"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR

VALIK, I. L., IVANOV, B. P.

UDC 621.397(088.8)

"Device for Measuring the Probability of Detecting a Target of Elementary Shape"

USSR Author's Certificate No 253184, Filed 29 Feb 68, Published 24 Feb 70 (from RZh-Radiotekhnika, No 9, Sep 70, Abstract No 9G230P)

Translation: This author's certificate introduces a device which permits evaluation of the capacity of a television camera to reproduce fine low-contrast objects. The operation of the device is based on measuring the probability of detecting an object of elementary shape (a test table element) by comparing the difference between the average signal with respect to the area of the object and each of the average signals of four adjacent elements of the same area.

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AN0026668

UR9003

TITLE-- ANNOUNCEMENT OF THE COMMITTEE ON THE LENIN AND STATE PRIZES

NEWSPAPER-- IZVESTIYA, FEBRUARY 18, 1970, P 3, COLS 1-5

ABSTRACT-- THE COMMITTEE ON THE LENIN AND STATE PRIZES HAS ANNOUNCED THE NAMES OF RESEARCHERS ADMITTED TO THE 1970 LENIN PRIZE COMPETITIONS. THE LIST INCLUDES G. V. NOVOZHILOV, YA. A. KUTEPOV, V. I. SMIRNOV, D. V. LESHCHINER, V. M. SHEYNIN, AND A. A. OVCHAROV FOR THEIR "DEVELOPMENT OF THE INTERCONTINENTAL PASSENGER AIRLINER IL-62", AND A. S. YAKOVLEV, YE. G. ADLER, M. G. BENDERSKIY, K. M. VALIK, AND K. S. KIL'DISHEVA FOR "JET PASSENGER AIRLINER YAK-40 POWERED BY THREE AI-25 ENGINES".

BOTH CANDIDATES WERE NOMINATED BY THE MINISTRY OF AVIATION INDUSTRY.

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9"

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USSR

UDC: 51:155.001.57:681.3.06

VALIKOV, K. V., ZHIRKOV, V. F.

"The Problem of Occupying the Contours Set by the 'Ones' on a Rectangular Matrix of Binary Elements"

Sb. nauchn. tr. Vladimir. politekhn. in-t (Collected Scientific Works of Vladimir Polytechnical Institute), 1970, vyp. 9, pp 35-39 (from RZh-Kibernetika, No 7, Jul 71, Abstract No 7V788)

Translation: Consideration is given to a problem involved in pattern recognition -- that of occupation of contours, including intersecting contours, given by the "ones" on a rectangular matrix of binary elements. An algorithm is given for solving the problem, and its computational aspects are considered. Authors' abstract.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

UNCLASSIFIED

TITLE--INVESTIGATION OF THE FRICTION PROCESS DURING THE VIBRATIONAL CUTTING OF HIGH STRENGTH ALLOYS -U-

PROCESSING DATE--18SEP70

AUTHOR-(02)-PODURAYEV, V.N., VALIKOV, V.I.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, IZVESTIYA VYSSHIKH UCHEBNYKH ZAVEDENIY, MASHINOSTROYENIYE, NO. 1, 1970, PP 138-142

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--HARD ALLOY, STAINLESS STEEL, METAL CUTTING, FRICTION, METAL DRILLING, VIBRATION EFFECT/(U)KH18N9T STAINLESS STEEL, (U)VK8 HARD TOOL ALLOY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1985/0515

STEP NO--UR/0145/70/000/001/0138/0142

CIRC ACCESSION NO--AT0100977

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

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UNCLASSIFIED

CIRC ACCESSION NO--AT0100977 PROCESSING DATE--18SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ARTICLE DESCRIBES INVESTIGATIONS OF FRICTION UNDER CONDITIONS APPROXIMATING FRICTION ALONG THE FRONT AND REAR EDGES OF A TOOL DURING VIBRATIONAL CUTTING (DRILLING), AND BASED ON STUDY OF THE MAGNITUDE OF NORMAL PRESSURE, ON THE STUDY OF THE FRICTION PAIR (VK8 HARD TOOL ALLOY AND KH18N9T STAINLESS STEEL), AND ON THE MAGNITUDE OF THE CUTTING SPEED. FOR THE STUDY, SPECIAL EQUIPMENT WAS DESIGNED AND ADDED TO A MODIFIED LATHE. THIS EQUIPMENT AND THE SETUP USED TO PRODUCE INTERMITTENT VIBRATIONAL CUTTING ARE DESCRIBED BRIEFLY. TWO SETS OF RELATIONSHIPS WERE DERIVED, THE FIRST FOR FRICTION IN CASTOR OIL AND SULPHAFREZOL (SIC) AND IN DRY FRICTION AT LOW FEED PRESSURES AND FRICTION IN SULPHAFREZOL (SIC) AND IN DRY FRICTION AT HIGHER RATES AND PRESSURES. THE EXPERIMENT DATA INDICATE THAT THE CHARACTER OF THE RELATIONSHIPS FOR DRY FRICTION AND FRICTION IN SULPHAFREZOL (SIC) COINCIDE. IT WAS DETERMINED THAT VIBRATIONAL CUTTING PRODUCED LOWER FRICTION COEFFICIENTS THAN STEADY CUTTING; HOWEVER, AN INCREASE IN THE TORSION MOMENT WITH TIME WAS NOTED. THIS IS EXPLAINED AS BEING DUE TO INCREASING FRICTION ON THE REAR SURFACES OF THE DRILL.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR

AL'TSHULER, S. A., VALISHEV, R. M., KOCHELAYEV, B. I., and KHASANOV, A. KH.,
Kazan' State University imeni V. I. Lenin

"Study of a Phonon System by the Mandelstam-Brillouin Light Scattering Method Under Paramagnetic Resonance Saturation"

Moscow, Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 62, No 2, Feb 72, pp 639-651

Abstract: The article gives a detailed account of the results of an experimental and theoretical study of a phonon bottleneck in cerium magnesium nitrate by the Mandelstam-Brillouin light scattering method. Continuous paramagnetic resonance saturation of the Ce^{3+} ions was used to study steady-state "heating" of the phonon system; then measurements were made during spin system excitation by periodic rectangular pulses, and the steady-state process was studied together with the transient process occurring at the moment of inclusion of a saturating field. New peculiarities of the phonon bottleneck effect were found during saturation at the end of the EPR line: viz., saturation on frequencies differing from resonance frequency by approximately

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR

AL'TSHULER, S. A., et al., Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 62, No 2, Feb 72, pp 639-651

±100 Mhz corresponds to the maximum steady-state "heating" of the phonon system. Moreover, during pulsed saturation with detuning, an avalanche-type growth in the number of phonons was observed behind the leading edge of the pulse, followed by a comparatively slow drop and the transition of the process to a steady-state mode. The equilibrium state was reestablished after the end of the saturating pulse. The phonon peak intensity depended on the detuning value and at $\Delta\omega/2\pi \approx \pm 100$ Mhz reached a maximum value of 8000° K. The dependence of characteristic parameters of the observed phenomenon on the detuning value ($\Delta\omega > 0$) was measured in another series of experiments. The avalanche reaches maximum intensity at intermediate detuning values, declines on both sides of the optimal value of ~ 100 Mhz, and completely disappears at the point $\Delta\omega = 0$. The effective temperature of phonons in the steady-state region changes similarly. The spectral distributions of effective temperatures for "hot" phonons in the avalanche peak and in the steady-state region were found for $\Delta\omega/2\pi = 100$ Mhz. An important peculiarity is the fact that the maximums of the phonon spectral distributions fail to coincide with the frequency ω_2 or the frequency ω_1 and are displaced from the saturation point even further along the end of the EPR line. In addition, the "hot"

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR

AL'TSHULER, S. A., et al, Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 62, No 2, Feb 72, pp 639-651

phonon band is significantly narrower than the EPR line width. Phonons in the frequency band below 30 Mhz take part in the avalanche. The frequency scale of the entire pattern is reduced almost in half by dilution of the crystal.

