"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

USSR

Radev, Ye. I., Tr. Mosk. Ekon.-Stat. In-ta, 1972, Ch. 1, pp 134-150.

of the problem of the shortest path between these two neighboring cities. In the course of solution of this problem, cities already included in the path are eliminated from analysis. The initial path for this procedure is constructed as follows. City i is arbitrarily selected and paths of the shortest length from i to all remaining cities are found. Suppose $i_1 i_2 \ldots i_k j$ is an arbitrary path of this type. For each j, a path of shortest length is constructed to city i using matrix C, from which rows and columns with numbers $i_1, i_2, \ldots, i_k$ are eliminated. Among the cyclical paths $i i_1 \ldots i_k j j_1 \ldots j_m i$ produced, possibly not passing through all cities, the one is selected for which the mean length of one line is minimal. All of the criticisms made concerning the first algorithm are equally applicable to this one.

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USSR UDC 535.33

PETROV, V. A., RADEYKEVYTS, T. Ye.

"Installation for Determination of Integral Normal Radiation Capacity in the 600-1500°K Temperature Interval"

Teplofizika Vysokikh Temperatur, Vol 9, No 6, 1971, p. 1253-1259.

Abstract: A design is described for an installation for determination of the normal integral radiative capacity of solids in the 600-1500°K temperature interval using a semiconductor bolometer as a radiation receiver. Experimental data are produced on the radiative capacity of molybdenum.

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USSR

UDC (546.36'185+546.732"185):542.3

KRIVOVYAZOV, YE. L., DZHURINSKIY, V. F., RADHIMBEKOVA, KH. M., and VOSKRESENSKAYA, N. K., Institute of General and Inorganic Chemistry imeni N. S. Kurnakov, Academy of Sciences USSR

"Density of Fused Cesium and Cobalt Metaphosphates"

Moscow, Izvestiya Akademii Nauk SSSR, Neorganicheskiye Materialy, No 8, 1972, pp 1505-1506

Abstract: The authors used the method of hydrostatic weighing to measure the density of fused Cs and Co metaphosphates. Based on the data produced on the density of fused Cs and Co metaphosphates, using the method of least squares, the equations for density polytherms were calculated. The molar volumes of the Na, K, and Cs metaphosphates increase in that order at their melting points with increasing cation radius. The temperature coefficients of density for Na, K, and Cs metaphosphates are less than for the corresponding normolymerized simple salts. Even stronger compacting of structure can be expected for Zn and Co metaphosphates.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

USSR UDC: 621.165-226-758.3

KIRILLOV, I. I., FADDEYEV, I. P., AMELYUSHKIN, V. N., KOTOV, Yu. V., VOLCHKOV, V. I., RADIK, S. V., Leningrad "Order of Lenin" Polytechnical Institute imeni M. I. Kalinin

"A Moisture Collector"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 10, Apr 72, Author's Certificate No 332244, Division F, filed 11 Jun 70, published 14 Mar 72, p 134

Translation: This Author's Certificate introduces: 1. A moisture collector designed chiefly for a wet vapor turbine. The device contains collector chambers with drain channels installed in the body of a diaphragm over the hub of the working wheel. As a distinguishing feature of the patent, the efficiency of moisture extraction is increased by making the chambers in the form of annular grooves one over the other. The upper groove is connected by slits to the flow part on the vapor injection side, and the hub is tapered with increasing diameter in the path of the vapor with an annular projection at maximum diameter to throw the

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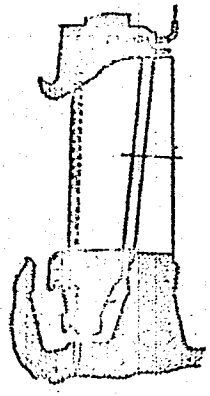
"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

BRILLOV, I. I. et al., USSR Author's Certificate No 332244

moisture into the lower chamber. 2. A modification of this moisture collector distinguished by the fact that moisture-catching troughs are provided in the lower chamber.



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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

USSR

UDC: 621.397:621.396.4

RADIKAYNEN, Ya. M.

"Analysis of the Stability of Automatic Correction of the Amplitude--Frequency Response of a Television Channel in a Radio Relay Line"

Tr. uchebn. in-tov svyazi. M-vo svyazi SSSR (Works of Educational Institutes of Communications. Ministry of Communications of the USSR), vyp. 49, 1970, pp 93-103 (from RZh-Radiotekhnika, No 2, Feb 71, Abstract No 2G194)

Translation: The author discusses the circuit of an automatic corrector of distortions in the amplitude-frequency response of a TV channel in a radio relay line. The circuit consists of six correction cells which act on different sections of the amplitude-frequency response and are controlled by individual regulator channels. An analysis is made of the stability of one regulator channel which controls one of the above-mentioned six cells. The transition response is plotted; the stability reserve is determined. It is shown that stability reserves (both in phase and amplitude) are adequate. One illustration, bibliography of four titles. N. S.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

1/2 028 UNCLASSIFIED

TITLE--MODEL OF A BAROTROPIC OCEAN -U- PROCESSING DATE--02OCT70

AUTHOR-(03)-YEGOROV, K.L., LAYKHTMAN, D.L., RADIKEVICH, V.M.

COUNTRY OF INFO--USSR

SOURCE--OKEANOLOGIYA, 1970, VOL 10, NR 2, PP 249-255

DATE PUBLISHED--------70

SUBJECT AREAS--ATMOSPHERIC SCIENCES, EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--OCEAN CURRENT, SURFACE AREA, MODEL, TURBULENT FLOW, GEOSTROPHIC WIND, ATMOSPHERIC WIND FIELD

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/1285 STEP NO--UR/0213/70/010/002/0249/0255

CIRC ACCESSION NO--AP0109369

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

2/2 028 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0109369

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. METHODS FOR COMPUTING VERTICAL DISTRIBUTIONS OF THE SEA CURRENT VEOLCITIES AND TURBULENCE PARAMETERS ARE SUGGESTED FOR A BAROTROPIC OCEAN. THE GEOSTROPHIC WIND FIELD IS USED AT THE INITIAL DATA. THE COMPUTATIONS ARE MADE FOR A CLOSED RECTANGULAR BASIN. TANGENTIAL WIND STRESS AT THE OCEAN SURFACE IS A FUNCTION OF COORDINATES TAU SUBAY EQUAL 0; TAU SUBAX EQUAL TAU SUBO TIMES COS PI Y DIVIDED BY B. THE OBTAINED QUANTITATIVE RESULTS ARE IN ACCORD WITH THE KNOWN ORDERS OF MAGNITUDES WHICH FACT MAKES POSSIBLE TO ASSUME THAT THE SUGGESTED MODEL CAN GIVE A CORRECT DYNAMICAL DESCRIPTION OF THE PROCESSES IN A BAROTROPIC OCEAN. FACILITY: INSTITUT OKEANOLOGII IM. P. P. SHIRSHOVA AN SSSR FACILITY: LENINGRADSKIY GIDROMETEROLOGICHESKIY INSTITUT.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

1/2 028 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--MODEL OF A BAROTROPIC OCEAN -U-

AUTHOR-(03)-YEGOROV, K.L., LAYKHTMAN, D.L., RADIKEVICH, V.M.

COUNTRY OF INFO--USSR

SOURCE--OKEANOLOGIYA, 1970, VOL 10, NR 2, PP 249-255

R

DATE PUBLISHED--------70

SUBJECT AREAS--ATMOSPHERIC SCIENCES, EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--OCEAN CURRENT, SURFACE AREA, MODEL, TURBULENT FLOW, GEOSTROPHIC WIND, ATMOSPHERIC WIND FIELD

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/1285 STEP NO--UR/0213/70/010/002/0249/0255

CIRC ACCESSION NO--AP0109369

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

2/2 028 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0109369

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. METHODS FOR COMPUTING VERTICAL DISTRIBUTIONS OF THE SEA CURRENT VEOLCITIES AND TURBULENCE PARAMETERS ARE SUGGESTED FOR A BAROTROPIC OCEAN. THE GEOSTROPHIC WIND FIELD IS USED AT THE INITIAL DATA. THE COMPUTATIONS ARE MADE FOR A CLOSED RECTANGULAR BASIN. TANGENTIAL WIND STRESS AT THE OCEAN SURFACE IS A FUNCTION OF COORDINATES TAU SUBAY EQUAL 0; TAU SUBAX EQUAL TAU SUB0 TIMES COS PI Y DIVIDED BY B. THE OBTAINED QUANTITATIVE RESULTS ARE IN ACCORD WITH THE KNOWN ORDERS OF MAGNITUDES WHICH FACT MAKES POSSIBLE TO ASSUME THAT THE SUGGESTED MODEL CAN GIVE A CORRECT DYNAMICAL DESCRIPTION OF THE PROCESSES IN A BAROTROPIC OCEAN. FACILITY: INSTITUT OKEANOLOGII IM. P. P. SHIRSHOVA AN SSSR FACILITY: LENINGRADSKIY GIDROMETEROLOGICHESKIY INSTITUT.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

USSR

UDC 661.666:541.7

KASATOCHKIN, V. I., KAZAKOV, M. Ye., SAVRANSKIY, V. V., NABATNIKOV, A. P., and RADIMOV, N. P., Institute of Fossil Fuels, Moscow

"Synthesis of New Allotropic Forms of Carbon From Graphite"

Moscow, Doklady Akademii Nauk USSR, Vol 201, No 5, 1971, pp 1104-1105

Abstract: During the exposure of pyrographite platelet to a laser beam intense evaporation and melting of carbon with the formation of craters at the point of decreasing rays was observed. The results of studies on the nature of the carbon condensed from carbon vapors are given. The carbon vaporizing from the platelets of carbon was precipitated as a silvery-white layer surrounding a thin layer of black carbon precipitate. In the experiments a heterogeneous laser was used with impulse energies of 250 and 500 joules in a free generation with an impulse length 1×10^{-3} sec. The density of the silvery-white carbon was found to be 2.48 g/cm^3. The specific electroconductivity of the carbon layer was about one ohm $\cdot$ cm^{-1}. X-ray diffraction showed a polycrystalline structure for the silvery-white carbon film with an average crystal size of 10^{-5}cm. X-ray diffraction of the black carbon was characteristic of a highly dispersed material with an eroded diffraction zone. Comparison of interplanar distances for the precipitated carbon with

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

USSR

KASATOCHKIN, V. I., et al., Doklady Akademii Nauk USSR, Vol 201, No 5, 1971, pp 1104-1105

those of the cubic and hexagonal modifications of diamond and hexagonal and rhombohedral graphite showed that the silvery-white carbon obtained was a new allotropic crystalline form of carbon.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

USSR

UDC: 621.317.335.3

RADIN, Yu. P.

"On Measuring Large Values of Permittivity"

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 108-109 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1A360)

Translation: The dielectric (polarization) properties of a medium were determined by using a method involving measurement of the parameters of the nonhomogeneity introduced into a rectangular waveguide by a small cylindrical rod. Measurements are made in the 3.2 cm wavelength band on specimens of germanium and pressed semiconductor materials: cadmium oxide, etc. It is found in accordance with theory that the polarization effect which characterizes the real component of permittivity is suppressed by conduction currents in specimens with low resistivity. This latter circumstance is involved in the difficulties of interpreting the dielectric properties of materials with a transition to metallic media. E. L.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

1/2 009 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--USE OF ELECTROLYTIC SODIUM BISULFATE FOR PRESERVING GREEN PLANTS -U-

AUTHOR-(03)-BEYDIN, V.K., PESOTSKIY, V.F., RADINA, G.N.

