced by zone melting. The device contains a synchronizer, an exciter pulse generator, a radiating and receiving head, a matching stage, an attenuator, a high-frequency amplifier, a cathode ray tube, a scan generator, and a para-phase amplifier. To increase the accuracy of determinations, the device is equipped with a switch and calibrating acoustical channel consisting of a specimen of pure Me and an acoustically coupled undamped piezoplate connected to a second output of the generator and one terminal of a switch, the common terminal of which is connected to the matching stage. 1 figure.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

USSR UDC 621.396.2:621.371.1

LESMAN, M. Ya., PERKOV, V. V., YAKOVLEV, L. A.

"Wideband Communications System with Phase Modulation Invariant with Respect to the Doppler Effect"

Materialy nauchnotekhn. konferentsii. Leningr. elektrotekhn. in-t svyazi. vyp. 2 (Materials of the Scientific and Technical Conference. Leningrad Electrotechnical Communications Institute, vyp. 2), Leningrad, 1970, pp 55-59 (from RZh-Radiotekhnika, No 8, Aug 70, Abstract No 8A299)

Translation: This article contains an investigation of the principles of constructing an FM wideband communication system which is invariant with respect to the Doppler effect. The expected characteristics of the system are discussed, a brief description of a model of the system and the results of laboratory testing of it are presented.

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USSR UDC 681.121.8:662.75:629.7

GROKHOL'SKIY, A.L., YAKOVLEV, L.G., and TIKHOMIROV, Yu. F.

"On the Problem of Optimum Processing of Output Data of Aviation Fuel Gauges"

Tr. Metrol In-tov SSSR /Works of Metrological Institutes USSR/, Vol 135(195), 1972, pp 201-205 (from Referativnyy Zhurnal, No 6, Jun 72. 34. Aviation and Rocket Engines. Abstract No 6.34111)

Translation: The necessity to present the output signal as a transient random process depends on the effect of detrimental dynamic disturbances on the exactness of aviation fuel gauges. From the viewpoint of the theory of optimum filters, the schema for the separation of the mathematical expectation of this process is synthesized from the additive mixture of the slowly changing component of the useful signal, coincident with the mathematical expectation of the process, and the stationary random interference. The possibility is indicated to use for these purposes the informative and structural surplus of control means of the quantity and the fuel consumption on board, e.g. when receiving information of the initial process from several gauges. One illustr., two biblio. refs.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

USSR

UDC 621.398.694.7-531.7

GROKHOL'SKIY, A. L., SALOV, G. V., TIKHOMIROV, Yu. F., and YAKOVLEV, L. G.
(Kiev)

"Measuring a Mass of a Substance by Natural Vibration Frequency of the Object"

Novosibirsk, Avtometriya No 3, May-Jun 72, pp 54-60

Abstract: This article is an extension of a earlier investigation by two of the authors on the use of a control object as a primary measuring converter for obtaining data on the value of a controlled parameter. It presents an analysis of experimental data on the method of measuring a mass of a substance by natural vibration frequency of a dynamic system formed by container-filler. Characteristics of the control object being simultaneously a sensitive element of a pickup with variable filler quantity are considered. The mechanical sensitive element is considered as an oscillator in the generating circuits and as resonator in selective circuits. The anti-interference characteristics of such a measuring system are evaluated. The experimental data presented confirms the possibility of obtaining the results of measurements in a wide range of temperatures with inaccuracy of the order of 1% or less, depending on the objects design characteristics.

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USSR UDC 620.193.41

YAKOVLEV, L. M., and TURKOVSKAYA, A. V., Moscow Chemical Machine Building Institute

"Influence of Temperature, Heat Transfer, and Hydrodynamic Conditions on Behavior of Kh17N13M2T Steel in Solutions of Sulfuric Acid"

Moscow, Zashchita Metallov, Vol 7, No 2, Mar-Apr, 1971, pp 167-168.

Abstract: The influence of temperature (20-90°), heat transfer, and acid movement on the stability of the passive state of type Kh17N13M2T steel was studied in solutions of sulfuric acid at concentrations of up to 20%. A number of factors are altered by creating movement in the acid in which the specimens are submerged. The corrosion tests produced a considerable spread of results: in order to explain this, 18 equal current experiments on corrosion resistance of steel in 15% sulfuric acid at 60° were performed. Analysis of the results produced indicates that the dispersion of data is not random and that the data form two sets, corresponding to slow and rapid corrosion. The steel is apparently in an unstable passive state.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

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YAKOVLEV, L. M., and TURKOVSKAYA, A. V., Moscow Chemical Machine Building Institute

"Influence of Temperature, Heat Transfer, and Hydrodynamic Conditions on Behavior of Kh17N13M2T Steel in Solutions of Sulfuric Acid"

Moscow, Zashchita Metallov, Vol 7, No 2, Mar-Apr, 1971, pp 167-168.