Kinetic equations are derived to describe EPR saturation in the general case when all three coupled subsystems -- Zeeman, spin-spin interaction, and phonon -- are in a nonequilibrium state. It is shown that in particular cases the equations coincide with those of B. I. PROVOTOROV and the phonon bottleneck theory. Steady-state EPR line saturation is considered first, then transient processes arising in the phonon subsystem after inclusion of a saturating variable field. It is shown that the character of the time variation of the state of the system depends essentially on the saturating power level. The experimental results obtained are considered in terms of the developed theory.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

UNCLASSIFIED

TITLE--APPLICATION OF THE METHOD OF STRAIGHT LINES TO THE SOLUTION OF NONLINEAR PROBLEMS OF SHALLOW SHELL DYNAMICS -U-

PROCESSING DATE--04DEC70

AUTHOR-(02)-VALISHVILI, N.V., SILKIN, V.B.

COUNTRY OF INFO--USSR

SOURCE--AKADEMIIA NAUK SSSR, IZVESTIIA MEKHANIKA TVERDOGO TELA, MAY-JUNE 1970, P 140-143

DATE PUBLISHED-------70

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

TOPIC TAGS--STRUCTURE STABILITY, SPHERIC SHELL STRUCTURE, ALGORITHM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605020/D12 STEP NO--UR/0484/70/000/000/0140/0143

CIRC ACCESSION NO--AP0141028

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

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UNCLASSIFIED

CIRC ACCESSION NO--AP0141028

PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SOLUTION OF CERTAIN NONLINEAR PROBLEMS OF SHALLOW SHELL DYNAMICS WITH THE AID OF AN ALGORITHM PERMITTING THE USE OF THE METHOD OF STRAIGHT LINES. THE PROPOSED METHOD OF SOLUTION IS APPLIED TO THE CASE OF A SHALLOW SPHERICAL SHELL UNDER THE ACTION OF AN EXTERNAL DISTRIBUTED PRESSURE, A SHALL SPHERICAL SHELL WITH A CLAMPED BEARING EDGE UNDER THE ACTION OF A SUDDENLY APPLIED EXTERNAL PRESSURE WHICH THEN REMAINS CONSTANT, AND A SHALLOW SPHERICAL SHELL WITH A CLAMPED BEARING EDGE UNDER THE ACTION OF A TIME VARIABLE EXTERNAL PRESSURE. THE ACCURACY OF THE PROPOSED ALGORITHM IS CHECKED BY COMPARISON WITH EXACT SOLUTIONS OF CERTAIN NONLINEAR PROBLEMS.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR

UDC 621.396.69(088.8)

VALITOV, M. S., VOLKOV, B. A., FEDYUNIN, V. N., DEART, A. F., KSENOFONTOV, Ye. A., Moscow Mining Institute

"A Device for Physical Modeling of Radio Electronic Circuits"

USSR Author's Certificate No 255665, Filed 13 Mar 67, Published 12 Mar 70 (from RZh-Radiotekhnika, No 10, Oct 70, Abstract No 10V402 P)

Translation: The proposed device is based on the use of a random number pickup whose output is connected to the movable contact of a step switch in the situation set-up module. This step switch is connected to the control windings of actuating relays, indicator lamps and pulse counters. N. S.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

1/2 021 UNCLASSIFIED

TITLE--REGENERATION OF ALUMINA NICKEL TUNGSTEN SULFIDE HYDROGENATION CATALYSTS -U- PROCESSING DATE--23OCT70

AUTHOR-(03)-VALITOV, N.KH., PANCHENKOV, G.M., BALANDINA, K.L.

COUNTRY OF INFO--USSR

SOURCE--NEFTEPERERAB. NEFTEKHIM. MOSCOW, 1970, (3), 8-9

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CATALYST REGENERATION, CATALYTIC HYDROGENATION, NICKEL SULFIDE, TUNGSTEN COMPOUND, SULFIDE CATALYST, COKE, GRAPHITE, PETROLEUM FRACTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0644

STEP NO--UR/0318/70/000/003/0008/0009

CIRC ACCESSION NO--AP0119556

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

2/2 021

CIRC ACCESSION NO--AP0119556 UNCLASSIFIED PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. REGENERATION OF A (NIS-WS SUB2)-AL SUB2 O SUB3 HYDROGENATION CATALYST BY BURNING OFF THE COKE AND EXCESS S, REMOVING SURFACE LAYERS OF FE, V, AND AS COMPDS. IN A BALL MILL, GRINDING THE PELLETS TO 315 MU PARTICLE SIZE, MIXING THE RESULTING POWDER WITH GRAPHITE, PELLETIZING THE MIXT., AND SULFIDIZING IT TO 7PERCENT S CONTENT RESTORED ALMOST ALL OF THE ORIGINAL ACTIVITY. BY HYDROGENATING A STRAIGHT DISTN. 153-253DEGREES KEROSINE FRACTION INTRODUCED AT 140 ML-HR WITH 70 L. H-HR ON 94 G OF FRESH AND REGENERATED CATALYSTS, RESP., AT 300 PLUS OR MINUS 10 ATM AND 360 PLUS OR MINUS 1.5DEGREES, THE TOTAL S CONTENT WAS REDUCED FROM 0.63 (20PERCENT SULFURIZING) TO 0.022 AND 0.026PERCENT (3 AND 4PERCENT SULFURIZING).

FACILITY: MINKHGP IM. GUBKINA, MOSCOW, USSR.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR

UDC: 621.375.82

NIKOLAYEV, V. K., KHIMICHEV, Yu. V., VALITOV, R. A., NADEZHKIN, Yu. M.

"A Device for Measuring High Levels of Laser Pulse Emission Energy With Large Beam Diameters"

Radiotekhnika. Resp. mezhved. temat. nauch.-tekhn. sb. (Radio Engineering. Republic Interdepartmental Thematic Scientific and Technical Collection), 1973, vyp. 25, pp 8-14 (from RZh-Fizika, No 8, Aug 73, abstract No 8D1136 by the authors)

Translation: The paper describes the characteristics and design of a pondermotive device for measuring the pulse energy of high-level transmitted emission. Problems of calibrating the meter are considered. Some components of measurement errors are evaluated. Bibliography of 10 titles.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR

STARODUBTSEV, G. P., NADEZHKIN, Yu. M., VALITOV, R. A.