COUNTRY OF INFO--USSR

SOURCE--KHIM. SEL. KHOZ. 1970, 8(2), 139-40

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, CHEMISTRY

TOPIC TAGS--SODIUM COMPOUND, SULFATE, HYDROGEN COMPOUND, PLANT SPRAYING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1370 STEP NO--UR/0394/70/008/002/0139/0140

CIRC ACCESSION NO--AP0125018

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

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UNCLASSIFIED

CIRC ACCESSION NO--AP0125018 PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ELECTROLYTICALLY PRODUCED NAHSO SUB4 IN THE FORM OF PELLETS OR FLAKES AND WATER SOL. (50PERCENT), CONTAINS 82-99PERCENT NAHSO SUB4 AND HAS A D. OF 2.4T. THE PRESERVATIVE PROPERTIES FOR GREEN PLANTS ARE SIMILAR TO THOSE OF OTHER PRESERVATIVES.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

USSR UDC 621.314.1:621.382.3.001.24

BARDILA, T.I., RADIONCHIK, K.N., RUDENKO, V.N.

"Analysis Of Transitorized Converters At High Frequencies"

Teor. elektrotekhnika. Resp. mezhved. nauch.-tekhn.sb. (Theory Of Electrical Engineering. Republic Interdepartmental Scientific-Technical Collection),1971, Issue 11, pp 20-23 (from RZh--Elektronika i yeye primeneniye, No 3, March 1972, Abstract No 3B567)

Translation: With the help of nonlinear differential equations, an analysis is offered of a transistor with the effect at the input of two signals of large amplitude with frequencies right up to cutoff. The nonlinear dependence of the collector current, the inertia, and the conductances caused by diffusion and recombination processes in the transistor are taken into account. It is proposed with the aid of models to develop a solution for the differential equations obtained. Consequently, during the choice of approximation expressions the possibility of their modeling was considered. 3 fig. 2 ref. Summary.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

1/3 027 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--TRANSISTOR CIRCUIT ANALYSIS AT HIGH FREQUENCIES AND LARGE SIGNALS -U-

AUTHOR-(03)-BARDYLA, T.I., RADIONCHYK, K.N., RUDENKO, V.N.

COUNTRY OF INFO--USSR, HUNGARY

SOURCE--PROCEEDINGS OF THE FOURTH COLLOQUIUM ON MICROWAVE COMMUNICATION, BUDAPEST, 21-24 APRIL, 1970, VOL. IV, MT, MICROWAVE THEORY AND

DATE PUBLISHED----APR70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--CONFERENCE, TRANSISTORIZED CIRCUIT, CIRCUIT ANALYSIS, HIGH FREQUENCY, NONLINEAR DIFFERENTIAL EQUATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/1894 STEP NO--HU/0000/70/004/000/0000/0000

CIRC ACCESSION NO--AT0138774

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

2/3 027 UNCLASSIFIED

CIRC ACCESSION NO--AT0138774 PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE WIDE USE OF TRANSISTORS IN RADIO ENGINEERING EQUIPMENT CAUSES THE NECESSITY OF PROFOUND INVESTIGATION OF HIGH FREQUENCY TRANSISTOR PROPERTIES. LITERATURE POSSESSES SATISFACTORY METHODS OF TRANSISTOR CIRCUITS ANALYSIS AT SMALL SIGNALS. IN CASE OF LARGE SIGNALS AMPLITUDE AT HIGH FREQUENCY THE ANALYSIS OF TRANSISTOR CIRCUITS BECOMES DIFFICULT. THE SOLUTION OF THIS PROBLEM HAS BEEN REALIZED IN DIFFERENT METHODS WHICH HAVE BEEN EVOKED BY TWO CONTRADICTORY REQUIREMENTS, ONE OF PRECISION AND THE OTHER OF SIMPLICITY OF ANALYSIS. THE DIFFICULTY OF AN ANALYSIS IS THAT IT IS IMPOSSIBLE TO DETERMINE IN AN ANLYTICAL WAY THE INTERNAL VOLTAGE THAT DRIVES THE COLLEKTOR CURRENT EVEN WHEN THE TRANSISTORS INPUT IS FED WITH HARMONIC SIGNAL. THIS PAPER OFFERS THE ANALYSIS OF THE TRANSISTOR BEING AFFECTED ON ITS INPUT BY TWO LARGE SIGNALS AT FREQUENCIES UP TO THE CUT OFF ONE USING NON LINEAR DIFFERENTIAL EQUATIONS. THE NON LINEAR DEPENDENCIES OF THE COLLECTOR CURRENT, INERTIA AND CONDUCTANCE CONDITIONED BY DIFFUSION AND RECOMBINATION PROCESSES IN TRANSISTOR ARE TAKEN INTO CONSIDERATION. IT IS SUPPOSED THAT THE LOAD RESISTANCE OF TRANSISTOR IS SMALL IN COMPARISON WITH THE OUTPUT IMPEDANCE. THE EQUATIONS OBTAINED FOR THE COLLECTOR AND INPUT CURRENTS MAY BE DETERMINED IN NORMALISED SHAPE BY MEANS OF COMPUTER OR MODEL. THE SUFFICIENT PRECISION OF AN ANALYSIS OF TRANSISTOR CIRCUITS FOR PRACTICE MAKES ABOUT 10-20PERCENT, THEREFORE THE AUTHORS PROPOSE TO DEVELOPE THE ANALYSIS BY MEANS OF MODEL INSTEAD OF COMPUTER. HENCE THE POSSIBILITY TO MODEL THE APPROXIMATIVE EXPRESSIONS WAS TAKEN INTO ACCOUNT BY THEIR CHOICE.

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3/3 027

CIRC ACCESSION NO--AT0138774 UNCLASSIFIED PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--FACILITY: RADIO ENGINEERING DEPARTMENT OF LVOV POLYTECHNIC INSTITUTE, LVOV GSP-5, U.S.S.R.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

USSR

UDC 612.744+612.825.4

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BERDINA, N. A., KOLENKO, O. L., KOTS, YA. M., KUZNETSOV, S. P., RADIONOV, I. M., SAVCHENKO, A. P., and TKHOREVSKIY, V. I., Department of Human and Animal Physiology, Biology-Soil Faculty, Moscow State University; Physiology Department of Roentgenology and Radiology, First Moscow Medical Institute; Physiology of Work Section, Institute of Industrial Hygiene and Occupational Diseases, Academy of Medical Sciences USSR, Moscow

"Efficiency and Blood Supply of Skeletal Muscles During Emotional Stress Induced by Mental Arithmetic"

Leningrad, Fiziologicheskiy Zhurnal SSR imeni I. M. Sechenova, No 4, 1971, pp 546-555

Abstract: Emotional stress arizing from mental addition and subtraction produced in most human subjects an increase in the volumetric blood flow rate (by 85% on the average) in resting muscles of the forearm. When mental arithmetic was combined with voluntary muscular exertion (on a squeeze dynamometer) or isometric contraction of the antebrachial muscles elicited by electric stimulation of the nerve, muscular performance increased by 46 and 155%, respectively. This happened in only those subjects in whom mental

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USSR

BERDINA, N. A., et al., Fiziologicheskiy Zhurnal SSR imeni I. M. Sechenova, No 4, 1971, pp 546-555

arithmetic intensified the blood flow in resting muscles. Intraarterial injection of atropine markedly slowed the increase in rate of blood flow in resting muscles due to mental arithmetic. It also reduced the length of time exertion on the squeeze dynamometer could be sustained. Stress-induced muscular efficiency is ascribed to increased blood flow not in the working muscles but in the resting muscles as a result of change in muscle metabolism brought about by the sympathetic nervous system.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

Acc. Nr: AP0034208

Abstracting Service: CHEMICAL ABST. 4-70

Ref. Code: UR 0078

71252f Polarographic study of the complexing of iron(III) with acetate. Skiyarenko, I. S.; [redacted]ova, N. S. (USSR). *Zh. Neorg. Khim.* 1970, 15(1), 103–5 (Russ). Complexing of Fe(III) with AcO^- was studied polarographically by using graphite-paste electrode (made of 6 g *B*-3 graphite and 3.5 ml α-bromonaphthalene). At pH 1.5–2.5, presence of $Fe(OH)^{2+}$ and $Fe(OH)_2^+$ species in *M* KNO_3 supporting electrolyte medium was confirmed. The change of $E_{1/2}$ with concn. of AcO^- at pH 2.5 is given. At 6.5×10^{-4} *M* AcO^-, the Fe(III) is bound primarily as $[FeOAc]^{2+}$ and, on increasing concn. to 4×10^{-3} *M* AcO^-, as $[Fe(OAc)_2]^+$. At pH 4.5 and log $[AcO^-] > 1.0$, Fe(III) exists mainly as $[Fe(OAc)_3]$. Formation consts. of $Fe(OAc)^{2+}$, $Fe(OAc)_2^+$, and $Fe(OAc)_3$ are 1.6×10^3, 2×10^6, and 1.6×10^8, resp.

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REEL/FRAME

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

UNCLASSIFIED

TITLE--THE USE OF HYDROLYZATE OF CHLORELLA PROTEIN FOR LABELING OF TYPHOID BACILLI AND E. COLI WITH RADIOACTIVE CARBON -U-

PROCESSING DATE--09OCT70

AUTHOR-(02)-TUMANYAN, M.A., RADINSKI, K.A.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL MIKROBIOLOGII EPIDEMIOLOGII I IMMUNOBIOLOGII, 1970, NR 3, PP 61-63

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--TYPHOID FEVER, CHLORELLA, PROTEIN, ESCHERICHIA COLI, CHEMICAL LABELLING, CARBON ISOTOPE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/1463

STEP NO--UR/0016/70/000/003/0061/0063

CIRC ACCESSION NO--AP0109523

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

2/2 017

UNCLASSIFIED

CIRC ACCESSION NO--AP0109523 PROCESSING DATE--09OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS USED HYDROLYZATE OF CHLORELLA PROTEIN, CONTAINING A SET OF C PRIME14 LABELED AMINO ACIDS FOR LABELING S. TYPHI AND E. COLI. A METHOD OF GROWING AND OBTAINING LABELED BACTERIA WAS DESCRIBED. THE MINIMAL NUTRIENT MEDIUM WHICH CONSISTED OF A SET OF SALTS TO WHICH A PROTEIN HYDROLYZATE OF CHLORELLA WAS ADDED, PROVED TO BE THE BEST FOR OBTAINING CARBON LABELED BACTERIA.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

USSR

BERIM, N. G., GAVRILOVA, V. P., KOZLOVSKAYA, V. I., and RADISHCHEVA, D. F.

UDC 632.95

"On Combined Employment of Rogor and Benzimidazole or 5-Aminobenzimidazole Against Cabbage Pests"

Zap. Leningr. s.-kh. in-ta (Notes of Leningrad Agricultural Institute), 1972, 180, pp 20-27 (from RZh-Khimiya, No 14, 25 Jul 72, Abstract No 14N446 by T. A. Belyayeva)

Translation: Spraying cabbages with an 0.3% solution of Rogor during the mass pedogenesis period cuts down the numbers of spring cabbage fly by 87%, but adversely affects the plants' physiological condition: ascorbic acid content declines and photosynthetic activity lessens. Under the influence of benzimidazole (I) and 5-NH_2-I there is an increase in the resistance to Rogor both of the plant and of the insect pest. The optimum variant is simultaneous application of Rogor and I or 5-NH_2-I. A significant rise in the resistance of insects was found when plants were pretreated with benzimidazole solutions and subsequently sprayed with Rogor.

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Acc. Nr: AP0047682 Abstracting Service: CHEMICAL ABST. 5/70 Ref. Code: UR 0032

R

104871n Determination of crystallographic textures on an x-ray diffractometer. Lainer, D. L.; Radishevskii, A. L.; Sollertinskaya, E. S. (USSR). *Zavod. Lab.* 1970, 36(1), 91-3 (Russ). Complete data on the crystallographic texture of metals usually originate from the pole figures. An exptl. comparison of existing methods for the construction of the pole figures by means of x-ray ionization devices in the study of rolled metals is made.

J. Hejduk

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REEL/FRAME
19791258

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

USSR

UDC 621.382.3

DORONKIN, Ye. F. and RADISHEVSKIY, N. F.