Abstract: The influence of temperature (20-90°), heat transfer, and acid movement on the stability of the passive state of type Kh17N13M2T steel was studied in solutions of sulfuric acid at concentrations of up to 20%. A number of factors are altered by creating movement in the acid in which the specimens are submerged. The corrosion tests produced a considerable spread of results: in order to explain this, 18 equal current experiments on corrosion resistance of steel in 15% sulfuric acid at 60° were performed. Analysis of the results produced indicates that the dispersion of data is not random and that the data form two sets, corresponding to slow and rapid corrosion. The steel is apparently in an unstable passive state.

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USSR UDC: 621.396.677:624.97(088.8)

YAKOVLEV, M. A.

"A Telescoping Mast"

USSR Author's Certificate No 263002, filed 2 Dec 68, published 28 May 70 (from RZh-Radiotekhnika, No 11, Nov 70, Abstract No 11B78 P)

Translation: The proposed mast contains lock-equipped sections which fit one into the other, and a pneumatic lift. The lift is accommodated within the mast. It is made in the form of a fixed outer tube and a movable inner tube. When the mast is collapsed, the movable sections fit inside the lower stationary section and rest on spring-loaded washers. The automatic locks are made in the form of brake shoes which bear against the outside surfaces of the sections. These shoes are controlled by hinged tongues which are connected to them. The short ends of the shoes rest on the ends of the movable sections, which ensures an automatic increase in the pressure of the shoes against the surfaces of the sections being locked when the vertical load on the antenna increases. The initial clamping force is provided by springs. In order to take the pressure off the sections when the mast is being collapsed, the upper surfaces of the preceding sections are tapered, and the ends of the hinged tongues slide over these surfaces, loosening the shoes and freeing the sections. One illustration. A. K.

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USSR UDC 669.15'295-194

KAKARDIN, V. A., YEFIMOV, I. V., KASPER, M. V., MIKHIN, B. N., and YAKOVLEV, N. F.

"Role of the Lower Oxides in Titanium Redox Reactions During Electrical Melting of Titanium-Containing Steels"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 2, Mar-Apr 72, pp 66-70

Abstract: An investigation was made in an attempt to determine the mechanism of titanium oxidation (reduction) in normal steel melting processes. Tests were made using steel 08Kh18N10T and a synthetic slag of the CaF_2-Al_2O_3 system which were melted in a TVV-5 crucible vacuum furnace. To the molten metal, having a constant alumina content (40%), titanium dioxide was added (up to 20%). With increased TiO_2 concentration, the amount of Ti_2O_3 in the slag also increased and small quantities of TiO were found. Thus titanium oxides depleted some of the titanium in the original metal and lowered the equilibrium concentration of Ti. In order to neutralize the negative action of weak oxides it is necessary to provide for a higher Ti_2O_3/TiO_2 ratio in the slag, which can be done by having a higher TiO_2 content in the initial slag. Four figures, 1 table, 6 bibliographic references.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

1/2 017 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--DETERMINATION OF MOLYBDENUM IN HYDROMETALLURGY PRODUCTS BY TITRATION WITH VANADATE -U-

AUTHOR-(03)-GOLUBTSOVA, Z.G., LEBEDEVA, L.I., YAKOVLEVA, N.F.

COUNTRY OF INFO--USSR

SOURCE--ZAVOD. LAB. 1970, 36(2), 150-1

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CIRC ACCESSION NO--AP0123046

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MOLYBDATE IS REDUCED WITH N SUB2 H SUB4 AND TITRATED WITH 0.01N NH SUB4 VO SUB3 IN MEDIUM OF H SUB3 PO SUB4 WITH FERROIN INDICATOR. DISSOLVE 0.25 G MO-W CONC. BY TREATING IT WITH 20 ML HOT HNO SUB3 AND ADDING LATER 10 ML HCL AND 4 ML H SUB2 SO SUB4. HEAT UNTIL H SUB2 SO SUB4 FUMES ARE PRODUCED, DIL. WITH 100 ML H SUB2 O, NEUTRALIZE WHEN BOILING WITH NH SUB4 OH AND ADD 10 ML IN EXCESS, LET THE HYDROXIDES COAGULATE AT ELEVATED TEMP., COOL, AND FILTER. DIL. THE FILTRATE TO 250 ML. NEUTRALIZE A 25 ML ALIQUOT WITH 7N H SUB2 SO SUB4, ADD 50 ML 1:4 HCL AND 20 MG N SUB2 H SUB4.HCL, BOIL 5 MIN, ADD 13 ML H SUB2 SO SUB4 AND 5 ML H SUB3 PO SUB4, COOL, AND TITRATE WITH 0.01N NH SUB4 VO SUB3 BY USING FERROIN INDICATOR. THE BLANK CORRECTION IS USUALLY 0.1-0.2 ML. FOR SAMPLES WITH 26-60PERCENT MO AND 1-17PERCENT WO SUB3, THE STD. DEVIATIONS WERE 0.05-0.25PERCENT. FACILITY: LENINGRAD. GOS. UNIV., LENINGRAD, USSR.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

Photographic

USSR

UDC: 771.314

ZOTKIN, I. T., YAKOVLEV, N. I.