UDC: 621.375.82

"Heat Effects in Unevacuated Ponderomotive Laser Emission Meters"

Radiotekhnika. Resp. mezhved. temat. nauch.-tekhn. sb. (Radio Engineering. Republic Interdepartmental Thematic Scientific and Technical Collection), 1973, vyp. 25, pp 14-17 (from Pzh-Fizika, No 8, Aug 73, abstract No 8D1142 by the authors)

Translation: The thermal effects caused by convection of the air contained in a ponderomotive meter are considered. The effects which contribute most to the error in measuring the mechanical action of emission are singled out and investigated. Heat effects are studied over a broad dynamic range and as a function of the angle between the receiving element and the vertical, the location of the receiving element between the input windows, and the volume of the reception chamber of the meter.

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USSR

Controls

VALITOV, R. A., NAYDEROV, V. Z., BARZHIN, V. YA., KULIK, A. A.

Generatory Stimuliruyushchikh Signalov dlya Avtomaticheskikh Sistem Kontrolya (Stimulating Signal Generators for Automated Monitoring and Control Systems), Moscow, ENERGIYA, Biblioteka po Avtomatike, No 461, 1972, 65 pp

Translation: A classification of stimulating signal generators and the requirements imposed on them are presented in this booklet. The principles of constructing stimulating signal generators for controlling the characteristics of radiotechnical channels are discussed.

The booklet is designed for engineers working in the field of automation of control of the operation of radioelectronic devices.

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1. Parameters and Characteristics of Radiotechnical Devices Controlled by Stimulating Signal Generators 5
2. Classification of Stimulating Signal Generators 6
3. Characteristics of Stimulating Signal Generators and Basic Requirements on Them 9

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USSR

VALITOV, R. A., et al., Generatory Stimuliruyushchikh Signalov dlya Avtomaticheskikh Sistem Kontrolya, Moscow, ENERGIYA, Biblioteka po Avtomatike, No 461, 1972, 65 pp

Chapter 2. Schematic and Structural Principles of Stimulating Signal Generators 10
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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR

YEPISHIN, V. A., KAMYSHAN, V. V., and VALITOV, R. A.

UDC: 621.372.413:535

"Modeling Diffraction-Coupled Open Cavities in the Millimeter Wavelength Range"

Radiotekhnika. Resp. Mezhved. nauchno-tekhn. sb. (Electronic Engineering, Republic Interdepartmental Scientific-Technical Collection) 1970, No. 14, pp 69-72 (from RZh-Radiotekhnika, No. 3, March 71, Abstract No. 3D264)

Translation: Description is given of an experimental model of coupled resonators consisting of cylindrical mirrors for band frequency attenuation that are fastened perpendicular to the generating mirros. Results are reported of the determination of the diffraction losses for two or three coupled resonators. Three illustrations, bibliography of three. Author's abstract.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR

UDC: 621.3.0888

VALITOV, R. A., BUYNYAVICHYUS, V. V., PETRIKIS, S. S.

"Correlation Measurements and Experimental Determination of Errors"

Dokl. Vses. nauchno-tekhn. konferentsii po radiotekhn. izmereniyam. T. 3 (Reports of the All-Union Scientific and Technical Conference on Radio Engineering Measurements. Vol. 3), Novosibirsk, 1970, pp 29-31 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1A300)

Translation: The authors note the importance of correlometers and the necessity for checking their errors with respect to three types of measurements: 1) the coefficient of mutual correlation in the case of zero delay; 2) determination of the correlation function or its envelope; 3) determination of decorrelation. A block diagram is given of a two-channel signal generator for determining errors of the first and third types. A method is also given for determining errors of the second type, a process which is in general more complicated than for the other types. E. L.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

UDC 621.317.023(02)

USSR

VALITOV, R. A., SRETENSKIY, V. N.

Radiotekhnicheskiye izmereniya. Metody i tekhnika izmereniy v diapazone ot dlinnykh do opticheskikh voln (Radio Technical Measurements. Measurement Techniques and Equipment in the Long Wave to Optical Wave Band), Moscow, Soviet Radio Press, 1970, 712 pp, ill. 2 r. 23 k (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4A257K)

Translation: A study was made of the basic principles of theory and practice of radio technical measurements. An analysis of the methods of measuring the radio technical variables in different wave bands is presented. A description of the operating principle, the technical data, and the reasoning behind selection of the basic circuit and structural elements are presented for the individual most widespread and prospective measuring instruments. By comparison with the last editions of books by the authors on the principles of radio measurements, the structure and content of many sections have been changed significantly in the present book. Two new parts have been introduced. They are devoted to the general problems of radio technical measurements, the elements of estimating the correctness of application and operation of measuring instruments, and the role and significance of metrology. Divisions devoted to error analysis of the measurments, measurements of the random

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR

VALITOV, R. A., et al., Radiotekhnicheskiye izmereniya. Metody i tekhnika izmereniy v diapazone ot dlinnykh do opticheskikh voln, Moscow, Soviet Radio Press, 1970, 712 pp, ill., 2 r. 23 k.

Process characteristics, measurement techniques and measuring devices in the millimeter, submillimeter and optical wavelength bands are presented anew. Significant attention is being given to the problems of automation of measurements, miniaturization of measuring devices, the construction of measuring devices on the basis of broad utilization of semiconductor engineering. The book is intended for engineering and technical personnel, and it can be used as a training aid for university students. There are 618 illustrations, 19 tables and a 166-entry bibliography.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR

UDC 621.382.322:621.317.799

ASTAF'YEV, YU.G., VALITOV, R.A.

"Measurement Of The Noise Coefficient Of Field-Effect Transistors In Decimeter Wave Band"

Dokl. nauchno-tekhn. konferentsii po radiotekhn. izmereniyam. T. 2 (Proceedings Of The Scientific-Technical Conference On Radio Engineering Measurements. Vol. 2), Novosibirsk, 1970, pp 13-14 (from RZh--Elektronika i yeye primeneniye, No 2, February 1971, Abstract No 2B520)

Translation: The paper considers errors of measurement of the noise coefficient of field-effect transistors, connected with the necessity of matching the input of the transistor with the measuring channel and resulting from the presence of losses in the matching transformer, and also the commensurability of the matching band with the band of the measurer of the noise coefficient with a large transformation ratio. The results of measurement are also presented, which show that for a decrease of errors in the decimeter band up to 4 percent, it is necessary that the band of the measurer not exceed 0.5 MHz. 1 ref. N.S.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR

UDC: 621.373:530.145.6:621.317.17

VALITOV, R. A., KALININ, Yu. A.

"A Wide-Band Calorimetric Meter for the Average Power of a Laser of the Straight-Through Type"

Dokl. Nauchno-tekhn. seminara. "Metrol. v radioelektron." Tezisy. Ch. 1 (Reports of the Scientific and Technical Seminar on Metrology in Radio Electronics. Summaries, Part 1), Moscow, 1970, pp 101-106 (from RZh-Radiotekhnika, No 7, Jul 70, Abstract No 7D249)

Translation: The authors describe the circuit and discuss the results of preliminary studies of the model of a calorimetric measuring device for the average emission power of a straight-through laser. A. K.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR

UDC 621.317.39:531.7

KOKODIY, N. G., VALITOV, R. A.