"Using the Finite Carrier Migration Velocity in the Transistor Base for Rejector Filtration"

Kiev, Izvestiya VUZ--Radioelektronika, vol. 14, No. 7, 1971, pp 809-814

Abstract: In connection with the search for inductanceless rejector filters using distributed R-C networks in integrated circuits, this paper discusses the possibility of designing rejector filters with ordinary bipolar transistors. With a signal applied to the input of such a filter, the output voltage consists of two components with a relative phase shift depending on the frequency because of the finite migration velocity of the carriers in the transistor base. When the absolute values of these two outputs are equal, a situation which can be attained through the proper choice of resistance, the transfer factor at a particular frequency is zero. In the analysis, it is assumed that the electronic component of the transistor currents and the recombination of carriers in the base can be neglected. The authors assert that their researchers have confirmed the correctness of their theoretical findings that such filters using thick-based transistors are possible, but have temperature instabilities.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

USSR

UDC: 621.375.132

DORONKIN, Ye. F., RADISHEVSKIY, N. F.

"Calculation of a Selective Amplifier With Null RC Filter in the Feedback Circuit"

V sb. Poluprovodn. pribory v tekhn. elektrosvyazi (Semiconductor Devices in Technical Electrical Communications--collection of works), Moscow, "Svyaz'", 1970, pp 35-44 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1D14)

Translation: A procedure is proposed for analyzing and calculating a selective amplifier, utilizing expansion of the transmission function of the null filter in a power series. Use of the method is illustrated on the example of an amplifier with series voltage feedback. A method is developed for comparative evaluation of different circuit modifications. Bibliography of 11 titles. Resumé.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

172 016

UNCLASSIFIED

TITLE--THERMODYNAMICS OF SULFUR DIOXIDE REDUCTION. II. REDUCTION OF SULFUR DIOXIDE BY METHANE IN THE PRESENCE OF CARBON AND BY CARBON IN THE

PROCESSING DATE--11SEP70

AUTHOR--AVERBUKH, T.D., RADIVILOV, A.A., BAKINA, N.P.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(2), 228-36

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--THERMODYNAMICS, SULFURIC OXIDE, CHEMICAL REDUCTION, METHANE, CARBON DISULFIDE, CHEMICAL PRODUCTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1987/0473

STEP NO--UR/0080/70/043/002/0228/0236

CIRC ACCESSION NO--AP0104080

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

272 016

CIRC ACCESSION NO--AP0104080 UNCLASSIFIED PROCESSING DATE--11SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE THERMODYNAMICS OF SO SUB2 REDN. WITH CH SUB4 IN THE PRESENCE OF C WAS INVESTIGATED AT 1000 TO 1500DEGREESK AT SO SUB2:CH SUB4 RATIOS OF 1.0 TO 2.5 AND AT PRESSURES OF 0.15 TO 1.0 ATM. THE EQUIL. H SUB2 S YIELD AT 1 ATM, 1000DEGREESK, AND AT A SO SUB2:CH SUB4 RATIO OF 1.0 IS 93PERCENT AND AT 1500DEGREESK 48.5PERCENT. THE EQUIL. CS SUB2 YIELD AT 1 ATM, 1500DEGREESK, AND AT A SO SUB2:CH SUB4 RATIO OF 2.5 IS 62PERCENT. THE SO SUB2 REDN. WITH C IN THE PRESENCE OF H SUB2 O VAPOR WAS INVESTIGATED AT 1000 TO 1500DEGREESK, 0.15 TO 1.0 ATM, AND AT SO SUB2:H SUB2 O RATIOS OF 6 TO 100. THE CS SUB2 EQUIL. YIELD WAS 70 TO 80PERCENT. THE CS SUB2 FORMATION IS REPRESENTED BY THE REACTION 5C PLUS 2SO SUB2 EQUALS CS SUB2 PLUS 4CO. THE PROCESSES ARE NOT SUITABLE FROM A THERMODYNAMICAL POINT OF VIEW (STRONGLY ENDOTHERMIC REACTIONS) FOR INDUSTRIAL CS SUB2 PRODUCTION.

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Acc. Nr: AP0049112

Abstracting Service: CHEMICAL ABST. 5/70

Ref. Code: UR 0080

R

104656w Thermodynamics of the reduction of sulfur dioxide by methane. I. Averbukh, T. D.; Radivilov, A. A.; Bakina, N. P. (USSR). *Zh. Prikl. Khim. (Leningrad)* 1970, 43(1), 35-43 (Russ). The heats of reaction and equil. compns. of mixts. contg. CH_4, SO_2, S_2, CS_2, COS, H_2S, CO, H, and H_2O were calcd. for 1000, 1100, 1300, and 1500°K, for molar ratios SO_2/CH_4 = 1.0, 1.33, 2.0, 2.5 and pressures 0.15, 0.3, 0.6, and 1.0 atm. Max. yield of elementary S results for molar ratio 2.0 and is 58% at 1000°K and 71% at 1500°K. Yield of S increases slightly with pressure. No formation of C black occurred at conditions under investigation.

Ivan Wichterle

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

USSR

UDC: 621.373.029.52(088.8)

ALEKSANDROV, V. P., RADIYEVSKIY, L. V., RUSIN, Yu. S., KUZNETSOV, V. K.

"A Thyristorized Series Inverter"

USSR Author's Certificate No 262253, filed 18 Nov 68, published 3 Jun 70 (from RZh-Radiotekhnika, No 11, Nov 70, Abstract No 11D498 P)

Translation: This Author's Certificate introduces a thyristorized series inverter which contains commutating capacitors and an output transformer. To improve efficiency and reliability, the primary winding of the output transformer is connected between the cathode of one thyristor and the anode of another, and the commutating capacitors are connected between the other leads of the thyristors and the centertap of the same winding. The proposed inverter may be used as the output stage of an oscillator operating in the audio frequency range. V. P.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

RADKEVICH, A.V.

Crystals

JPRS 56593
6 March 1973

GROWING LARGE ALKALI-HALIDE SINGLE CRYSTALS FROM THE MELT

[Article by A. V. Radkevich, All-Union Scientific Research Institute of Single Crystals, Kharkov; Yerevan, IV Vsesoyuznoye Soveshchaniye po Rostu Kristallov, Russian, September 1972, pp 178-179]

Attempts to combine the advantages of the methods of Stockbarger [1] and Kyropoulos [2] have led to the creation of an integrated procedure for growing single crystals [3], referred to as SK in the sequel, which utilizes elements of both the above methods (growing the crystal and simultaneously moving the crucible with the melt upward relative to a zone of large temperature gradient).

The melt crystallization material balance implies that the crystal diameter d is determined in the SK technique by the relationship

$$d = D\sqrt{\frac{\rho_{liq}}{\rho_s} \cdot \frac{v_T - v_k + v_p}{v_p}} \qquad (1)$$

where D is the crucible diameter, ρ_{liq} and ρ_s are the respective densities of the liquid and solid phases, v_T is the crucible elevation rate, v_k is the crystal growth rate, and v_p is the axial crystal growth rate. It follows from (1) that if $v_T \neq v_k$, the growth rate instability unavoidably leads as well to a corresponding uncontrolled diameter variation in the growing crystal.

We have recently developed an automatic temperature compensation system for the crystallization furnace which allows strictly constant values of d and v_p to be maintained during the growth process and provides high reliability and growth reproducibility by the SK procedure. In order to maintain constant values for these parameters, the amount of heat applied to the crystal-melt system must be reduced during the first half of the process and increased in the second half. The temperature rise in the last half of the process, which compensates for the increased heat transfer through the growing crystal, provides sufficient reheating of the melt toward the end of its growth, affording the opportunity of obtaining long crystals of wide diameter.

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Under these conditions, it becomes possible to obtain in practice not only all the familiar benefits of the Kyropoulos technique (growth on an oriented nucleus without contact between the crystal and crucible walls) and Stockbarger procedure (an opportunity to predetermine the growth rate and temperature gradient across the phase interface and to grow very long crystals), but also a quality inherent only in the SK technique -- the possibility of regulating the crystal diameter by varying the difference $v_p - v_k$. The latter makes it possible as well to automate the stage of the single crystal's outer growth rate from the seed crystal up to a given diameter, where any desired shape of the crystal portion growing in the radial direction is easily assigned by a program for varying the difference $v_T - v_k$.

The crystallization furnace has side and bottom heaters, and the pattern of the crystallization front can be controlled by selecting their temperature ratio. By adjusting the bottom heater's temperature, a plane front is obtained over nearly the entire growing crystal length (see the example in Figure 1 [not shown]).

The KCl single-crystal specimen photograph shown in Figure 1 implies that during growth along the [001] direction, a tendency for the lateral ingot face to facet in the (100) and (010) planes is detected, which was also observed earlier [4], and thus, the crystal diameter d used above acquires the meaning of an "effective" diameter.

KCl, KCr, CsI, and LiF single crystals up to 120 mm in diameter and 600 mm in length (see Figure 2 [not shown]) were grown by the automated SK procedure. The accuracy with which a given ingot cross section was maintained in the vertical growth stage amounts to ± 3 percent.

The derived results allow one to suppose that the automated SK technique is appreciably more efficient than the Kyropoulos method and especially promising when it is necessary to synthesize very long single crystals such as NaI(Tl) and CsI(Na) scintillation crystals having a large ratio of length to diameter. This technique's application is obviously not restricted to the synthesis of crystals of halides of alkali and alkali-earth metals, and it can be generalized to other substances.

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2. Kyropoulos, Z., Anorg. u. Allgem. Chemie, Vol 154, 1925, p 303.
3. Eidel'man, L. G., in the collection Rost Kristallov (Growth of Crystals), Nauka, Vol 4, 1965, p 165.
4. Bethge, H. and Froehlich F., Physica Status Solidi, Vol 3, No 1, 1963, p 55.

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SO: 01465/73-S

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AA 9044059

Soviet Inventions Illustrated, Section II Electrical, Derwent, 4

UR 0482

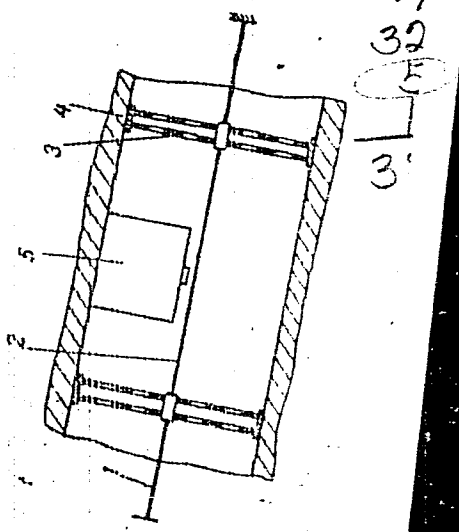
224124 DEFORMATION PICKUP comprising a string (1) with an isolated section (2) limited by yielding double diaphragms (3) attached to the string and to the pickup case (4). An electromagnet (5) is mounted at the isolated section (2).

When the tested object is deformed, the fastned in it string (1) is correspondingly deformed. The yielding diaphragms ensure that axial deformation is transmitted to the isolated section.

The isolated string section vibrates owing to excitation by a pulse. The diaphragms limit the oscillations to the isolated section (2).

The oscillation frequency is determined by the deformation value. The latter is therefore, determined by the string oscillation frequency measurement.

2.6.67. as 1160404/29-14, RADKEVICH, D.B. et al. S. Ya. Zhuk Inst. "Gidroproekt" (19.11.68) Bul. 25/6.8.68. Class 42k, Int. Cl. G 01l.