"A Camera for Nighttime Photography of Meteor Type Objects"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 23, Aug 72, Author's Certificate No 346701, Division G, filed 26 Nov 70, published 28 Jul 72, p 189

Translation: This Author's Certificate introduces: 1. A camera for nighttime photography of meteor type objects. The camera contains an objective lens with shutter, a modulator with drive, a magazine with light-sensitized material, a rotating drive, and a timer. As a distinguishing feature of the patent, in order to automate the process of photography while simultaneously simplifying design, the camera is fitted with optical elements fastened on the modulator which periodically deflect the light beam, a device for relative rotation of the magazine and modulator, and a reference light which is synchronized with the timer and modulator. 2. A modification of this camera distinguished by the fact that the modulator is made in the form of a rotating disc with sector shaped optical wedges on the edge, and the magazine is placed in a rotator.

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UDC 612.766.1+577.105

USSR

LENKOVA, R. I., USIK, S. V., and YAKOVLEV, N. N., Sector of Biochemistry, Leningrad Scientific Research Institute of Physical Culture, Leningrad

"Changes in the Urea Content in the Blood and Tissues in Relation to the Adaptation of the Organism"

Leningrad, Fiziologicheskiy Zhurnal SSSR imeni I. M. Sechenova, Vol 59, No 7, Jul 73, pp 1,097-1,101

Abstract: The content of urea in the blood, liver, and muscles during rest was the same for rats trained by swimming in water at 30-32° as for untrained animals. However, the increase in the content of urea following muscular effort resulting in fatigue was smaller for trained than untrained animals, while the restoration of the normal content of this substance was faster. Intraperitoneal administration of synpatholytin increased the level of urea both at rest and during muscular effort. This effect was less pronounced for trained than untrained animals. The effect of sympatholytin was associated with its action in reducing ATP formation.

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USSR

UDC 612.744

KRASNOVA, A. F., LENKOVA, R. I., LESHKEVICH, L. G., MAKSIMOVA, L. V., CHAGOVETS, N. R., and YAKOVLEV, N. N., Sector of Biochemistry, Leningrad Institute of Physical Training, Leningrad

"Characteristics of Energy Metabolism in Muscular Activity in Relation to the Degree of Adaptation of the Organism to This Activity"

Leningrad, Fiziologicheskiy Zhurnal SSSR imeni I. M. Sechenova, Vol 58, No 1, Jan 72, pp 114-121

Abstract: A study conducted on more than 250 athletes of various degree of experience and training indicated that with increasing adaptation of the organism to intensive muscular activity there was an increase in the level of sugar and lactate in the blood at which reinforced mobilization and utilization of fatty acids in connection with muscular effort could take place. As a result a more effective supply of the working muscles with energy sources was ensured and the ATP balance was disturbed to a lesser extent. This constituted a factor that increased the working capacity.

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USSR UDC 612.89+612.766.1:796

YAKOLEV, N. N., CHAGOVETS, N. R., and GOROKHOV, A. L., Sector of Biochemistry, Leningrad Scientific Research Institute of Physical Culture

"The Significance of the Sympatho-Adrenal System at Rest and During Adaptation to Muscle Activity"

Leningrad, Fiziologicheskiy Zhurnal SSSR imeni I. M. Sechenova, Vol 58, No 7, 1972, pp 1,132-1,137

Abstract: Intact white rats, rats given either adrenaline or sympatholysin, and rats which had undergone bilateral abdominal sympathectomy were subjected to daily physical training in the form of swimming for periods increased each day. Determinations of glycogen, creatine phosphate, lipid phosphate, noradrenaline, phosphorylase, and glycogen synthetase in muscle tissue and of adrenaline and noradrenaline in blood were made prior to swimming, immediately thereafter, and at various periods at rest. The results indicate that the sympathoadrenal system controls not only catabolic processes during work but also anabolic processes at rest. It exerts trophic adaptive effects in the formation of muscle response to activity, in addition to adjusting the nature and intensity of metabolic processes in muscle tissue to the functional demands at any given moment.

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USSR

UDC 612.89

YAKOVLEV, N. N., KRASNOVA, A. F., LENKOVA, R. I., and MAKSIMOVA, L. V.,
Leningrad Institute of Physical Culture

"Effect of Sympatholytin on Metabolism in Resting and Working Muscles in Relation to the Degree of Their Adaptation to Increased Activity"

Leningrad, Fiziologicheskiy Zhurnal SSSR, No 4, 1973, pp 584-589

Abstract: In rats systematic exercise (swimming) increased muscle glycogen, creatine phosphate, cytochrome oxidase activity and intensity of respiration and phosphorylation in muscle cell mitochondria, especially in the first month of training. Injection of 10 mg/kg of sympatholytin [N-(-2-chloroethyl) dibenzylamine hydrochloride] had no effect of glycogen, creatine phosphate, and creatine kinase activity in resting muscles, but reduced the intensity of cytochrome oxidase and mitochondrial respiration and phosphorylation. During the first month of adaptation to increased activity, sympatholytin caused greater disruption of the oxidative processes in trained animals than in the controls. However, the disturbances diminished considerably by the end of the third month of adaptation. The experimental results show that energy metabolism in muscles (both working and resting) is controlled by the sympathetic nervous system and that the degree of control steadily diminishes in the course of adaptation to increased activity.