"Ponderomotive Measuring Device of Output Power Characteristics of Laser"

V sb. Impul'sn fotometriya (Pulse Photometry -- collection of works), Leningrad, "Mashinostroyeniye", 1969, pp 62-69 (from RZh-Metrologiya i Izmeritel'naya Tekhnika, No 2, Feb 70, Abstract No 2.32.1277)

Translation: A model of a device for measuring the output power characteristics of a laser using light pressure is described. The torsion balance, which measures the light pressure, is combined with the magnetoelectric system of the galvanometer. The possibility of doing away with the vacuuming of the device is shown. Recommendations are made for improving the dynamic characteristics. The method of calibration is described.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR

UDC 389.0:621.37/.39

VALITOV, R. A., BURDUN, G. D., FRUMKIN, V. D.

"Metrological Work in the Field of Radio Electronics in the Soviet Union"

Moscow, Izmeritel'naya Tekhnika, No 5, May 70, pp 5-13

Abstract: The article is a survey of important methods and facilities for precision measurement worked out by metrological institutes for use as standards in the field of radio measurements. Measurements of frequency, voltage, power, current strength, attenuation, noise and so forth are considered.

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR

UDC 621.317.7

VALITOV, R. A., GONESTAS, E. Yu.

"Optimal Relationships in Stepped Instrumentation Commutators"

Radioizmereniya. Materialy Nauchno-tekhn. konferentsii (Radio-Frequency Measurements. Reports of Scientific-Engineering Conference), Vil'nyus, 1969, pp 41-45 (from RZh-Radiotekhnika, No 2, Feb 70, Abstract No 2A302)

Translation: The effect of channel grouping on transmission error is examined. The number of channels per group for which the commutator error is minimal is determined. Reduction of the number of channels in the groups to less than 8-10 is inefficient and can be recommended only for the commutation of sources with high internal resistance. Resume.

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USSR

UDC 621.318.573.088

VALITOV, R. A., GONESTAS, E. YU

"Optimum Relationships in Pitched Metering Commutators"

V sb. Radioizmereniya. Materialy Nauchno-tekhn. konferentsii, 1969 (Radiomeasurements. Transactions of the Scientific and Technical Conference, 1969 -- collection of works), Vil'nyus, 1969, pp 41-45 (from RZH-Metrologiya i Izmeritel'naya Tekhnika, No 1, Jan 70, Abstract No 1.32.99)

Translation: The effect of gap grouping on transfer errors is considered. The number of gaps in a group at which the commutator error is at a minimum was established. It is determined that decreasing the number of gaps in the group below 8-10 has little effect and can be recommended only for commutation of sources with large internal resistance.

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USSR

SHMIDT, V. B., LYUBKO, S. F., and VALITOV, R. A. UDC 621.317.761

"Heterodyne Frequency Meter of Submillimeter Band Radio-Waves"

Radiotekhnika. Resp. mezhved. temat. nauch.-tekhn. sb. (Radio-Engineering. Republic Interagency Thematic Scientific-Technical Collection of Articles), 1972, vyp.21, pp 177-180 (from RZh-Radiotekhnika, No 11, Nov 72, Abstract No 11 A267)

Translation: The authors describe the circuit and principle of operation of a heterodyne frequency meter of submillimeter band radio-waves. The meter is designed for the direct measurement of frequency in the 240-1000 Gcps range. The basic operation of the unit involves the interpolation principle of metering the frequency of the measured signal at a scanning frequency of an oscillograph indicator. The interpolator is built on the basis of a Fabry-Perot interferometer with spherical mirrors. Original article: two illustrations and three bibliographic entries. Resume.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR

UDC 621.357.1.035.2.:661.418(088.8)

(1)

KHALILOV, V. R., ABUBAKIROVA, F. S., GELIYEVA, T. N., GARIEZYANOV, A. G., VALITOV, R. B., Sterlinakov Chemical Factory

"A Process for Impregnating Graphite Objects"

USSR Author's Certificate No 345093, Filed 24 Mar 70, published 10 Aug 72 (from Referativnyy Zhurnal -- Khimiya, No 8(III), 1973, Abstract No 8L256P)

Translation: A process is patented for the impregnation of graphite articles (rods used during the electrolysis of NaCl and the production of chlorine and sodium hydroxide) by polymerized flax oil in the presence of a catalyst. It is improved in that in order to increase strength and chemical stability of the articles, a peroxide compound, for example H_2O_2, was used as a catalyst. The process was carried out in the normal manner. The flax oil was first polymerized in the presence of an intiator - 1 to 3 weight % H_2O_2 (30%) at 80° for 10-20 hours. The graphite rod was impregnated with a newly prepared polymer at 80° for 3 hours. After which, it was dried at the same temperature for 4 hours. Drying of the oil resulted in its uniformity in the graphite rod, chlorine and acid at high temperatures. The rod, impregnated with wax, was destroyed after 6 months in the vat at a temperature of 90°. The rods

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR

KHALILOV, V. R., et al., USSR Author's Certificate No 345093, filed 24 Mar 70, published 10 Aug 72.

impregnated with the polymerized flax under the same conditions did not show signs of destruction.

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1/2 010 UNCLASSIFIED

TITLE--1,5,9,CYCLODODECATRIENE -U-

PROCESSING DATE--27NOV70

AUTHOR-(03)-GARIFZYANOV, G.G., VALITOV, R.B., BIKBULATOV, I.KH.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 263,588

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

DATE PUBLISHED--10FEB70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CYCLIC GROUP, BUTADIENE, CATALYTIC ORGANIC SYNTHESIS, CHEMICAL PATENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1589

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0135230

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

2/2 010 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AA0135230

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE COMPD. IS PREPD. BY TREATING 1,3,BUTADIENE WITH A CATALYTIC SYSTEM CONTG. NI HALIDE AND TRIISOBUTYL ALUMINUM AT 100-30DEGREES UNDER INTENSIVE MIXING.

FACILITY: STERLITAMAKSKIY KHIMICHESKIY ZAVOD.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

1/2 009 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--CONVERSION OF VINYLCYCLOHEXANE ON A PALLADIUM CATALYST -U-

AUTHOR-(03)-GARIFZYANOV, G.G., BIKBULATOV, I.KH., VALITOV, R.B.