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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

BALOSHIN, O. N., VLADIMIRSKIY, V. V., DUKHOVSKOY, I. A., KISHKURNO, V. V., KRUTENKOVA, A. P., KULIKOV, V. V., NIKOLAYEVSKIY, YE. S., PETRUKHIN, V. N., RADKEVICH, I. A., and FEDORETS, V. S., Institute of Theoretical and Experimental Physics of the State Committee for the Use of Atomic Energy

"Study of the Reaction $\pi^- p \rightarrow pX^-$ at a Momentum of 3.25 GeV/c With a High Momentum Transfer"

Moscow, Yadernaya Fizika, Vol 14, No 1, Jul 71, pp 131-133

Abstract: The authors investigate the spectrum of missing masses of a proton in the reaction $\pi^- p \rightarrow pX^-$ for high transfer momentums using a track spectrometer with optical spark chambers in a magnetic field. They found the momentum of the primary π^- mesons to be 3.25 GeV/c, and they measured the differential cross section of the formation of the ρ^- meson in the range of angles $-1 \leq \cos\theta^* \leq -0.0005$, which was found to be equal to 28.2 ± 9.8 μbarn/sterad. Figure 1 shows the spectrum of the missing masses in this reaction for a momentum of the π^- meson of 3.25 GeV/c. Figure 2 shows the cross section of the creation of the ρ^- meson backwards in the reaction $\pi^- p \rightarrow p\rho^-$ as a function of the momentum of the π^- mesons. The article contains 2 figures and 5 bibliographic entries. 1/1

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

USSR

UDC 678.675.046.32.01:537

KHIMCHENKO, YU. I., MELESHEVICH, A. P., KOMPANIYETS, V. A., and RADKEVICH, L. S.

"Effect of γ-Radiation on the Electric Properties of Metal Polymers Based on Polycaproamide"

Moscow, Plasticheskiye Massy, No 5, 1973, pp 27-29

Abstract: A study was made of the results of investigating the effect of γ-radiation on the electric properties of polycaproamide filled with highly dispersed metals. The electrical conductivity of the metal polymers depends essentially on the radiation dosage. The greatest increase in electrical conductivity is observed for polycaproamide filled with copper or nickel; the electrical conductivity of polycaproamide with iron or cobalt depends on the radiation dosage to a lesser degree. The variations in electrical conductivity are caused by the difference in supramolecular structures of the polymer in contact with different metals. By variation of the electrical conductivity in combination with ionizing radiation, it is possible to estimate the uniformity of the structure of the polymer compounds with electrically conducting fillers.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

USSR

UDC 615.28:547.789.6

RUDZIT, E. A., LUK'YANOV, A. V., VORONIN, V. G., KULIKOVA, D. A., and RADKEVICH, T. P., All Union Scientific Chemical Pharmaceutical Research Institute imeni S. Ordzhonikidze, Moscow

"Antimicrobial Activity of Benzothiazolequinones"

Moscow, Farmakologiya i Toksikologiya, Vol 34, No 3, May-Jun 71, pp 350-352

Abstract: Antimicrobial activity of 2-substituted 4-dialkylaminobenzothiazolequinones-6,7, 6-hydroxybenzothiazolequinones-4,7, and 2-substituted-6-hydroxy(methoxy)-benzothiazoles was studied. It was determined that none of the 2-substituted 5-hydroxy(methoxy)benzothiazoles, 6-hydroxybenzothiazolequinones-4,7, nor their 5-halo or 5-piperidinomethyl substituted analogs possessed any antimicrobial activity. Only the benzothiazolequinones-6,7 with nitrogen-containing substituents in positions 2 and 4 showed bacteriostatic (including tuberculostatic) and some mycostatic activity.

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Nitrogen Compounds

USSR

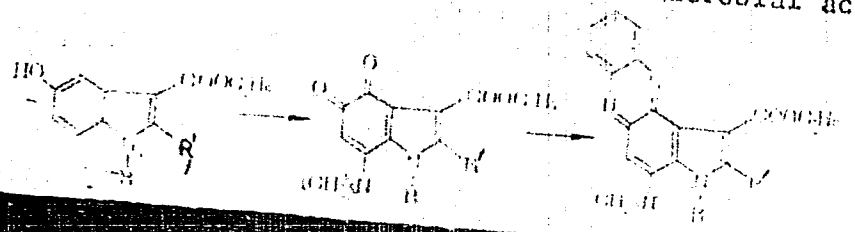
UDC 615.28:547.5677.012

LUK'YANOV, A. V., RUDZIT, E. A., ALESHINA, V. A., VORONIN, V. G., RADKEVICH, T. P., KULIKOVA, D. A., LISITSA, L. I., and TSIZIN, YU. S., All-Union Scientific Research Chemics Pharmaceutical Institute imeni Sergo Ordzhonikidze, Moscow, Ministry of Health USSR

"Study of Heterocyclic Quinones. XV. Synthesis and Antimicrobial Action of Substituted Indolequinones-4,5"

Moscow, Khimiko-Farmatsevticheskiy Zhurnal, Vol 4, No 7, 1970,

Abstract: In earlier reports the authors showed that several heterocyclic quinones can be obtained by oxidation of the corresponding phenols with oxygen in the presence of a Cu^{2+}-secondary amine complex. The present report describes the use of this method for oxidation of 5-oxyindoles (I) and the study of the structures of the resulting compoinds (II) and their antimicrobial action.



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USSR

LUK'YANOV, A. V., et al., Khimiko-Farmatsevticheskiy Zhurnal, Vol 4, No 7, 1970, pp 16-20

R a) CH_3 b) C_6H_5 c) o-$CH_3C_6H_4$ d) p-ClC_6H_4 e) m-$CH_3OC_6H_4$
f) m-$C_2H_5OC_6H_4$ R' CH_3 (a-f) g) R R' C_6H_5

It was established that all compounds tested are inactive toward tuberculosis bacillus, gram-negative bacteria, and fungi. Of correlations existing between structure and action, the following were noteworthy: 1) all tested 5-oxyderivatives of 2-methyl(or phenyl)-3-carboethoxyindole (Ia-I) do not suppress bacterial growth. 2) Antibacterial activity toward gram-positive microorganisms is exhibited by 2-methyl-3-carboethoxy-7-piperdinoindolequinones-4,5 containing an aryl substituent at N_1 (IIb-IIf). 3) Phenazine derivatives (IIIa-IIIf) of o-quinones (IIa-IIf) do not exhibit antibacterial action. Results of this study show the value of searching for new antibacterial preparations among the new series of o-quinones of 2-methyl-3-carboethoxy-7-piperidinoindole.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

USSR

KAPUSTIN, I. N., RADKEVICH, V. A., Polar Geophysics Institute, "Order of Lenin" Kola Affiliate imeni S. M. Kirov

UDC: 539.1.074.8

"A Device for Determining the Multiplicities of the Neutron Component of Cosmic Rays"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 13, May 72, Author's Certificate No 335636, Division G, filed 26 Jan 70, published 11 Apr 72, p 192

Translation: This Author's Certificate introduces a device for determining the multiplicities of the neutron component of cosmic rays. The device contains a shaper of the collection period during which a shift register is used to count the neutrons in the "star" formed by the primary neutrons in the target. The device also contains scalers. As a distinguishing feature of the patent, accuracy is improved by adding a delay period shaper, a reference time interval shaper, an additional collection period shaper, series interconnected bit lines, an additional shift register, coincidence gates, reversible counters, and logic elements, each of which is connected to the input of the device and to the corresponding coincidence gate. One

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USSR

KAPUSTIN, I. N., RADKEVICH, V. A., USSR Authors Certificate No 335636

of the logic elements is connected to the output of the delay period shaper, a second is connected to the output of the reference time interval shaper, a third -- to the output of the additional collection period shaper. The outputs of the shift register are connected to the inputs of the bit line, which is connected in turn to the output of the additional collection period shaper, whose outputs are connected through the coincidence gate to the "plus" input of the reversible counters. The outputs of the additional shift register are connected through a coincidence gate to the "minus" input of the reversible counters, whose outputs are connected to the inputs of the scalers.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

USSR

UDC: 532.1.074.8

KAPUSTIN, I. N., RADKEVICH, V. A., Polar Geophysics Institute, "Order of Lenin" Kola Affiliate imeni S. M. Kirov

"A Method of Determining the Multiplicity of the Neutron Component of Cosmic Rays"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 13, May 72, Author's Certificate No 335635, Division G, filed 26 Jan 70, published 11 Apr 72, pp 191-192

Translation: This Author's Certificate introduces a method of determining the multiplicities of the neutron component of cosmic rays. The method consists in counting the neutrons in the "star" formed by the primary neutrons in the target by using neutron detectors during the collection period counted from the time of registration of the first neutron of the "star". As a distinguishing feature of the patent, accuracy is improved by introducing a correction for the effect of coincidences of registered "stars". For this purpose, the neutrons of the "star" are registered sequentially in reference time intervals following the first collection time period counted from the time of registration of the first neutron

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

USSR

KAPUSTIN, I. N., RADKEVICH, V. A., USSR Author's Certificate No 335635

of the "star" after a delay period, and additional collection periods, each of which immediately follows a reference time interval. The number of additional collection periods is taken as equal to the order of the coincidences which are accounted for. The delay period is set to be longer than the lifetime of a "star", and the reference time interval is set to be longer than the maximum interval between the times of registration of the neutrons of a "star". The length of each additional collection period is set to be equal to the length of the first collection period. A count is made of the number of neutrons registered in the first and additional collection periods up to that collection period where at least one neutron has been registered in each of the preceding collection periods. The resultant "star" is registered with a "plus" sign if the last period in which a neutron was registered was odd, and with a "minus" sign if it was even. A "star" is registered only if no neutron was registered in any of the reference time intervals or in the collection time periods following those in which there was a registration.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

USSR

Extraction and Refining

UDC 669.71.411

RADKIN, D. M., ISHCHENKO, A. Ya.

"The Results of Pilot-Plant Scale Testing of the Effectiveness of Electric Slag Refining of Aluminum Alloys"

Tekhnol. Legkikh Splavov. Nauchno-tekhn. Byul. VILSa [The Technology of Light Alloys, Scientific and Technical Bulletin of the All-Union Institute of Light Alloys], 1970, No. 6, pp. 14-17. (Translated from Referativnyy Zhurnal Metallurgiya, No. 5, 1971, Abstract No. 5 G167 by S. Krivonosova).

Translation: Electric slag refining produces Al of increased purity both as to content of inclusions such as oxide films and as to H_2 content. The active interaction of the melted Al with the slag with specific thermal and dynamic influences of the alternating electric current causes the nonmetallic impurities to be transferred from the Al into the slag and absorbed by it. Electric slag refining is recommended for introduction to production of primary and secondary high-purity Al alloys. 3 figs, 3 tables.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

USSR

UDC 536.2:669.24'25

RAD'KOV, A. L., KALMYKOV, A. N., and PRET'YAKOVA, S. M., Central Scientific Research Institute of Ferrous Metallurgy

"Thermal Conductivity of the 29NK Alloy at 80-293°K"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 10, 1970, pp 38-44

Abstract: Alloys corresponding to 29NK in chemical composition or differing from it in lower contents of nickel and cobalt were used to study the thermal conductivity and the effect of martensite conversion on thermal conductivity, and to determine compositions in which the $\gamma \rightarrow \alpha$ conversion does not occur down to liquid nitrogen temperatures. The thermal conductivity of the austenitic component of 29NK alloy was found to be 70-80% lower than that of the martensitic component. The thermal conductivity of alloys in which the $\gamma \rightarrow \alpha$ conversion occurs depends on the quantity of α phase and is intermediate between the γ and α phases. The conversion is observed not only in alloys in which the composition differs from that of 29NK in lower content of nickel and cobalt, but also in alloys with chemical compositions corresponding to 29NK. As the content of nickel is

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USSR

RAD'KOV, A. I., et al, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 10, 1970, pp 38-44

increased, the temperature of martensitic conversion drops, while the quantity of α phase separated upon cooling is simultaneously decreased.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

Vector Studies

USSR

UDC 576.858:619.616

RAD'KOVA, O. A. and VOROB'YEVA, N. N., Institute of Biology, Siberian Department, Academy of Sciences USSR, Novosibirsk

"Isolation of Omsk Hemorrhagic Fever Virus From Cold-Blooded Animals in a Natural Focus"

Novosibirsk, Izvestiya Sibirskogo Otdeleniya Akademii Nauk SSSR, Seriya Biologicheskikh Nauk, No 10 (190), 1971, pp 180-182

Abstract: Five strains of Omsk hemorrhagic fever (OHF) virus (1317, 1247, 1150, 1243, 1242) were isolated from the brains, hearts, and livers of frogs and lizards dwelling in a natural focus of the disease (Karasuk Rayon, Novosibirsk Oblast, Western Siberia), an indication that these animals can be spontaneous virus carriers. All the strains were identified by serological tests and the fluorescent antibody method. The symptoms of the disease observed in mice infected with the strains isolated from the frogs and lizards were the same as those in mice infected with OHF virus isolated from other sources. Peripheral injection of frogs with the virus and its subsequent detection in various organs testified to the presence of viremia and susceptibility of the animals to OHF virus.