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Physiology

USSR UDC 612.766.1:7+712.015

YAKOVLEV, N. N., Sector of Biochemistry, Scientific Research Institute of Physical Culture, Leningrad

"Physiological Aspects of Endurances During Muscular Activity"

Leningrad, Fiziologicheskiy Zhurnal SSSR imeni I. M. Sechenova, Vol 56, No 9, Sep 70, pp 1,263-1,275

Abstract: Studies on the physiological and biochemical aspects of endurance during muscular activity are reviewed. The development of endurance results in improved efficiency and is regarded as an adaptation process. Data pertaining to various stages of this process are outlined. The use of physiologically active substances to increase endurance is discussed with reference to results obtained in animal experiments and in the training of athletes. Whereas primary attention was previously devoted to carbohydrates and vitamins as substances raising endurance during muscular effort, special emphasis has recently been placed on inorganic phosphates, nicotinamide, mixtures of amino acids, pangamic acid, and 4-methyluracil. Studies of 4-methyluracil indicate that it is particularly effective during periods of reinforced muscular activity in training. Its action involves stimulation of protein

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USSR

YAKOVLEV, N. N., Fiziologicheskiy Zhurnal SSSR imeni I. M. Sechenova, Vol 56, No 9, Sep 70, pp 1,263-1.275

synthesis and leads to an increase in body weight as a result of the increase in the relative weight of muscles.

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USSR

YAKOVLEV, N. Ye.

"The Method of Moments in the Problem of Identification of Distributed Objects"

Tr. Sib. fiz.-tekhn. in-ta pri Tomsk. un-te [Works of Siberian Institute of Physics and Technology of Tomsk University], 1973, No 63, pp 227-234 (Translated from Referativnyy Zhurnal - Kibenetika, No 8, 1973, Abstract No 8 V254 by the author)

Translation: This article studies the problem of identification of objects, the state of which is characterized by functions of coordinates of space and time, while the dynamics are described by equations in partial derivatives with certain initial and boundary conditions. These equations describe a tremendous number of technological processes in many branches of industry: heat exchange, mass exchange and filtration processes in petroleum and land reclamation. In order to construct a control for each of these processes, we must first find its mathematical model. In some cases, the model is necessary for prediction and planning. An example of such a problem is the task of determination of parameters of petroleum and other hydrogeological strata.

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YAKOVLEV, N. Ye., Tr. Sib. fiz.-tekhn. in-ta pri Tomsk. un-te, 1973, No 63, pp 227-234

This work studies the method of determination of the coefficients of an equation in partial derivatives, which is selected as a model of the object. The approach selected is based on the idea of replacement of the equation in partial derivatives with a system of ordinary differential equations in time. One of these equations is sufficient to identify the object. The method studied is applicable with high measurement noise levels. The accuracy of the method and means for improvement of estimates of unknown parameters are studied. The application of the method is analyzed on the basis of a numerical example.

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USSR UDC 621.371:533.9

YEFIMOV, A. I., YAKOVLEV, O. I.

"On Propagation of Monochromatic Radio Waves in Interplanetary Plasma"

Moscow, Radiotekhnika i Elektronika, Vol 26, No 9, Sep 71, pp 1554-1563

Abstract: This paper is devoted to analysis of the fluctuations of phases, amplitudes and change in the spectrum of radio waves from a coherent point source located at an arbitrary point of interplanetary space, and to a comparison of calculated effects with experimental data. The analysis takes account of wave sphericity. The described theory of fluctuations in the amplitudes of radio waves emitted by space vehicles agrees satisfactorily with the experimental data of interplanetary flickers of radio sources of small angular dimensions. Fluctuations of the amplitudes of decimeter radio waves propagating in an unperturbed interplanetary plasma are small at distances of less than 10^8 km from the transmitter for regions where $\psi > 30°$, where ψ is the angle between the directions from the point of observation on the Earth to the source of radio emission and to the sun. Appreciable variations in amplitude

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USSR

YEFIMOV, A. I., YAKOVLEV, O. I., Radiotekhnika i Elektronika, No 9, Sep 71, pp 1554-1563

should be observed when space vehicles move out to distances of $3 \cdot 10^8$ km or more and for $\psi < 10°$. Radio waves in the meter wave band should undergo strong fluctuations even under undisturbed conditions in interplanetary space if lines of communications extend beyond $7.5 \cdot 10^7$ km. Phase fluctuations on a frequency of 1000 MHz become appreciable (more than a radian) at distances of about $3 \cdot 10^8$ km and $\psi < 7°$. The angular distance to the sun increases to 30° at this range when the frequency is dropped to 100 MHz. A comparison of calculated values with experimental data for the change in bandwidth of radio waves as the source passes through a nonuniform interplanetary plasma indicates that the proper theoretical approach to the phenomenon is to analyze the spectra of oscillations phase-modulated by a random process which is due to the passage of nonhomogeneities of electron concentration through the line of propagation of radio waves. Nonhomogeneities of electron concentration depend on the level of solar activity. Changes of interplanetary space conditions may cause considerable changes in the average values of fluctuations given in the article.