COUNTRY OF INFO--USSR

SOURCE--NEFTEKHIMIYA 1970, 10(1), 28-33

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CYCLOHEXANE, PALLADIUM, CATALYST ACTIVITY, CYCLOHEXENE, ETHYLBENZENE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0573 STEP NO--UR/0204/70/010/001/0028/0033

CIRC ACCESSION NO--AP0119491

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

2/2 009 UNCLASSIFIED

CIRC ACCESSION NO--AP0119491 PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. 4,VINYLCYCLOHEXENE (I) WAS EVAPD. AT 135DEGREES; MIXED WITH 4 MOLES N AND PASSED THROUGH HOT 0.8-1.2PERCENT PD-C CATALYST (30 ML) IN A QUARTZ TUBE (DIAM. 2 CM), AT A CONST. RATE OVER 40-120 MIN (PRIOR TO THE RUNS THE CATALYST WAS ACTIVATED WITH H 3 HR AT 135DEGREES). EVERY 5-10 MIN THE REACTOR EFFLUENT WAS ANALYZED CHROMATOGRAPHICALLY. CONVERSION OF I WAS STUDIED AT A SPACE VELOCITY OF 0.1-3 ML-MIN, AND AT TEMPS. 135 TO 220DEGREES. THE EFFLUENT PRODUCTS CONTAINED EHTYLCYCLOHEXENE (II), ETHYLBENZENE (III), AND ETHYLCYCLOHEXANE (IV). THE CONVERSION OF I INCREASED WITH INCREASING CATALYST TEMP. THE AMT. OF INTERMEDIATE II IN THE EFFLUENT INCREASED RAPIDLY TO A MAX. AT 150-50DEGREES, THEN DECREASED (CONVERTED INTO III AND IV). THE WT. RATIO OF III TO THE SUM OF II AND IV IN THE PRODUCTS OF 130-50DEGREES RUNS WAS 1.3-1.5; IT WAS 3.1-3.7 AT 210DEGREES. ETHYLCYCLOHEXADIENE WAS NOT DETECTED, BUT WAS PROPOSED AS AN INTERMEDIATE. FACILITY: STERLITAMAKSKII KHIM. ZVOD, STERLITAMAK, USSR.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR

VALITOV, R. R.

UDC 621.372.851

"Determination of the Pondermotive Force Which Acts on the Inductive Diaphragm in a Rectangular Waveguide"

Elektron. tekhnika. Nauchno-tekhn. sb. (Electronics Technology. Scientific and Technical Collection), 1970, ser. 11, vyp. 1(19), pp 87-91 (from RZh-Radiotekhnika, No 10, Oct 70, Abstract No 10B129)

Translation: The author considers a rectangular waveguide with an inductive diaphragm which consists of two ideally conductive tapes which are located in the transverse plane of the waveguide. An H_{10} wave is incident on the diaphragm. The pondermotive forces acting on such a diaphragm are calculated. In this connection, a solution was found for a system of twelfth order algebraic equations, which corresponds to accounting for 20 spatial harmonics in expansion of the diffraction field in a Fourier series. It is shown that a considerable factor in formation of the pondermotive forces is higher harmonics which must be accounted for not only to obtain reliable data in computation, but also for an understanding of the physical process of the pondermotive action of the electromagnetic field on barriers in waveguide systems. Two illustrations, bibliography of two titles. A. K.

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USSR

UDC 616.981.551

VALITOV, S. S., FISHELEV, V. M., and MAGER, O. N.

"Reanimation in Generalized Tetanus"

Kazan', Kazanskiy Meditsinskiy Zhurnal, No 5, 1971, pp 91-93

Abstract: The importance of nonspecific therapy for acute generalized tetanus is emphasized in this detailed description of the successful efforts made by a hospital team, provided with special equipment and facilities, to save the life of a 43-year-old woman who developed tetanus 10 days after receiving a head injury. She was given intravenous and then intramuscular injections of PSS (prophylactic dose of tetanus antitoxin) for the first 3 days until convulsions set in and gradually intensified. Sodium hydroxybutyrate provided only temporary relief. Respiratory and cardiac arrest occurred during a seizure. Prompt intubation of the trachea, artificial lung ventilation, external massage of the heart, and injection of various drugs (neuropiegics, tubocurarine) eventually restored the heart beat and normal breathing. The main efforts thereafter were directed toward controlling pulmonary complications and hyperthermia, maintaining normal hemodynamics, and correcting the water-electrolyte balance and alkaline reserve. The most dangerous complication was hypokalemic

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USSR

VALITOV, S. S., et al., Kazanskiy Meditsinskiy Zhurnal, No 5, 1971, pp 91-93

alkalosis which was treated with 0.3% KCl in a 5% glucose solution with insulin for 3 days. The patient was discharged in satisfactory condition 1-1/2 months after admission to the hospital.

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USSR

UDC 541.67:535.34:542.943

VALITOVA, F. G., RYZHMANOV, Yu. M., and GAZETDINOVA, N. G., Kazan' Physical-Chemical Institute, Academy of Sciences, USSR

"Study of the Formation of Free Radicals in the Phosphonehydrazyl Series During an Oxidation Process by the EPR Method"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 7, Jul 73, pp 1491-1494

Abstract: Kinetics of the oxidation processes were studied by the method of EPR spectroscopy on a series of phosphonehydrazine derivatives; the first stage of the oxidation of the products has been recorded. The conclusion was reached that the phosphonehydrazine molecules are bound by a hydrogen bond into associated chains. The calculations carried out showed that the reason for the absence of the super finestructure split due to the ^{31}P nucleus is the fact that only about 1% of the spin density of sp^3 hybridized orbital in ^{31}P phosphonehydrazyl radicals have s character.

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USSR

UDC 542.91:547.1'118

ARBUZOV, A. Ye. (deceased), VALITOVA, F. G., GAZETDINOVA, N. G., and PETROVA, L. P., Institute of Organic and Physical Chemistry imeni A. Ye. Arbuzov, Academy of Sciences USSR, Kazan'

"Alpha-Phenyl-beta-diethyl(diphenyl)phosphonodydrazines"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 7, Jul 73, pp 1646-1648

Abstract: Upon the reaction in dry benzene of the chlorides of diethyl and diphenyl phosphate with unsymmetric sodium phenylhydrazine, alpha-phenyl-beta-diethylphosphonohydrazine (I) and alpha-phenyl-beta-diphenylphosphonohydrazine (II), respectively, were obtained instead of the expected alpha-phenyl-alpha-diethyl (diphenyl) phosphonohydrazines. The reaction of I and II with phthalic acid dichloride in dry benzene in the presence of Et_3N led to the formation of 2-phenyl-3-diethylphosphono- and 2-phenyl-3-diphenylphosphono-1,4-phthalazinedione, respectively.

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USSR

UDC: 632.95

ARBUZOV, A. Ye., VALITOVA, F. G., and BAYGIL'DINA, S. Yu., Institute of Organic and Physical Chemistry im. A. Ye. Arbuzov)

"A Method for Preparing Diphenylthiophosphonhydrazines"

USSR Author's Certificate No 256761, filed 3 May 67, published 13 Apr 70 (from RZh-Khimiya, No 22, 25 Nov 70, Abstract No 22 N651 P by G. V. Kuznetsova)

Translation: These substances with the formula $R_2P(S)NHNPh_2$(I) (R=alkosyl, aryloxy group or aryl) are obtained from the reaction of $R_2P(S)X$ (X=halide) with Ph_2NNH_2 (II) in a medium of polar solvents. A solution of 9.2 g of $(EtO)_2P(S)Cl$ in 25 ml of MeCN is added to a solution of 18 g of II in 15 ml of MeCN after which the mixture is left to stand for several days. The precipitated hydrochloride of II is filtered out and the solution is evaporated to an oil which is treated with ether. The residue of II hydrochloride is separated and after the ether evaporates an oil is obtained which crystallizes at - 10°. The yield of I (R=OEt), $C_{15}H_{12}N_2O_2PS$, is 61%, melting point 69-70°. I (R=OPh), $C_{24}H_{21}O_2PS$, are prepared in a similar fashion, yield 66%, oil; and

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USSR

ARBUZOV, A. Ye., et al, USSR Author's Certificate No 256761, filed 3 May 67, published 13 Apr 70 (from RZh-Khimiya, No 22, 25 Nov 70, Abstract No 22 N651 P by G. V. Kuznetsova)

I (R2Ph), $C_{24}H_{21}N_2PS$, yield 24%, melting point 153-4° (absolute alcohol), along with 65% $[Ph_2(S)]_2O$, $C_{24}H_{20}OP_2S_2$, melting point 200-2° (PhMe). I can be used as physiologically active substances.