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USSR UDC 612.84:[617.721.64+612.842.67-085.835.3-073

CHERKASOV, I. S., Doctor of Medical Sciences, SHIBINSKAYA, N. I., Docent, KOBOZEVA, O. I., Candidate of Medical Sciences, RADKOVSKAYA, A. YA., and IL'YASHENKO, A. P., Physician, Chair of Eye Diseases, Odessa Medical Institute and Basseynova Hospital for Mariners

"Hydrodynamics of the Eye and Vascular Pressure in Healthy Man During Hyperbaric Oxygenation"

Odessa, Oftal'mologicheskiy Zhurnal, No 8, 1971, pp 575-577

Abstract: The investigation was performed on 10 healthy subjects aged 18-34, in a 4.5 m^3 pressure chamber which was continuously ventilated to maintain oxygen concentration at 40-60% under conditions of normal temperature, humidity and CO_2, and at a pressure of 2.5 atm. The following determinations and calculations were performed: tonography, blood pressure in the brachial artery and in the central artery of the retina, average dynamic arterial pressure, the retino-brachial coefficient, and the coefficient of Lobstein. The results revealed that hyperbaric oxygenation produces no significant changes in the hydro- and hemodynamics in the eyes of healthy individuals. A small decrease in intraocular fluid secretion and intraocular pressure occurred during exposure to 2.5 atm. After decompression, production of the intraocular fluid was increased somewhat due to a greater blood flow, but soon returned to normal.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

USSR UDC 621.382.001.3

RADKOVSKIY, S. G., SOLOV'YEV, I. L.

"A Method of Attaching Leads to MOS Devices"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 1, Jan 71, Author's Certificate No 289462, division H, filed 15 Nov 68, published 8 Dec 70, p 173

Translation: This Author's Certificate introduces a method of attaching leads to MOS devices which contain a semiconductor crystal, an oxide layer and a gating electrode by thermocompression welding with preheating of the crystal. As a distinguishing feature of the patent, the procedure is designed to prevent breakdown of the oxide layer. Before heating the crystal and welding on the lead, an auxiliary probe is used for biasing the gating electrode negatively with respect to the crystal throughout the entire period of heating the crystal and welding on the lead.

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USSR

UDC 628.16.08+628.322+682.162.8

GLOBA, L. I., LASTOVETS', L. M., ROTHISTROV, M. M., GOLUB, M. F., and RADOLITS-'KA, L. S., Institute of Colloid Chemistry and Chemistry of Water, Academy of Sciences UkSSR, and Institute of Infectious Diseases, Ministry of Health, UkSSR

"Removing Water from Viruses with Some Materials With Adsorption and Adhesive Properties"

Kiev, Doklady Akademii Nauk Ukrains'koy SSR, Seriya B. Geologiya, Geofizika, Khimiya i Biologiya, Vol 33, No 11, 1971, pp 1036-1038

Abstract: The problem of water decontamination to a degree adequate for complete prevention of spread of contagious diseases has not yet been fully resolved. This is particularly true with respect to contamination with pathogenic microorganisms, which are present in water in the form of suspensions or colloids (usually as a mixture of both). An attempt was made to convert finely dispersed mixtures into coarse ones, to facilitate removal from the medium. Various clay-like materials were studied as catalysts of the process. First, virus cultures were introduced into tap water. Then samples of infected water were treated with 800 mg/l of each of the materials tested, with the addition of 50 mg/l of aluminum sulfate. Samples were left to stand

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

USSR

GLOBA, L. I., et al., Doklady Akademii Nauk Ukrains'koy SSR, Seriya B. Geologiya, Geofizika, Khimiya i Biologiya, Vol 33, No 11, Nov 71, pp 1036-1038

for 2 hours. During that time, the adsorbents precipitated. The liquid left above the precipitate was then filtered and tested for virus content. Tests indicated that viruses were removed to the extent of 90.0 to 99.9%. This was taken as a positive proof of the effectiveness of the method: the use of highly dispersed materials for water purification.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

USSR

UDC 621.762.5:661.882.661:665.1

PETROVA, A. M., RADOMYSEL'SKIY, I. D., and TITARENKO, S. V., Institute of Problems of Materials Science, Academy of Sciences Ukrainian SSR

"Structure Formation of Ti-Cr_3C_2 During Annealing"

Kiev, Poroshkovaya Metallurgiya, No 1, Jan 74, pp 85-89

Abstract: Structure formation was investigated and composition of the carbide phases was determined during annealing of a Ti-base composite (Ti-Cr_3C_2) under conditions similar to those used for sintering titanium alloys. It was shown that in the process of annealing extruded samples at 950-1250° C, the chromium carbide dissolves and a new phase -- titanium carbide -- is precipitated. This new phase contained no carbon, which was explained by the non-equilibrium state of the matrix. From determination of phase-structure microhardness after annealing, it was observed that a minimum value of titanium-base microhardness occurs on samples annealed at 1150° C when almost 14% Cr is dissolved in the titanium. Three figures, one table, six bibliographic references.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

USSR

UDC: 621.762.045

MAKSIMENKO, L. A., SHTERN, M. B., RADOMYSEL'SKIY, I. D., SERDYUK, G. G., Kiev State University Imeni T. G. Shevchenko, Institute of Problems of Material Science, Academy of Sciences, UKRSSR

"The Existence of Strong Shock Waves During High-Speed Pressing of Metal Powders"

Kiev, Poroshkovaya Metallurgiya, No 4, 1972, pp 17-20.

Abstract: It is proven that strong shock waves, i.e., discontinuities of all parameters of the compacted medium (density, pressure, velocity, entropy) can arise with high-speed (impact) loading of metal powders. The authors observed compression jumps upon impact pressing of type PZh2M iron powder with initial pressing speeds of over 100 m/sec. This provides experimental confirmation of the existence of strong shock waves in metal powders when the pressing speed exceeds the speed of sound in the powder.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

Powder Metallurgy

USSR

UDC 621.762.2.001

DOVZHENKO, L. D., BORISOV, V. T., RADOMYSEL'SKIY, I. I.

"Study of the Homogenization Kinetics when Obtaining Alloyed Powders"

V sb. Zashchitn. pokrytiya na metallakh (Protective Coatings on Metals -- collection of works), vyp. 5, Kiev, Naukova Dumka Press, 1971, pp 41-45 (from RZh--Metallurgiya, No 4, Apr 72, Abstract No 4G370)

Translation: The homogenization process when obtaining alloyed powders is determined by the gas phase composition, the surface reaction rates, and the diffusion of the element in the solid particles. A system of equations was compiled which describes the course of homogenization of the powder mixture. Investigation of the homogenization of a Fe-Ti powder mixture in various media demonstrated that the limiting saturation stage is the surface process kinetics. Three illustrations.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

USSR

UDC 621.762:669.018.29

RADOMYSEL'SKIY, I. D.

"Cermets Structural Parts"

Sovrem. probl. poroshk. metallurgii -- V sb. (Modern Problems of Powder Metallurgy -- collection of works), Kiev, Naukova Dumka Press, 1970, pp 162-189 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G468)

Translation: The state of the art in the development of two classes of cermets structural materials is presented: general-purpose cermets on an iron base, and cermets with special properties. The results of studying 350 machine-building and instrument-making enterprises in the USSR demonstrated that the demand for construction parts is 61.5% of the entire requirement of the investigated enterprises for cermets products. The requirements for metal powders for the production of construction parts and the technological process for manufacturing such general-purpose materials based on Fe and their physical-mechanical properties are presented. A classification of various cermets construction parts operating with wear, their characteristics, and areas of application are given. There are 13 illustrations, 9 tables, and a 37-entry bibliography.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

USSR UDC 621.762.2

RADOMYSEL'SKIY, I. D.

"Technological Processes of Manufacturing Iron and Alloyed Powders Used in the USSR"

Sovrem. probl. poroshk. metallurgii -- V sb. (Modern Problems of Powder Metallurgy -- collection of works), Kiev, Naukova Dumka Press, 1970, pp 21-38 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G434)

Translation: Three technological schemes for producing Fe-powder are compared: reduction of Fe oxides by carbon using the method of nonmixing layers in tunnel furnaces, combination reduction of a friable charge (scale) in horizontal muffle furnaces, and reduction of a briquetted charge in vertical shaft electric arc furnaces. It is demonstrated that the method of combination reduction insures the possibility of obtaining high-grade Fe powder according to GOST 9849-61 containing 98.0-99.0% Fe_{tot} and less than 0.1% C. Alloy steel and alloy powders are obtained by various methods: vortex grinding, atomizing melts, intercrystallite corrosion, joint reduction of mixtures of oxides and Ca hydride of aqueous and molten media, and thermodiffusion saturation from point sources. The last two methods have become most widespread in the USSR. 1/2

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

USSR

RADOMYSEL'SKIY, I. D., Sovrem. probl. poroshk. metallurgii, Kiev, Naukova Dumka Press, 1970, pp 21-38

There are 6 illustrations, 3 tables, and a 17-entry bibliography. [Institute of Applied Mineralogy of the Ukrainian SSR Academy of Sciences].

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

USSR

UDC 621.762.01(088.8)

BRONDZYA, YE. V., KLIMENKO, V. N., MASLYUK, V. A., Radomysel"SKIY, I. D.,
Institute of Problems in Materials Science, Academy of Sciences Ukrainian SSR

"P/M Alloy"

USSR Authors' Certificate No 273437, Cl. 40b, 29/00; 80b, 1/04; 40b, 1/04
(C 04b 35/56, C 22c 1/04, C22c 29/00), filed 24 Mar 69, published 21 Sep 70
(from RZh-Metallurgiya, No 3, Mar 71, Abstract No 3G402P)

Translation: A chromium carbide-base, nickel-containing P/M alloy is suggested. In order to lower sintering temperature, P is put into it, and components are taken in the following ratio (in wt.%): Ni 5-40, P 0.2-1.5, Cr carbide the rest.

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Coatings

USSR

UDC 669.018.95:621.357.7

RADOMYSEL'SKIY, I. D., APININSKAYA, L. M., and VERGELES, N. M., Institute of Problems of Material Science, Academy of Sciences UkrSSR

"Preparation of Composition Nickel Coatings With Mullite Additions"

Kiev, Poroshkovaya Metallurgiya, No 8, Aug 70, pp 29-34

Abstract: A study was made of the production of composition nickel coatings with different contents of filamentary mullite crystals (up to 3-5 vol %). It was established that mullite additions considerably increase the durability of nickel coatings under conditions of high-temperature oxidation. The best nickel coatings with filamentary mullite crystals were obtained in sulfates of nickel electrolytes at low pH of the solution (2-3) and temperature of 25-30°C.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

1/2 021 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--WEAR RESISTANCE OF SINTERED METAL CONSTRUCTION MATERIALS SUBJECTED TO DRY FRICTION -U-

AUTHOR-(04)-TITARENKO, S.V., ARAKELYAN, N.A., RADOMYSELSKIY, I.D., POLOTAY, V.V.