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USSR

UDC 629.78.015.076.8

BAZHINOV, I. K., IVANOV, N. M., NOGOV, O. A., and YAKOVLEV, O. S.

"Some Adaptive Algorithms of Control of the Descent of Planetary Space Vehicles in the Earth's Atmosphere"

Inform. Materialy. Nauch. Sovet po Kompleks. Probl. (Information Materials of the Scientific Council on Complex Problems), "Kibernetika." AN SSSR, No 6 (53), 1972, pp 38-47 (from Referativnyy Zhurnal, Raketostroyeniye, No 5, 1972, Abstract No 5.41.173, Resume)

Translation: The problem of controlling the descent of a space vehicle entering the Earth's atmosphere at hyperbolic velocities is presently becoming a constantly more urgent one. With an increase of the entry velocity, the solution of the problem of landing of the craft in a given region of the Earth acquires substantial complexity, and there is a corresponding increase in the demands made upon the descent control system. Such a descent control system must be versatile, capable of functioning in various kinds of emergency situations, at any practicable range of descent, at various entry velocities, with random changes of the aerodynamic characteristics of the descending craft within the limits of tolerance, etc. An algorithm for operating such a descent control system is a complex one; it can be brought to realization only with

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BAZHINOV, I. K., Inform. Materialy. Nauch. Sovet po Kompleks. Probl. "Kibernetika." AN SSSR, No 6 (53), 1972, pp 38-47 (from Referativnyy Zhurnal, Raketostroyeniye, No 5, 1972, Abstract No 5.41.137, Resume)

the employment of a digital computer aboard the space vehicle. Some types of algorithms for operating descent control systems of this kind are examined. 7 references.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

USSR UDC 523.164.83

MATYUGOV, S. S., YAKOVLEV, O. S., GRITSAYCHUK, B. V.

"The Energy Spectrum of Radio Waves Emitted by a Lunar Satellite in the Case of Reflection From the Surface of the Moon"

Moscow, Radiotekhnika i Elektronika, Vol 26, No 9, Sep 71, pp 1545-1553

Abstract: The authors study the energy spectra of radio waves transmitted by lunar satellites, reflected by the lunar surface and received on Earth. Relations are found for spectral shapes as determined by the position of the satellite and the degree of unevenness of the reflecting surface. The results of the "Luna-14" program of studying the spectra of scattered radio waves are described. The spectra of radio waves scattered by different regions of the moon are discussed, as well as the relationship between the type of spectrum and surface relief. A comparison of experimental data on various wave bands shows that the width of the energy spectrum is directly proportional to the signal frequency. These results show that minor irregularities in the reflecting surface play a minor role in shaping the spectrum for wavelengths

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

USSR

MATYUGOV, S. S. et al., Radiotekhnika i Elektronika, No 9, 1971, pp 1545-1553

greater than 10 cm. On shorter wavelengths, the theory requires some refinements to account for surface irregularities. Numerical analysis showed a complex relationship between the shape of the energy spectra and the satellite position and surface unevenness. Experimental data show that the spectrum of scattered radio waves is sensitive to the degree of surface roughness in the region which is important for scattering in the direction of the Earth. The rms values of the slopes of irregularities on the moon differ strongly for various regions.

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USSR

POPKOV, Yu. S., YAKOVLEV, P. V.

"Stochastic Optimization of Tracking Process"

Kibernet. i Vychisl. Tekhn. Resp. Mezhved. Sb. [Cybernetics and Computer Technology. Republic Interdepartmental Collection], 1972, No 16, pp 10-17 (Translated from Referativnyy Zhurnal Kibernetika, No 4, 1973, Abstract No 4V316, by the authors).

Translation: A model of a tracking process on a plane is studied for the case when the tracked object does not react to the attacking object. It is shown that the equations describing the tracking process are the equations of a closed system. Problems of optimization of the process in such a system are formulated. The procedure for seeking the optimal trajectory consists of two stages: selection of the optimal estimate of the trajectory of the target and determination of the corresponding control algorithm. An example is studied.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

Analysis and Testing

USSR

UDC 546.821:543.062

BASARGIN, N. N., YAKOVLEV, P. YA., and DEYNEKINA, R. S., Institute of Geology of Mining Deposits, Petrography, Mineralogy, and Geochemistry, Academy of Sciences USSR, Central Scientific Research Institute of Ferrous Metallurgy imeni Bardin, Moscow

"Dibromtichromine as a Reagent for Extraction-Photometric Determination of Titanium"

Moscow, Zavodskaya Laboratoriya, Vol 39, No 9, 1973, pp 1043-1044

Abstract: Dibromtichromine forms with titanium a complex that extracts n-butanol from 0.001-1-n HCl (H_2SO_4) in the presence of 500-fold amounts of diphenylguanidine or 50-fold amounts of triphenylguanidine with respect to the reagent. The molar ratio of the titanium-dibromtichromine in the extracting compound is 1:2. The authors developed a rapid method for determining 0,0n-0,n% Ti in steels. The relative error is ±5%.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

USSR

BASARGIN, N. N., et al., Zavodskaya Laboratoriya, Vol 39, No 9, 1973, pp 1043-1044

Figure 1 illustrates the absorption spectra and Figure 2 shows the pH of the water phase as it is affected by the optical density. Table 1 shows the allowable weight amounts of materials and Table 2 gives the statistical characteristics of the method.