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USSR

UDC 542.91:661.718.1

IVANOV, B. YE., VALITOVA, L. A., and KROKHINA, S. S., Institute of Organic and Physical Chemistry imeni A. Ye. Arbuzov, Academy of Sciences USSR

"Reaction of N-(Acetoxymethyl)diethylamine with Certain Derivatives of Trivalent Phosphorus Acids"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 7, 1971, pp 1502-1505

Abstract: Reactions of mono-, di-, and triamidophosphites, triphenyl-, diethyl acetyl-, and diethyl chlorophosphites with (acetoxymethyl)diethylamine (I) was studied. The volatile reaction products were identified by gas-liquid chromatography in the reaction of (I) with mono- and diamidophosphites as being the corresponding esters of acetic acid and diethylacetamide in the reaction with triamidophosphite. Reactions of (I) with triphenyl phosphite occurs less vigorously than with amidophosphites: its completion requires heating to 80°. When the reaction mixture was distilled under vacuum, phenyl acetate and the diphenylester of diethylaminomethylphosphonic acid were isolated. When (I) reacts with diethyl acetylphosphite, the principal products were found to be acetic anhydride and the diethyl ester of diethylaminomethylphosphonic acid.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR

IVANOV, B. YE., et al., Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 7, 1971, pp 1502-1505

It was found that the reaction of (I) with the acid chloride of diethylphosphorous acid occurs in two stages and that diethylchlorophosphite is an electrophile. This series of reactions shows that replacement of chlorine by an acetate group in an electrophilic reagent greatly expands the scope of the Arbuzov rearrangement.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR

UDC 669.24:538.221

VALIYEV, E. Z., and DOROSHENKO, A. V., Institute of Metal Physics of the Ukrainian National Center of the Academy of Sciences USSR

"Magnetic Properties of Some Alloys of 3d-Transition Metals Near c_0"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 34, No 2, Aug 72, pp 433-436

Abstract: An experimental investigation was made of magnetic properties of ternary unordered Ni-Fe-Mn, binary unordered Ni-Cr, and ordered Ni-Mn alloys. The point c_0 of magnetic transformation characterizes the division between the conditions $c < c_0$ of a long-range magnetic order in the system and $c > c_0$ of absent magnetic order. The continuous change of the intensity of magnetization, according to the degree of approach to c_0, indicates that c_0 corresponds to the phase transition point of the second order. The phase transition ferromagnetism -- paramagnetism, characterized by a specific temperature and composition, indicates that for each temperature point T_0 there corresponds a limiting concentration c_0 on the $T_0(c)$ function above which the material loses its magnetic properties. A comparison of determined c_0 values for Ni-Cr alloys were measured $T_0(c)$ results confirms the shift of c_0 to the side of lower concentrations. The thermodynamic

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR

VALIYEV, E. Z., and DOROSHENKO, A. V., Fizika Metallov i Metallovedeniye, Vol 34, No 2, Aug 72, pp 433-436

investigation near phase transition points in alloys can be applied to temperatures and concentration transformation points. Three figures, five formulas, eleven bibliographic references.

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Microelectronics

VALIYEV, K. A.

JPRS 57333

25 October 1972

MICROELECTRONICS

Excerpts from Russian-language book edited by F. V. Lukin; Mikroelektronika, No 5, 1972, Sovetskoye Radio Publishing House, Moscow, UDC 621.382:621.396.6-181.5.

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

This article concerns questions of constructing integrated internal memories on supplementing MDP transistors from uniform subsystems. The article examines methods of optimal division for uniform subsystems of the internal memory structure with centralized and distributed control. The article cites a comparative analysis of different methods of constructing an internal memory based on speed of response and required power. The article examines the characteristics of the structure of integrated subsystems for an internal memory with distributed control. On the basis of the comparative analysis of different types of memory cells cited in the article the best circuit for the cell is selected. The structure and the theoretical circuit is given for the memory subsystem developed for integrated execution. Based on the results of the analysis and the experiment, the basic parameters of the integrated internal memory are evaluated.

The article contains 10 figures and 18 bibliographic references.

UDC 621.38.001

Allowing for Nonuniformity in the Distribution of Defects in Evaluating the Yield Probability of Suitable Integrated Semiconductor Circuits. Valiyev, K.A., Kotko, A.P., Kazennov, G.G., and Batalov, B.V. In the Collection Mikroelektronika, edited by F.V. Lukin, No 5, p 151, Sovetskoye Radio Publishing House, 1972.

A method is suggested for predicting the yield of suitable circuits by allowing for the nonuniform distribution of defects. It is shown that with increase in the complexity of the circuits and increase in the average number of defects on the circuit that accompany it, the influence of the nonuniformity of their distribution on the percent of yield of suitable circuits also grows.

The article contains 1 figure, 2 tables, and 7 bibliographic references.

UDC 621.382.8—621.396.6-171.3

Subnanosecond Memory Element on the Basis of the Gunn Effect in Gallium Arsenide. Valiyev, K.A., Kravchenko, L.N., Orlikovskiy, A.A., Panasenko, P.V., and Pashintsev, Yu.I. In the Collection Mikroelektronika, edited by F.V. Lukin, No 5, p 1[illegible], Sovetskoye Radio Publishing House, 1972.

The article examines a subnanosecond memory element on the basis of the Gunn effect in gallium arsenide for use in superoperational memory devices with random sampling during

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USSR UDC: 621.396.6-181.5

VALIYEV, K. A., D'YAKOV, Yu. N., ORLOV, B. V., CHUTUYEV, D. O.

"Large-Scale Integration"

V sb. Mikroelektronika (Microelectronics--collection of works), Vyp. 3, Moscow, "Sov. radio", 1969, pp 42-61 (from RZh-Radiotekhnika, No 7, Jul 70, Abstract No 7V229)

[No abstract]

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USSR UDC 621.396.6-181.5

VALIYEV, K. A., BANKOVSKIY, Yu. V., RAKOV, A. V.

"Increasing the Output Probability of Usable Integrated Silicon Microcircuits"

Elektron. prom-st'. Nauchno-tekhn. sb. (The Electronics Industry. Scientific and Technical Collection), 1970, No 1, pp 52-60 (from RZh-Radiotekhnika, No 10, Oct 70, Abstract No 10V182)

Translation: The authors analyze methods of studying defects in oxide plates at various stages in the manufacture of microcircuits -- defects which arise immediately after oxidation-diffusion processes, and defects which arise as a result of penetration of Al and B or P through defects. The dimensions and densities of the defects are determined. A formula is derived for evaluating the probability of failure of the microcircuit. Three illustrations, two tables, bibliography of thirteen titles. N. S.