COUNTRY OF INFO--USSR

SOURCE--PORoSHKOVAYA MET., FEB. 1970, (2), 80-84

DATE PUBLISHED----FEB70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CHROMIUM STEEL, WEAR RESISTANT SINTERED ALLOY, BALL BEARING STEEL, ANTIFRICTION MATERIAL, CARBON STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0123 STEP NO--UR/0226/70/000/002/0080/0084

CIRC ACCESSION NO--AP0123895

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

UNCLASSIFIED PROCESSING DATE--13NOV70

2/2 021

CIRC ACCESSION NO--AP0123895

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FRICTION AND WEAR CHARACTERISTICS OF A NUMBER OF CR AND C STEEL SINTERED PARTS WERE STUDIED AND COMPARED WITH THE CORRESPONDING CHARACTERISTICS OF CONVENTIONAL BALL BEARING STEEL PARED WITH A HIGH SPEED CUTTING STEEL UNDER CONDITIONS OF DRY FRICTION. THE COEFF. OF FRICTION FELL AND THE WEAR INCREASED WITH INCREASING SLIP VELOCITY IN EVERY CASE; HOWEVER, THE SINTERED CR STEEL YIELDED THE HIGHEST DEGREE OF WEAR RESISTANCE. UP TO A CERTAIN LIMIT, THE ANTI FRICTION PROPERTIES OF THE SINTERED STEELS INCREASED WITH INCREASING C CONTENT.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

1/2 030 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--HIGH SPEED STEELS OBTAINED BY POWDER METALLURGY METHODS -U-

AUTHOR-(03)-RADOMVSELSKIY, I.D., KLIMENKO, V.N., VLASYUK, I.V.

COUNTRY OF INFO--USSR

SOURCE--POROSH. MET. 1970, 10(2), 32-7

DATE PUBLISHED--------70

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

TOPIC TAGS--HIGH SPEED STEEL, POWDER METALLURGY, HOT EXTRUSION, STEEL MICROSTRUCTURE, MICROHARDNESS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0035 STEP NO--UR/0226/70/010/002/0032/0037

CIRC ACCESSION NO--AP0119031

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

2/2 030 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0119031

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STEEL OF THE COMPN. R18 (HIGH W CONTENT), OBTAINED BY HOT EXTRUSION, WAS STUDIED. THE INFLUENCE WAS STUDIED OF THE HOLDING PERIOD AT THE ANNEALING TEMP. ON THE AMT. OF CARBIDE ISOLATED DURING TEMPERING. THE D. OF THE EXTRUDED SMAPLES WAS 8.76 G-CM PRIME3, WHICH PRACTICALLY COINCIDES WITH THE D. OF STD. HIGH SPEED STEEL. THE MICROSTRUCTURE OF THE QUENCHED AND TEMPERED METALLOCERAMIC STEEL CONSISTS OF HIGH ALLOYED MARTENSITE (WITH A MICROHARDNESS OF 700-800 KG-MM PRIME2), RESIDUAL AUSTENITE (WITH A MICROHARDNESS OF 320-400 KG-MM PRIME2), AND THE CARBIDES. INCREASING THE HOLDING TIME DURING QUENCHING ENHANCES THE SEGREGATION OF THE SECONDARY CARBIDES, MAKES THE MARTENSITIC MATRIX LESS ALLOYED. AND IMPROVES ITS ETCHABILITY. FACILITY: INST. PROBL. MATERIALOVED., KIEV, USSR.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

1/2 027 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--USING CARBIDECHROMIUM ALLOYS FOR MAKING DIE CASTING MOLDS IN THE PRODUCTION OF BARIUM FERRITES -U-

AUTHOR-(04)-BELIK, I.T., KLIMENKO, V.N., MASLYUK, V.A., RADUMYSELSKIY, I.D.

COUNTRY OF INFO--USSR

SOURCE--KIEV, TEKHNOLOGIYA I ORGANIZATSIYA PROIZVODSTVA, NO 1, 1970, PP 86-87

DATE PUBLISHED--------70

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

TOPIC TAGS--DIE CASTING, BARIUM FERRITE, ANISTROPY, CHROMIUM ALLOY, CARBIDE, MOLD MATERIAL, FOUNDRY CORE/(U)KKHN15 CHROMIUM CARBIDE ALLOY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1339 STEP NO--UR/0418/70/000/001/0086/0087

CIRC ACCESSION NO--AP0123297

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

2/2 027 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0123297

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TECHNOLOGICAL REGIMES ARE DEVELOPED FOR SINTERING AND MOLDING LARGE DIES AND CORES OF DIE CASTING MOLDS MADE FROM KKHN-15 ALLOY FOR MAKING ANISOTROPIC BARIUM FERRITES. THE STABILITY OF DIE CASTING MOLDS EQUIPPED WITH FEMALE DIES MADE FROM KKHN-15 CARBIDECHROMIUM ALLOY IS 40-50 TIMES HIGHER THAN FOR MOLDS MADE FROM STEEL.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

1/2 017 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--DETERMINATION OF DIFFUSIVITY BY THE METHOD OF INTEGRAL ANALOGS -U-

AUTHOR-(02)-DEYMONTOVICH, V.B., RADOMYSELSKIY, I.D.

COUNTRY OF INFO--USSR

SOURCE--INZHENERNO-FIZICHESKIY ZHURNAL, 1970, VOL 18, NR 1, PP 90-95

DATE PUBLISHED--------70

SUBJECT AREAS--MATHEMATICAL SCIENCES, PHYSICS

TOPIC TAGS--PHYSICAL DIFFUSION, INTEGRAL EQUATION, ANALOG SYSTEM, . COORDINATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/0695 STEP NO--UR/0170/70/018/001/0090/0095

CIRC ACCESSION NO--AP0126407

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

2/2 017 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0126407

ABSTRACT/EXTRACT--(U) CP-0- ABSTRACT. THE METHOD FOR CALCULATION OF THE DIFFUSIVITIES USING AN INTEGRAL ANALOG OF THE DIFFUSION EQUATION AND EXPERIMENTAL DEPENDENCIES OF CONCENTRATION ON THE COORDINATE IS CONSIDERED WHICH ALLOWS CALCULATION OF THE DIFFUSIVITY WITH THE ERROR NOT EXCEEDING THAT IN EXPERIMENTAL DEPENDENCIES C(X).

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

Acc. Nr: AP0043734

Abstracting Service: 5/70
INTERNAT. AEROSPACE ABST.

Ref. Code: UR0226

R

A70-23122 # Shaping of metal powders (Formovanie metallicheskikh poroshkov). I. D. Radomysel'skii and G. G. Serdiuk (Akademiia Nauk Ukrainskoi SSR, Institut Problem Materialovedeniia, Kiev, Ukrainian SSR). *Poroshkovaia Metallurgiia*, vol. 10, Jan. 1970, p. 10-20. 43 refs. In Russian.

Outline of the fundamentals of a discret, contact compaction theory of metal powders. A review is made of the experimental results concerning the regular compaction methods. It is pointed out that specialized facilities were developed for compacting the metal powders but they were found to be unreliable. A study is made of new compaction methods involving vibrations, shock, detonation and hydrodynamical pressure. It is stated that these methods can be widely utilized in the industry. Z.W.

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19770140

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

Acc. Nr.: AP0032017 Ref. Code: UR 0475

PRIMARY SOURCE: Vrachebnoye Delo, 1970, Nr 1, pp 77-81

EFFICIENCY OF COMPLEX TREATMENT OF FRESHLY DETECTED PATIENTS WITH PULMONARY TUBERCULOSIS FROM THE CLINICAL AND FUNCTIONAL POINTS OF VIEW

M. I. Taranenko, L. B. Akselrod and *B. Z. [illegible]aya* (Odessa)

It is concluded that complex treatment of patients with freshly detected tuberculosis of the lungs by means of antibacterial, hormonal and tissue preparations resulted in a larger incidence of complete absence of respiratory insufficiency than in those instances where only antibacterial treatment was employed. Complex therapy of pulmonary tuberculosis also resulted in improvement of electrocardiographic data.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

Acc. Nr AP0101688 Abstracting Service: CHEMICAL ABST. 6-70 Ref. Code UR0449

115923g **Radiation perturbation in copper-doped gallium arsenide.** Papeiko, A. S.; Radovskii, B. E.; Stel'makh, V. F.; Tkachev, V. D. (Beloruss. Gos. Univ. im. Lenina, Minsk, USSR). *Fiz. Tekh. Poluprov.* 1970, 4(1), 142-4 (Russ). The effect of radiation with fast reactor neutrons (10^{12}-3×10^{17} neutrons/cm^2) on the properties of GaAs doped with Cu was studied. The single crystals were grown by directed crystn. ($n_0 = 1.2 \times 10^{17}$/cm^3, $\mu = 3300$ cm^2/V-sec) and were purified by floating zone melting ($n_0 = 8.5 \times 10^{15}$/cm^3, $\mu = 4400$ cm^2/V-sec). Diffusion of Cu was carried out at 800° from electrodeposited surface layers under equil. pressure of As vapor. The exptl. and theoretical curves for the electron concns. in the original GaAs specimens, subjected to floating zone melting, as a function of temp., indicated the presence of 2 main donor levels. Photocond. measurements showed the deep level to be at $E_c - 0.25$ eV. This level may well be assocd. with inherent structural lattice defects arising during floating zone melting. After 2 hr diffusion of Cu, low-resistance p-type specimens were obtained. The relation between the concn. of holes and the temp., and also the data on photocond. spectra indicate the presence of a basic acceptor level, $E_A = E_V + 0.15$ eV, assocd. with the 1st ionization state of Cu, i.e. Cu^-. After irradn. of such specimens at 10^{16} neutrons/cm^2 the photocond. spectra exhibited the levels $E_c - 0.14$, $E_c - 0.4$, $E_c - 0.67$, $E_c - 0.75$, $E_v + 0.4$, $E_v + 0.3$, $E_v + 0.2$, and $E_v + 0.15$ eV, assocd. with residual and radiation-induced disturbances of the structure. The relation between

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the hole concn. and the temp. indicates the high degree of compensation of the Cu^- acceptor. ($E_v + 0.15$ eV.) On irradn. of a specimen obtained by directed crystn. at 10^{16} neutrons/cm^3 under the same conditions as for the above specimens, a transition from *n*-type to *p*-type GaAs is obsd. Another illustration of the conversion of *n*-type GaAs doped with Cu into *p*-type material is given by the change in sp. resistance of specimens of various impurity levels on increasing the neutron flux. This change is probably due to an increase in the concn. of elec. active components in the Cu.

F. N. Standen

C.K

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REEL/FRAME
19851631

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

USSR

UDC 534.22.093.2

RADOVSKIY, I. S.

"The Problem of Calculating the Speed of Sound in a Vapor-Liquid Medium"

Moscow, Teplofizika Vysokikh Temperatur, Vol. 9, No. 2, Mar-Apr, 71, p. 310-315.

Abstract: Expressions are produced for the relaxation time of three independent processes occurring during propagation of an acoustical wave in a single-component vapor-liquid medium, practically completely determining the macroscopic exchange processes. The time of relaxation depends on the heat-physical properties of each of the phases, the size of the particles of the disperse phase and the vapor content, the dependences being different for vapor drop and liquid-vapor bubble systems. It is demonstrated that under certain conditions, the phase conversions in the leading edge of a sound wave can occur at equilibrium with any vapor content, including at the limiting single-phase states on the saturation line.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

USSR UDC: 669.783.5:538.2

ZAV'YALOV, V. K., RADOVSKIY, I. Z., LEVIN, Ye. S., NVZOROVA, E. G., GEL'D, P. V., Sverdlovsk

"Magnetic Properties of Liquid Alloys of Germanium with Iron, Cobalt and Nickel"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 6, 1973, pp 32-34.

Abstract: This article presents the results of investigation of the magnetic susceptibility of liquid Fe-Ge, Co-Ge and Ni-Ge alloys. The concentration-temperature dependence of magnetic susceptibility was studied by the Faraday method in the 900-1700° C temperature interval. It was found that the Curie-Weiss law is followed in Fe-Ge melts where $N_{Ge} < 0.7$, in Co-Ge melts where $N_{Ge} < 0.45$, and is not followed in Ni-Ge melts. The concentration dependences of effective magnetic moments μ_{eff} for Fe-Ge and Co-Ge alloys differ qualitatively. In the first case, the dependence of μ_{eff} on N_{Ge} shows a minimum near $N_{Ge} = 0.2$, while in the second case μ_{eff} remains independent of concentration approximately up to $N_{Ge} = 0.15$, then increases from 3.0 μ_B to 3.7 μ_B (at about 30 at. % Ge).