The article contains 2 illustrations, 2 tables, and 7 bibliographic references.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

Analysis and Testing

USSR

UDC 543.7:669.046.52

ZHALYBINA, V. D., YAKOVLEV, P. YA., and KOVALENKO, O. A.

Khimicheskiy analiz metallurgicheskikh flyusov (Chemical Analysis of Metallurgical Fluxing Agents), Moscow, "Metallurgiya," 1973, 176 pp

Translation of Annotation: Practical suggestions are made as to methods for the chemical analysis of the major components and impurities in fluxes used in electric steel smelting and welding. These suggestions are very precise and in practice can be applied to the chemical and physical-chemical methods of determining 26 elements in fluxes; some of these methods were developed, improved, and made more precise by the authors.

This book is designed as a guide for personnel in chemical laboratories of factories, and scientific-technical and educational institutes for the metallurgical and related branches of industry. 8 illustrations, 6 tables, 48 references.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

USSR

ZHALYBINA, V. D., et al., "Metallurgiya," 1973, 176 pp

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ZHALYBINA, V. D., et al., "Metallurgiya," 1973, 176 pp

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ZHALYBINA, V. D., et al., "Metallurgiya," 1973, 176 pp

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

USSR

UDC 546.46:543.063

ZHUKOVA, M. P. and YAKOVLEV, P. YA., Central Scientific Research Institute of Ferrous Metallurgy imeni I. P. Bardin

"Determination of Small Quantities of Calcium in Metallic Cobalt and Cobalt Oxide"

Moscow, Zavodskaya Laboratoriya, Vol 39, No 6, Jun 73, pp 661-662

Abstract: The relationship of calcium and cobalt (II, III) ion sorption by cation exchange resin KU-2X8 in NH_4 from solutions containing EDTA was studied with respect to solution pHs by a dynamic method. The possibility of using chlorophosphonazo III for determining calcium in eluates is indicated and a method of determining $2 \cdot 10^{-3}\%$ Ca in metallic cobalt and in cobalt (III) oxide is presented. 2 tables, 8 bibliographic references.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

1/2 025 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--TICHROMIN, A NEW COLORLESS REAGENT FOR THE PHOTOMETRIC DETERMINATION OF NIOBIUM -U-

AUTHOR-(03)-YAKOVLEV, P.YA., BASARGIN, N.N., PANARINA, N.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. ANAL. KHIM. 1970, 25(3), 505-10

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--NIOBIUM, PHOTOMETRIC ANALYSIS, STEEL, IRON ALLOY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/0468 STEP NO--UR/0075/70/025/003/0505/0510

CIRC ACCESSION NO--AP0126220

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2/2 025 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0126220

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TICHROMIN (3,3 PRIME (NOMETHYLIMINO)BIS(METHYLENE)DICHROMOTROPIC ACID) (I) WAS STUDIED AS A REAGENT FOR NB. I FORMS WITH NB A YELLOW COMPLEX IN ACID MEDIA, WITH MAX. ABSORBANCE AT 406-15 NM. THE MOST INTENSE COLOR OCCURS IN 2-4N HCL AND 2-3N H SUB2 SO SUB4. THE MOLAR ABOSRPTIVITY AT 414 NM IS 1.7 TIMES 10 PRIME4 IN A HCL MEDIUM AND 1.5 TIMES 10 PRIME4 IN A H SUB2 SO SUB4 MEDIUM. BEER'S LAW IS OBEYED IN THE 0-120 MUG NB-25 ML 2N HCL RANGE AT A I CONCN. OF 4 TIMES 10 PRIME NEGATIVE4 M; 3000 FOLD AMTS. OF TARTARIC, ASCORBIC, AND THIOGLYCOLIC ACIDS, 5000 FOLD AMTS. OF N SUB2 H SUB4, NH SUB2 OH, AND NA SUB2 SO SUB3, AND 200 FOLD SNCL SUB2 DO NOT INTEREFERE. THE DETN. OF 2 MUG NB-ML IS POSSIBLE IN THE PRESENCE OF 400 FOLD AMTS. OF CU, 150 FOLD CO AND NI, 100 FOLD V (IV), 35 FOLD CR(III), AND 25 FOLD ZR. EQUAL AMTS. OF TA, MO, AND TI INTERFERE, NO INTERFERENCE IS ELIMINATED WITH ARTARIC ACID AND TI BY MEASURING THE ABSORBANCE AT 2 WAVELENGTHS. THE METHOD CAN BE USED FOR THE SPECTROPHOTOMETRIC DETN. OF 0.1-2PERCENT NB IN STEELS AND FERROUS ALLOYS WITH A 3-7PERCENT RELATIVE ERROR. FACILITY: CENT. SCI.-RES. INST. FERROUS MET., MOSCOW, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