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USSR

UDC 546.711'22 + 546.711'23

RUSTAMOV, A. G., KERIMOV, I. G., VALIYEV, L. M., and BABAYEV, S. KH.,
Institute of Physics, Academy of Sciences Azerbaydzhan SSR

"Electric Properties of MnS and MnSe Single Crystals"

Moscow, Izvestiya Akademii Nauk SSSR, Neorganicheskiye Materialy, Vol 6, No 7, Jul 70, pp 1339-1340

Abstract: The authors prepared single crystals of the compounds MnS and MnSe by the method of chemical transport reactions and studied their conductance and thermo EMF. Data are given on the temperature dependence of the conductance and thermoelectric coefficient.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

Corrosion

USSR

UDC 678.01:54

PERIN, Yu. I., VALIYEVA, R. A., and SHMELYGOVA, M. S., Engineers

"Chemical Resistance of Paolite and Graphitoplast ATM-1 in an Environment of Polyvinyl Chloride Synthesis"

Moscow, Khimicheskoy i Neftyanoye Mashinostroyeniye, No 5, May 70, pp 26-27

Abstract: When the method of liquid-phase hydrochlorination of acetylene, developed by the All-Union Scientific Research and Planning Institute for Monomers (Tula), is used for the synthesis of polyvinyl chloride, the equipment is exposed to highly corrosive media. The presence of gaseous hydrogen chloride and hydrochloric acid in the medium, as well as the elevated temperature regime, almost completely rule out the possibility of using metals and their alloys for manufacture of the equipment so that there is interest in the use of nonmetallic materials. The article describes results of a study of the resistance of Paolite and graphitoplast ATM (antegmite) under hydrochlorination. Standard-shape specimens were cut out mechanically for the tests from presolidified Paolite sheet and ATM-1 cake (State All-Union Standard 4650-65). It was found that tubes of graphitoplast ATM-1 can be used to manufacture a reactor with a diameter of up to 150 mm since this material provides

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR

PERIN, Yu. I., et al, Khimicheskoye i Neftyanoye Mashinostroyeniye, No 5, May 70, pp 26-27

good heat exchange through the wall. Casting graphitoplast NL can be used for larger reactor diameters, or the reactor lined with ATM-1 cake. It is recommended that equipment operating at a normal temperature, as well as reactor covers exposed to gas media, gas conduits for hydrogen chloride and vinyl chloride, pipes and pipe fittings, be made of Faolite.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

1/2 034 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--COMPLEXES OF SCANDIUM OXALATE WITH O PHENANTHROLINE -U-

AUTHOR-(05)-IVANOVEMIN, B.N., GRIDASOVA, R.K., ZAYTSEV, B.YE., VALKARSEL, G., EZHOV, A.I.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(3), 674-7

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--METAL COMPLEX COMPOUND, CRYSTAL STRUCTURE, ORGANOMETALLIC COMPOUND, ORGANIC COMPLEX COMPOUND, IR SPECTRUM, BENZENE DERIVATIVE, OXALATE, SCANDIUM COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1993/0678 STEP NO--UR/0078/70/015/003/0674/0677

CIRC ACCESSION NO--AP0113549

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

2/2 034 UNCLASSIFIED

CIRC ACCESSION NO--AP0113549 PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A MIXT. OF 1:1 MOLE RATIO OF NASC(C SUB2 O SUB4) SUB2.2-H SUB2 O WITH PHEN (O PHENANTHROLINE) IN AQ. SOLN. GAVE CRYST. SC SUB2 (C SUB2 O SUB4)SUB3 2PHEN (I) AS PPT., WITH ALPHA 1.514 AND GAMMA 1.616. THE IR SPECTRUM OF I REVEALS THAT C SUB2 O SUB4 PRIME2 NEGATIVE AS WELL AS PHEN ARE COORDINATED TO SC. A STRUCTURE IS PROPOSED FOR I.

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USSR

UDC: None

VAL'KOV, A., KOLOSOVSKIY, A., and TOPCHILOV, N.

"Field-Effect Transistors KP103"

Moscow, Radio, No. 4, April 71, pp 58-59

Abstract: Published in the "Data Sheets" department of the journal, this article gives detailed information concerning the field effect transistor, type KP103. This information includes a sketch of its structure, plan and cutaway profile views, a diagram of electrode connections, classification of transistors by types, a list of electrical parameters, drain-gate and drain characteristic curves. An earlier issue of this journal (No. 6, 1970) published the electrical parameters and practical circuits using field effect transistors of the KP102 type. It is stated that assembly-line manufacture of the KP103 has just begun. The KP103 has much in common with the KP102; it is a silicon device, is controlled through a p-n junction, and has a p-type channel.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR

UDC 518.5.681.3.06

VAL'KOV, A. I.

"Geometric Modeling. Results and Prospects"

Sb. Nauchn. Tr. Leningr. Inzh.-stroit. In-t. [Collected Scientific Works of Leningrad Construction Engineering Institute], No. 64, 1970, pp 7-36. (Translated from Referativnyy Zhurnal Kibernetika, No. 4, April, 1971, Abstract No. 4 V685 by V. Mikheyev).

Translation: A broad review is presented of works on geometric modeling. A generalized symbolic description of the problem of geometric modeling is suggested. The set of objects observed is divided into classes. All objects belonging to one class are represented by one symbol and differentiated by subscripts. For example, the objects $A_1A_2A_3,\ldots,A_n$ belong to class A. Objects $B_1, B_2, B_3,\ldots B_m$ belong to class B, etc. The classes A, B, C,...,Z are divided into two groups. The first group includes A, B, C,...,Y. The second group includes the single class Z. Selecting one element from each class of the first group, we produce a row $(A_1, B_2,\ldots,Y_l)$. This row is compared to a certain element Z_j from class Z. The problem is to construct a modeling device allowing element Z_j to be found on the basis of the fixed row $(A_i, B_k,\ldots,Y_l)$. This statement of the problem is explained by two concrete examples. Five more

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

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UDC 518.5.681.3.06

VAL'KOV, A. I., Sb. Nauchn. Tr. Leningr. Inzh.-stroit. In-t., No. 64, 1970, pp 7-26.

interpretations of this problem are suggested, with the corresponding theoretical solutions. Our attention is turned to a number of characteristics features of geometric modeling in comparison to analytic modeling and to the close relationship between these two methods. Synthesis of a multidimensional geometry with problems of design of actual machines is noted as a necessary condition for further development of synthetic methods. The internal relationship of these methods of geometric modeling to processes of mathematical and logical discussions is revealed, due to the introduction of the principle of invariant uncertainty. In conclusion, the significance of the method of geometric modeling is emphasized. 49 biblio refs.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

AP0040888

REF. Code UR0103

PRIMARY SOURCE: Avtomatika i Telemekhanika, 1970, Nr 1, pp 105-11

CONSTRUCTION OF AUTO-OSCILLATORY ADAPTIVE SYSTEM WITH VARIABLE STRUCTURE

A. D. ALEKSANDROV, L. S. VALKOV, M. G. GAVRILIN, L. YA. MALEN'KIY, N. V. SABUROV, V. S. KHABAROV

One of the methods of constructing an adaptive system of control in the class of systems with variable structure is considered. There is suggested a method of the synthesis of the algorithm of the re-adjustment of the adapting device for an autooscillatory system, the re-adjustment based on the application of the method of harmonic linearization. The results of the theory are illustrated with examples.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR

UDC 669.715'5'721'3:620.193:620.192.46

VAL'KOV, V. D., SINYAVSKIY, V. S., YELAGIN, V. I., ALESHKINA, Ye. V., DZYUBENKO, M. I., and ROZENFEL'D, I. L.