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NEVZOROVA, E. G., GOL'MYAKOV, B. P., RADOVSKIY, I. Z., GEL'D, P. V.

"Magnetic Susceptibility of Nickel and Iron at High Temperatures"

Moscow, Izvestiya Vysshikh Uchevnykh Zavedeniy, Chernaya Metallurgiya, No 9, 1972, pp 108-109.

Abstract: The temperature dependence of magnetic susceptibility of nickel and iron was studied by the Faraday method using a pendulum balance and a magnetic field of up to 12 koe. Electrolytic nickel (99.99% Ni) and iron of three types, carbonyl, iron type V-3, the same iron following zone purification and the same iron twice purified in an atmosphere of helium, were used. Below the melting point, the function χ^{-1} (T) is almost linear in nature. No significant change in magnetic susceptibility was found at the melting point of nickel. The characteristics of solid and liquid metal produced by calculation with the Curie-Weiss formulas are presented. The magnetic susceptibility of iron changes in a complex manner with temperature, and a graph is presented. Susceptibility changes according to the same curves during heating and during cooling. A slight anomaly in the temperature dependence of magnetic susceptibility of liquid iron is noted in all specimens in the 1,620-1,700°C temperature range.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

USSR UDC 546.821'28:67

RABINOVICH, B. S., RADOVSKIY, I. Z., KOZLOV, F. N., SIDORENKO, F. A., and GEL'D, P. V., Ural Polytechnical Institute imeni S. M. Kirov

"Electrical and Magnetic Properties of TiSi and $TiSi_2$"

Moscow, Neorganicheskiye Materialy, Vol 6, No 12, Dec 70, pp 2202-2204

Abstract: The composition and structural characteristics of TiSi and $TiSi_2$ preparates were studied chemically, metallographically, roentgenographically, and densitometrically. The data produced confirmed the single-phase and stoichiometric nature of the silicides, as well as the great complexity of their lattices.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

USSR UDC 546.821'28:67

RABINOVICH, B. S., RADOVSKIY, I. Z., KOZLOV, F. N., SIDORENKO, F. A., and GEL'D, P. V., Ural Polytechnical Institute imeni S. M. Kirov

"Electrical and Magnetic Properties of TiSi and $TiSi_2$"

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Abstract: The composition and structural characteristics of TiSi and $TiSi_2$ preparates were studied chemically, metallographically, roentgenographically, and densitometrically. The data produced confirmed the single-phase and stoichiometric nature of the silicides, as well as the great complexity of their lattices.

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USSR UDC 621.396.6-181.5

VASIL'YEV, G. F., RADKOVSKIY, S. G.

"Methods of Mounting Hybrid Integrated Circuits. A Survey of Data of the Non-Soviet Press"

Elektron. prom-st'. Nauchno-tekhn. sb. (The Electronics Industry. Scientific and Technical Collection), 1970, No 1, pp 93-98 (from REZh-Radiotekhnika, No 10, Oct 70, Abstract No 10V1-9)

Translation: The authors note the advantages of mounting with the use of stiff leads as compared with the use of flexible leads. Various methods of producing stiff leads are described. Comparative data are given on the various metals which are used. The technology of separating plates into sections with and without etching (with the use of preliminaty scribing) is considered. A technique is described for connecting semiconductor crystals with stiff leads to a plate and to a housing. Two illustrations, one table, bibliography of 15 titles. M. S.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

USSR UDC: 612.751.1.015.1-06:[613.27:577.17.049

KOLOMIYTSEVA, M.G., VOROB'YEVA, A.M., and RADOVSKIY, V., Chair of Hygiene, Leningrad Pediatric Medical Institute

"The Effect of Trace Element Composition of the Diet on the Activity of Some Bone Tissue Enzymes in Experimental Animals"

Moscow, Voprosy Pitaniya, No 2, 1970, pp 57-61

Abstract: In a chronic experiment involving 63 white rats, the addition of copper(0.018 mg/100 g of body weight/24 hours) to the diet inhibited alkaline phosphatase activity while stimulating cytochrome oxidase activity. Manganese (0.06 mg/100 g) activated both alkaline phosphatase and cytochromoxidase. Zinc (0.0108 mg/100 g) stimulated alkaline phosphatase activity while inhibiting cytochromeoxidase activity. Exclusion from the diet of one of the trace elements, and especially all three, made the animals sluggish, caused skin disorders, and affected the weight. Weight gains resulted from the exclusion of either copper, manganese, or zinc, but losses (6.8 g on the average) resulted when all three elements were eliminated. It was concluded that the activity of bone tissue enzymes is dependent not only on the absolute content of trace elements, but on their relationships in the diet.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

1/2 025 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--THE EFFECT OF THE TRACE ELEMENTS COMPOSITION IN RATIONS ON THE ACTIVITY OF SOME BONE TISSUE ENZYMES IN EXPERIMENTAL ANIMALS -U-

AUTHOR-(03)-KOLOMIYTSEVA, M.G., VOROBYEVA, A.M., RADOVSKIY, V.

COUNTRY OF INFO--USSR

SOURCE--VOPROSY PITANIYA, 1970, NR 2, PP 57-62

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DIET, BONE, ENZYME ACTIVITY, PHOSPHOTASE, INHIBITION, COPPER, MANGANESE, ZINC, TRACE ELEMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1985/1641 STEP NO--UR/0244/70/000/002/0057/0062

CIRC ACCESSION NO--AP0101696

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

2/2 025 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0101696

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE STATISTICALLY PROCESSED RESULTS OF OBSERVATIONS HELPED ASCERTAIN THE INHIBITING EFFECT OF COPPER AND THE ACTIVATING INFLUENCE OF MANGANESE AND ZINC IONS ON THE ACTIVITY OF THE OSTEOTISSULAR ALKALINE PHOSPHATASE. WITH REGARD TO CYTOCHROMOXIDASE IN THE BONE TISSUE COPPER AND MANGANESE APPEAR AS ACTIVATORS, WHEREAS ZKNC IONS ARE LIKELY TO EXERCISE INHIBITING INFLUENCE ON THE ACTIVITY OF THIS ENZYME. DISRUPTED CORRELATION OF TRACE ELEMENTS IN THE FOOD IS OF ESSENTIAL IMPORTANCE FOR THE ACTIVITY OF TISSULAR ENZYMES.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

1/2 022 UNCLASSIFIED PROCESSING DATE--11DEC70

TITLE--FREQUENCY CHARACTERISTICS OF FILAMENTS -U-

AUTHOR-(02)-STRELTSOV, B.N., RADOVSKIY, V.P.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, ELEKTRICHESTVO, NO 2, 1970, PP 78-80

DATE PUBLISHED--------70

SUBJECT AREAS--NAVIGATION

TOPIC TAGS--FREQUENCY CHARACTERISTIC, FILAMENT CHAFF

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1226 STEP NO--UR/0105/70/000/002/0078/0080

CIRC ACCESSION NO--AP0123190

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

2/2 022 UNCLASSIFIED PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AP0123190

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PROPERTIES OF A FILAMENT ARE ANALYZED FOR VARIABLE FIELDS BOTH CONSTANT AND EPRPENDICULAR TO IT USING A FREQUENCY CHARACTERISTIC. EXPRESSICNS ARE GIVEN FOR DETERMINING THE CHARGE OF A FILAMENT AND ITS AERODYNAMIC RESISTANCE.

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USSR

UDC 632.95

MALYUTIN, P. P., RADTSEV, V. S., SAVIN, V. P., SAMONOV, V. D., STONOV, L. D., SHAKIROVA, A. M., Ufa Affiliate of the All-Union Scientific Research Institute of Agents for Plant Protection

"A Herbicidal Preparation"

USSR Author's Certificate No 311594, filed 21 Apr 70, published 19 Nov 71 (from RZh-Khimiya, No 11, Jun 72, Abstract No 11N470)

Translation: In order to intensify herbicidal activity and improve selectivity, 3-carbomethoxyaminophenyl N-(3-methyl phenyl)carbamate is used in a mixture with benzamidoxyacetic acid in ratios by weight from 1:2 to 1:6. In experiments, the mixtures inhibited the development of wild oat seedlings more actively than their components used separately.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

USSR

UDC 632.95

STONOV, L. D., SERGEYEVA, T. A., SIMONOV, V. D., SHOGAN, S. K., BADTSEV, V. S., and TITOVA, L. K.

"Yalan -- New Herbicide for Control of Echinochloa Weeds in Rice Plantings and Wild Oats in Wheat Plantings"

V sb. Khim. sredstva zashchity rast. (Chemical Plant Protectants -- collection of works), Vyp 1, Moscow, 1970, pp 174-179 (from RZh-Khimiya, No 13, 10 Jul 72, Abstract No 13N518 by T. A. Belyayeva)

Translation: Yalan (I) is a highly effective soil herbicide for the control of millet weeds in rice plantings. Tests have been made of a 60-percent emulsion concentrate and a 10% granulated preparation of I. The herbicidal action of I in the soil persists for 50-100 days. Before rice is planted, I is applied and worked in by harrow in doses of 2-6 kg/ha. For wild-oat control, I is applied in doses of 3-6 kg/ha before wheat is planted.

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USSR UDC 678.743.41:541.515.701:53

VILENSKIY, A. I., VIRLICH, E. E., STEFANOVICH, N. N., RADUSIC, V. A., VLADYKINA, T. N., and KROTOVA, N. A.

"The Effect of Peroxide Radicals on the Adhesive Properties of Fluoroplast-4"

Moscow, Plasticheskiye Massy, No 10, 1971, pp 43-45

Abstract: Results are reported of the study of the adhesive activity of polytetrafluoroethylene (PTFE) as a function of the concentration of peroxide radicals fenerated during the treatment of PTFE in silent discharge. It was determined that current density has no effect on the maximum concentration of free radicals; however, it does shorten the process. Thermal treatment of the activated PTFE films leads to the formation of polar -CO and -C:C-groups which lead to high adhesive strength. In such thermally treated samples hydrogen bonds may form between the C:O groups of the films and OH groups of the epoxy resin. The experiments have shown that the high adhesive strength of the fluoroplast-4 activated in silent discharge is determined by stable peroxide radicals formed during the activation, which interact with the adhesive forming hydrogen bonds of an electrostatic character.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

USSR UDC: 621.372.81

RADTSIG, YU. YU.

"On Evaluating the Norm of the Distribution Function of Wave Impedance in the Problem of Synthesizing a Nonuniform Line for Wide-Band Matching"

Tr. Kazan. aviats. in-ta (Works of Kazan' Aviation Institute), 1970, vyp. 122, pp 32-35 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12B128)

Translation: An expression is derived which can be used to evaluate the norm of the distribution function for which the first-approximation integral equation on which synthesis of a nonuniform line for wide-band matching is based remains valid. By using this expression when synthesizing a non-uniform line by the methods of incorrectly formulated problems, the necessary distribution function for the wave impedance can be found, and from this function, the practical realization of the line can be effected. Two illustrations, bibliography of six titles. N. S.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

USSR

UDC: 621.396.677.01

RADTSIG, Yu. Yu.

"On Synthesis of a Line Antenna Which Receives Wide-Band Pulse Signals"

Tr. Kazan. aviats. in-ta (Works of the Kazan' Aviation Institute), 1970, vyp. 104, pp 97-100 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12B9)

Translation: A method of synthesis is proposed which is based on expressing the effective radiation pattern of an antenna which receives a signal $S(t)$ with wide-band energy spectrum in terms of its autocorrelation function $R(t)=R(\frac{ux}{c})$, where $u = \sin\theta$ and current distribution with respect to antenna length $I(x)$:

$$f(u)=\int_{-1}^{+1} I(x)\,R\left(\frac{ux}{c}\right)dx.$$

Transformation of this expression according to Wiener-Khintchine theory gives an integral equation whose solution may be found by the procedure of solving incorrect problems, i. e. by finding the best approximation for the norm of the solution which does not exceed a predetermined value of R. Bibliography of eight titles. N. S.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

USSR

UDC 621.396.67.001.5

KREMENETSKIY, S. D., RADTSIG, YU. YU., SKACHKOV, V. A.