1/2 022 UNCLASSIFIED

TITLE--DETERMINATION OF CARBON IN STEELS AND ALLOYS -U- PROCESSING DATE--27NOV70

AUTHOR-(02)-ORZHEKHOVSKAYA, A.I., YAKOVLEV, P.YA.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 264,757

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY,TOVARNYE ZNAKI 1970 47(9)

DATE PUBLISHED--03MAR70

SUBJECT AREAS--MATERIALS, CHEMISTRY

TOPIC TAGS--CHEMICAL PATENT, METALLURGIC PATENT, METALLURGIC RESEARCH FACILITY, METAL CHEMICAL ANALYSIS, ALLOY STEEL, CARBON STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/1469 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0127000

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

2/2 022 UNCLASSIFIED

CIRC ACCESSION NO--AA0127000 PROCESSING DATE--27NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. C IS DETD. BY FUSING THE SAMPLE IN AN O CURRENT IN THE PRESENCE OF FLUX, SUCH AS A MIXT. OF AL IN CUO OR FE SUB2 O SUB3 (E.G., 1 PART AL TO 5 PARTS CUO, OPTIMUM OR 1 PART AL TO 3 PARTS FE SUB2 O SUB3, OPTIMUM). THE CO SUB2 LIBERATED IS COLLECTED AND DETD., E.G., POTENTIOMETRICALLY. FACILITY: TSENTRAL'NYY NAUCHNO, ISSLEDOVATEL'SKIY INSTITUT CHERNOY METALLURGII IM. I. P. BARDINA.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

USSR

UDC 669.1:541.015

YAKOVLEV, P. Ya., YAKOVLEVA, Ye. F., and ORZHEKHOVSKAYA, A. I.

Opredeleniye Ugleroda v Metallakh (Determination of Carbon in Metals), Metallurgiya, Moscow, 1972, 288 pp

Translation of Annotation: Theoretical fundamentals and detailed practical recommendations are given on chemical, physicochemical, and physical methods of determining large and small quantities of the total carbon in steels, alloys, ferroalloys, pure metals, and other materials of metallurgical production, as well as the bonded and free (carbon in a solid solution) carbon. New and different methods of carbon determination tested by the authors are recommended. This book is intended for personnel of analytical laboratories of industrial enterprises and scientific research and teaching institutes for metallurgy and other branches of industry. It may also be used as a textbook by students in chemical and chemical-metallurgical specialties of institutions of higher learning. 35 figures, 35 tables, 197 bibliographic references.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

USSR

UDC 669.046.5

YAKOVLEV, S. I., FILIPPOV, S. I.

"Temperature and Oxygen Potentials Distribution in an Oxidizing Gas Flow Interacting With Metal Melt"

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 62-65

Translation of Abstract: Problems of temperature characteristics and compositions of the oxidizing gas flow in oxygen blowing over the surface of ferrocarbon melts are investigated. 3 figures, 2 references.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

1/2 032 UNCLASSIFIED

TITLE--PLANE DEFORMATION OF AN ANISOTROPIC BODY -U- PROCESSING DATE--30OCT70

AUTHOR-(03)-TOLOKONNIKOV, L.A., YAKOVLEV, S.P., KUZIN, V.F.

COUNTRY OF INFO--USSR

SOURCE--PRIKLADNAIA MEKHANIKA, VOL. 6, APR. 1970, P. 86-92

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--ANISOTROPY, STRESS ANALYSIS, DEFORMATION RATE, PLASTIC FLOW, NUMERIC INTEGRATION, COLD DRAWING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1181 STEP NO--UR/0195/70/006/000/0086/0092

CIRC ACCESSION NO--AP0124835

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

2/2 032 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124835

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ANALYSIS OF THE PLANE STRAIN STATE EQUATIONS FOR STRESSES AND RATES OF STRAINING OF AN ANISOTROPIC RIGID PLASTIC NONSTRAIN HARDENABLE MATERIAL, UNDER THE ASSUMPTION THAT HILL'S (1956) YIELD CONDITION AND ASSOCIATED FLOW LAW ARE VALID. THE PROBLEM OF THE DRAWING OF AN ANISOTROPIC STRIP THROUGH A WEDGE SHAPED DRAW HOLE IS SOLVED, WITHOUT AND WITH ALLOWANCE FOR FRICTION, BY NUMERICAL INTEGRATION OF THE CHARACTERISTIC EQUATIONS. FACILITY: TUL'SKII POLITEKHNICHESKII INSTITUT, TULA, USSR.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

1/2 009 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--DEHYDRATION AND DRYING OF WASTE WATER RESIDUES FROM PLANTS FOR THE PRIMARY TREATMENT OF WOOL -U-

AUTHOR-(03)-YAKOVLEV, S.V., KALITSUN, V.I., TERESHCHUK, A.I.