"Theory and Practice of Plane Curvilinear Radiator Design"

Moscow, Radiotekhnika i elektronika, No 10, 1970, pp 2060-2070

Abstract: The authors assert that there is very little material in the literature on the theory of design of such antennas of the more complex form, primarily due to the mathematical difficulties involved. The need for shifting antennas along the curvilinear surfaces of aircraft gives impetus to the study of plane curvilinear radiators. Also, the development of the theory of this type of radiator is of interest since it is directly connected with the theory of cylindrical antennas. This article considers the following three problems: the design of radiators for a given azimuthal or meridional component of the electric field in any vertical or horizontal plane; the design of radiators for the given electric field components in an arbitrary vertical or horizontal plane, i.e., for a given directional diagram vector; the design of radiators for the given electric field components in several planes. Experimental and computed data are compared.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

USSR

UDC: 621.315.592

GUTKIN, A. A., LEBEDEV, A. A., RADU, R. K., TALALAKIN, G. N., and SHAPOSHNIKOVA, T. A.

"Investigating the Spectra of Photoionization Cross Sections in GaAs Alloyed with Cr, Using the Photocapacitive Effect in Structures with a Potential Barrier"

Leningrad, Fizika i tekhnika poluprovodnikov, No 10, 1972, pp 1954-1960

Abstract: The purpose of this paper is to investigate the photocapacitics in GaAs structures alloyed with Cr, and thereby obtain photoionization cross section spectra of deep centers. This idea is based on theoretical work published in earlier papers regarding an impurity photoeffect in the space-charge layer of a p-n junction and its connection with the parameters of impurity centers. Using the results of this theoretical work, the authors qualitatively explain the absorption spectra characteristic of the three types of specimens investigated. These are: surface-barrier diodes obtained by chemical precipitation of gold on n-type GaAs alloyed with Cr; p-i-n GaAs diodes obtained by successive diffusion of chromium and zinc in n-type GaAs; p-i-n GaAs diodes obtained by epitaxial

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

USSR

UDC: 621.315.592

GUTKIN, A. A., et al, Fizika i tekhnika poluprovodnikov, No 10, 1972, pp 1954-1960

growth of i and n layers of GaAs with a Cr additive on a p-type GaAs substrate. The kinetics of the change in the barrier capacitance of the structures under the action of mixed lighting in the photon energy region of 0.55-1.3 ev is also investigated. The authors thank D. N. Nasledov for his interest in the work, and M. B. Kagan and B. A. Kholev for supplying the specimens.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

1/2 022 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--CLINICAL ASPECTS AND DIAGNOSIS OF CHRONIC HYPERACID GASTRITIS -U-

AUTHOR-(02)-GUBERGRITS, A.YA., RADUGINA, G.S.

COUNTRY OF INFO--USSR

SOURCE--VRACHEBNOYE DELO, 1970, NR 6, PP 71-74

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DIGESTIVE SYSTEM DISEASE, PAIN, SYNDROME

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/1601 STEP NO--UR/0475/70/000/006/0071/0074

CIRC ACCESSION NO--AP0127092

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

2/2 022 UNCLASSIFIED

CIRC ACCESSION NO--AP0127092 PROCESSING DATE--30OCT7(

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FOLLOWING ARGUMENTS ARE PRESENTED FOR SINGLING OUT HYPERACID (HYPERSECRETORY) GASTRITIS AS A FORM OF CHRONIC GASTRITIS: MORE DISTINCT PAIN SYNDROME AND ACIDISM PHENOMENA, TENDENCY FOR TRANSITION TO ULCER DISEASE, CERTAIN FUNCTIONAL GASTRIC CHANGES AND NON SPECIFIC MORPHOLOGICAL CHANGES OF THE GASTRIC MUCOSA. THE INCLUSION OF ANTISPASTIC, GANGLIOLYTIC AND ANTACID DRUGS IN THE TREATMENT PLAN IS SUGGESTED TO BE JUSTIFIED IN PATIENTS WITH CHRONIC HYPERACID GASTRITIS. FACILITY: FAKUL'TETSKAYA TERAPEVTICHESKAYA KLINIKA DONETSKOGO MEDITSINSKOGO INSTITUTA.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

USSR

UDC [537.226+537.311.33]:[537+535]

KRADINOVA, L. V., PROCHUKHAN, V. D., RADUL, V. A.

"On the Effect of Deviations From Stoichiometry on the Properties of the $ZnSnP_2$ Semiconductor"

V sb. Nekotor vopr. khimii i fiz. poluprovodnikov slozhn. sostava (Certain Problems of the Chemistry and Physics of Semiconductors of Complex Composition -- Collection of Works), Uzhgorod, 1970, pp 114-117 (from RZh Fizika, No 12, Dec 71, Abstract No 12Ye1317)

Translation: The effect of an excess of one or another elements forming the crystalline lattice of $ZnSnP_2$ on charge carrier concentration and mobility is investigated. An excess of Zn or P can be produced both in the process of growing the crystals and in annealing the latter in vapors of volatile components. The results of the study are given in a table. It is shown that displacement processes and vacancy formation in the crystal lattice, which must be taken into account in the alloying of this compound, have a considerable effect on the semiconducting properties of $ZnSnP_2$. A. Ya. O.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202610019-8

1/2 021 UNCLASSIFIED

TITLE--INFRARED ABSORPTION SPECTRA OF THE CDSNP SUB2-CDSNAS SUB2 SOLID SOLUTION -U- PROCESSING DATE--23OCT70

AUTHOR-(02)-KARYMSHAKOV, R.K., RADUL, V.A.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TEKH. POLUPROV. 1970, 4(2), 398-400

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--IR ABSORPTION SPECTRUM, SOLID SOLUTION, ABSORPTION EDGE, FORBIDDEN ZONE WIDTH, PHOSPHIDE, ARSENIDE, CADMIUM COMPOUND, TIN COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0094 STEP NO--UR/0449/70/004/002/0398/0400

CIRC ACCESSION NO--AP0105180

UNCLASSIFIED

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2/2 021

CIRC ACCESSION NO--AP0105180 UNCLASSIFIED PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SPECTRA (2-15 MU) WERE MEASURED AT 83 AND 300DEGREESK AND THE OTPICAL FORBIDDEN GAP WIDTH, DELTA E SUBG, WAS DETD. FOR ALL MATERIALS STUDIED. AT 83DEGREESK, THE ABSORPTION EDGE SHIFTS TOWARD HIGHER ENERGIES. (DE SUBG-DT) VALUES ARE ALSO REPORTED. FACILITY: FIZ. TEKH. INST. IM. IOFFE, LENINGRAD, USSR.

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USSR

TSYPKIN, Ya. Z., Avtomatika i Telemekhanika, No 4, Apr 70, pp 55-71

rather than its components.

The recovery process involves approximating the decision function by a segment of an orthonormalized series, setting the gradient of the criterial function developed equal to zero, and finding an expression for the optimal value of the arbitrary parameter in terms of the loss functions. The discrete learning algorithm with the simplest form of learning matrix is then applied to this result and the optimal learning algorithms are derived.

The recommended procedures are illustrated by several examples. These are claimed to show the application of the principles developed not only to technical problems, but to operations research. The author feels that further development of the theory of learning system design must proceed in the direction of closed learning systems and learning systems operating under nonequilibrium conditions.

There are 37 bibliography entries, 26 in Russian (including translations) and 11 in English.

5/5

SO: FOREIGN PRESS DIGEST
30 OCT 70

H. Biological and Psychological Problems

103. USSR

RADUNSKAYA, IRINA

"Modeling the Brain (Science: Psychology and Cybernetics)"

Moscow, Znaniye, No 12, Jun 70, pp 15-19

Translation: When cybernetics first revealed to researchers a new way to gain knowledge of man, when they became able to view man as somewhat similar to an automatic system, scientists gave this trend the very warmest support. Naturally, they were disturbed by thousands of questions. Can one understand spiritual processes on the basis of an investigation of automata? Are thought and the creativity associated with it the exclusive privilege of the human brain or is it possible to create technical devices which possess these capabilities? If it is possible, then what sort of principle is the basis of this kind of automata? Do machines possess consciousness or a psychic make-up? How closely can the model and the original, the machine and the man, approach each other? Of course, while posing these questions and utilizing the new models, scientists did not forget for a second that despite the many analogies between a human brain and a computer, there are deep, insurmountable differences inherent in them.

1/14

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USSR

RADUNSKIY, V. M.

"Experimental Multimachine Computer Complex"

Vychisl. Sistemy [Computer Systems -- Collection of Works], No 51, Novosibirsk, 1972, pp 97-107 (Translated from Referativnyy Zhurnal Kibernetika, No 6, 1973, Abstract No 6V598, by the author).

Translation: The structure of an experimental complex consisting of 8 elementary computer devices connected according to the principle of a modified P_n graph supplemented with an additional memory device and control machine, is described. The basic operating modes of the complex are studied.

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1/2 026 UNCLASSIFIED

TITLE--EXTENSION OF ELASTIC LIQUIDS: POLYISOBUTYLENE -U- PROCESSING DATE--27NOV70

AUTHOR-(03)-VINOGRADOV, G.V., RADUSHKEVICH, B.V., FIKHMAN, V.D.

COUNTRY OF INFO--USSR

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DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--POLYISOBUTYLENE, MOLECULAR WEIGHT, DEFORMATION RATE, MATERIAL TESTING EQUIPMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/1096 STEP NO--US/0000/70/008/001/0001/0017

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2/2 026

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CIRC ACCESSION NO--AP0136516 PROCESSING DATE--27NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN APPARATUS IS DESCRIBED AND A METHOD DISCUSSED FOR DETERMINING THE RHEOLOGICAL CHARACTERISTICS OF ELASTIC LIQUIDS DURING EXTENSION AT CONSTANT RATES OF DEFORMATION AND EXTENSION. THE MATERIAL STUDIED WAS POLYISOBUTYLENE OF MOLECULAR WEIGHT 7 TIMES 10 PRIME4. AT LOW CONSTANT DEFORMATION RATES STEADY FLOW REGIMES WERE ACHIEVED. WITH CORRESPONDING EQUILIBRIUM HIGH ELASTIC STRAINS. A DETAILED STUDY HAS BEEN MADE OF THE PROCESS OF ATTAINMENT OF STEADY FLOW REGIMES AND IT IS SHOWN THAT BEFORE STEADY FLOW IS REACHED THE CURVE OF LONGITUDINAL VISCOSITY VERSUS STRAIN PASSES THROUGH A MAXIMUM. AS THE RATE OF DEFORMATION RISES, THE STRAINS AT WHICH STEADY STATE FLOW REGIMES ARE ACHIEVED INCREASE, AND THE TIME REQUIRED TO REACH THESE REGIMES DECREASES. QUALITATIVELY THIS OCCURS IN THE SAME WAY AS UPON SHEAR. THE DEPENDENCE OF EQUILIBRIUM HIGH ELASTIC STRAINS (UNDER STEADY FLOW REGIMES) ON THE RATE OF DEFORMATION HAS BEEN DETERMINED. AT STEADY FLOW REGIMES THE STRESS DEPENDS LINEARLY ON THE RATE OF DEFORMATION AT LOW VALUES OF THE STRESS. UNDER SUCH CONDITIONS TROUTON'S FORMULA IS VALID. AT CONSTANT RATES OF EXTENSION THE STRESS VERSUS TIME CURVE PASSES THROUGH A MAXIMUM WHICH BECOMES HIGHER WITH INCREASING EXTENSION RATES. FACILITY: ACAD. SCI., MOSCOW, USSR.

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