COUNTRY OF INFO--USSR

SOURCE--VODOSNABZH. SANIT. TEKH. 1970, (2), 13-16

DATE PUBLISHED-------70

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

TOPIC TAGS--NATURAL FIBER, WASTE WATER CONVERSION, INDUSTRIAL WASTE TREATMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/1334 STEP NO--UR/0327/70/000/002/0013/0016

CIRC ACCESSION NO--AP0138344

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

2/2 009 UNCLASSIFIED

CIRC ACCESSION NO--AP0138344 PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. 1ST AND 2ND SETTLINGS OBTAINED FROM WATER USED FOR SCOURING WOOL COMPRISE 8-12PERCENT BY VOL. OF THE TOTAL VOL. OF H SUB2 O USED AND 88-92PERCENT OF THE SLURRY IS H SUB2 O. SINCE A CONSIDERABLE AMT. OF WOOL FAT SETTLES WITH THE SLURRY, A PROCESS BASED ON COAGULATION AND FILTRATION AND FINALLY "SPRAY" DRYING WAS WORKED OUT TO PREP. THE MATERIAL FOR EXTN. THE AIR TEMP. FOR DRYING SHOULD BE LESS THAN OR EQUAL TO 400DEGREES AND THE EXHAUST GAS TEMP. SIMILAR TO 140DEGREES.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

1/2 020 UNCLASSIFIED

TITLE--THE PATHOGENESIS OF VITAMIN DEFICIENCY IN PATIENTS SUFFERING FROM CHRONIC GASTRITIS AND PEPTIC ULCER -U- PROCESSING DATE--30OCT70

AUTHOR--YAKOVLEV, T.N.

COUNTRY OF INFO--USSR

SOURCE--KLINICHESKAYA MEDITSINA, 1970, VOL 48, NR 5, PP 51-54

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--VITAMIN DEFICIENCY, DIGESTIVE SYSTEM DISEASE, ASCORBIC ACID, THIAMINE, RIBOFLAVIN, NICOTINIC ACID, ANTIBIOTIC, SMALL INTESTINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1761 STEP NO--UR/0497/70/048/005/0051/0054

CIRC ACCESSION NO--AP0129129

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

2/2 020 UNCLASSIFIED

CIRC ACCESSION NO--AP0129129 PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PAPER CONTAINS DATA RELEVANT TO THE DEFICIENT SUPPLY OF PATIENTS SUFFERING FROM CHRONIC GASTRITIS AND PEPTIC ULCER WITH ASCORBIC ACID, THIAMINE, RIBOFLAVINE AND NICOTINIC ACID. THE FOLLOWING FACTORS OF VITAMIN DEFICIENCY ARE SINGLED OUT: THE PAIN SYNDROME, ANACIDIC STATE, ATROPHY OF THE GASTRIC MUCOUS MEMBRANE, SECONDARY DISORDERS OF THE SMALL INTESTINE AND INSUFFICIENT SUPPLY OF VITAMINS WITH FOOD. BESIDES, THE NEGATIVE INFLUENCE ON THE VITAMIN BALANCE WAS EXERTED BY CONCOMITANT DISEASES AND SOME THERAPEUTIC MEASURES (ALKALINES, ANTIBIOTICS, ETC). FACILITY: KAFEDRA GOSPITAL'NOY TERAPII VOYENNO-MEDITSINSKOY AKADEMII IM. KIROVA.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8

USSR

UDC 669.295.046.44

UTKOV, V. A., KUDINOV, B. Z., YAKOVLEV, V. A., TRUNOV, G. Z., KASHIN, V. V., REMPEL', P. S.

"Dilatometry of Titanium-Vanadium Agglomerate"

Tr. In-ta metallurgii. Ural'sk. fil. AN SSSR (Works of the Institute of Metallurgy. Urals Branch of the USSR Academy of Sciences), 1970, vyp. 22, pp 140-142 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G228)

Translation: The compositional and grain size characteristics of Kachkanarskiy concentrates determine its capacity for agglomeration. The ore has a high Fe content and low SiO_2 content. The ore composition is the following (in %): Fe 59.9, FeO 26.0, SiO_2 5.4, TaO 2.0, V_2O_5 0.66, TiO_2 3.3, MgO 2.6, S 0.004. The content of fractions in the concentrate is as follows (in %): +0.1 mm 23.3, +0.074 mm 15.7, -0.074 mm 61. This arises from the necessity for fine crushing of the ore. The temperature level of the sintering process is raised as a result of less development of the low-melting phases based on Ca, Si, and Fe oxides and also as a result of the presence of Ti and V oxides. The agglomerate is inclined toward crack formation as a result of internal stresses arising during cooling of the formed and hardened mass. There are 2 tables.

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203610018-8"