"Study of the Corrosion Cracking of Al-Zn-Mg-Cu Alloys"

V sb. Korroziya i zashchita met. (Metal Corrosion and Protection -- Collection of Works), Moscow, "Nauka," 1970, pp 75-83 (from RZh-Metallurgiya, No 12, Dec 70, Abstract No 12 1796 by authors)

Translation: A study was made of the resistance to corrosion cracking of Al-Zn-Mg-Cu alloy sheet as a function of chemical composition, heat-treatment procedures, and production process. Under low-temperature aging procedures (140°, 16 hr; 100°, 4 Hr + 160°, 8 hr) the addition of Cr to a greater extent than Zr increases resistance to corrosion cracking. The employment of a two-stage aging procedure with high temperature in the second stage (100°, 4 hr + 180°, 4-6 hr) makes it possible to obtain high resistance to corrosion cracking for alloys doped with Zr. Additions of Ti and Mn have no favorable effect on resistance to corrosion cracking. It rises with a decline in the degree of recrystallization of sheet. The production of a fibrous recrystallized structure is promoted by additions of Cr and, to a greater degree, Zr,

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR

VAL'KOV, V. D., et al, Korroziya i zashchita met. (Metal Corrosion and Protection -- Collection of Works), Moscow, "Nauka," 1970, pp 75-83 (from RZh-Metallurgiya, No 12, Dec 70, Abstract No 12 1796 by authors)

as well as by a number of technological factors: high cooling rates during casting, manufacture of sheet from extruded strips, rolling after hardening (up ~50%). Four illustrations. One table. Bibliography of 26 titles.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR

UDC 669.71.017:539.3/5.01

YELAGIN, V. I., SINYAVSKIY, V. S., PETROVA, A. A., and VAL'KOV, V. D.

"The Effect of Methods of the Homogenization of Ingots on the Structure and Mechanical and Corrosion Properties of Semifinished Products of Alloys of the System Al-Zn-Mg"

Metallovedeniye Splavov Legkikh Metallov-Sbornik, Moscow, "Nauka", 1970, pp 5-10, resume

Translation: The effect of the method of homogenization on the structure, mechanical properties, and corrosion resistance of shapes and sheets of alloy 01911 was investigated. Optimum homogenization methods are recommended. Five figures, fifteen bibliographic references.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR

UDC 681.327

VAL'KOV, V.M., ABATUROV. S.S., et al.

"Device for Speech Output of Information"

USSR Author's Certificate No. 275520, Filed 3/04/69, Published 15/10/70 (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No. 4, 1971, Abstract No. 4B547P).

Translation: Devices for speech output of information containing a magnetic drum and a number of electronic circuits are well known. In these devices, the words are recorded on individual tracks located around the circumference of the drum. In order to reduce the words recorded to a single length, which is necessary to eliminate pauses arising between short and long words, complex equipment must be used: for example, magnetic tape accumulators, apparatus for speech recognition, etc. The device suggested differs in that the word memory unit consists of magnetic drums of various diameters, with the outputs of the read heads connected through commutators to an equalizer, the output of which is connected to the reproduction amplifier. 1 fig.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

1/2 007 UNCLASSIFIED

TITLE--THE RPS,2 PULVERIZATION AND BALING MACHINE -U- PROCESSING DATE--27NOV70

AUTHOR-(02)-VALKOV, YU.I., LYSKOV, B.A.

COUNTRY OF INFO--USSR

SOURCE--SBORNIK TRUDOV SEVERNOGO NAUCHNO-ISSLEDOVATEL'SKOGO INSTITUTA

REFERENCE--REFERATIVNYY ZHURNAL, VODNYY TRANDPORT, NO 3, 1970 ABSTRACT NO

DATE PUBLISHED--------70

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

TOPIC TAGS--MATERIAL HANDLING EQUIPMENT, PACKAGING MACHINERY/(U)RPS2 MATERIAL HANDLING EQUIPMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/0013 STEP NO--UR/0000/70/000/001/0230/0236

CIRC ACCESSION NO--AR0129313

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

2/2 007 UNCLASSIFIED

CIRC ACCESSION NO--AR0129313 PROCESSING DATE--27NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DESIGN OF THE RFS 2 MACHINE IS DESCRIBED, AND ITS TECHNICAL CHARACTERIZATION IS GIVEN.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR

UDC 534-8

VAL'KOV, Yu. V., ACHILOV, M. F., KHODZHAYEV, S. A., KHALIULIN, M. G., ZABIBULLAYEV, P. K.

"Concerning the Application of Diffraction Methods to the Study of Acoustical Properties of Liquids"

Uch. zap. Tashkent. gos. ped. in-t (Scientific Notes of Tashkent State Pedagogical Institute), 1971, Vol. 90, pp 24-28 (from RZh-Fizika, No 10, Oct 72, Abstract No 10Zh608)

Translation: Using the phenomenon of Bragg diffraction of light on acoustical waves, the authors conducted experimental studies on the rate of propagation v and absorption α of acoustical waves in distilled water over a wide frequency range (10-800 MHz). Acoustical waves were excited in the range 10-700 MHz using a quartz plate oscillating at odd harmonics and in the range 200-1000 MHz using a $LiNbO_3$ crystal in a coaxial resonator. The light source was a He-Ne gas laser. The following relationships were studied: $v = \phi(t°C)$ in the temperature range 10-90°C, $v = \phi(f)$ and $\alpha = \phi(f)$ in the frequency range 10-800 MHz at a temperature of 22°C. V. Semenov.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

JPRS 57808
6-73

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VIII-10. GROWTH OF SINGLE CRYSTALS OF SOME SEMICONDUCTOR COMPOUNDS WITH SPINDLE STRUCTURE

[Article by S. I Radautsan, M. I. Val'kovskaya, K. P. Sharban, V. F. Tezlevan, Institute of Applied Physics of the Moldavian SSSR Academy of Sciences, Kishinev; Novosibirsk, III Simpozium po Protsessam Rosta i Sinteza Poluprovodnikovykh Kristallov i Plenok, Russian, 12-17 June 1972, p 112]

The majority of semiconductor compounds with spindle structure are characterized by a high melting point. Therefore, in order to grow single crystals of certain compounds in this group, In_2S_3, $CdIn_2S_4$, $CuIn_5S_3$, $AgIn_5S_3$ and also solid solutions based on them, the method of chemical transport reactions was used.

A study was made of the most probable reactions promoting transport of alloys of different composition. The study of the transport kinetics of the compounds permitted discovery of the optimal growth conditions of the crystals. Single crystals grown by the method of chemical transport reactions basically have octahedral faceting. The Laue diffraction patterns and epigrams demonstrated that repeatedly growing facets have the [111] direction and are G-type facets. The crystal habit reaches 15×10×10 mm^3 as a result of a special procedure permitting reduction of the number of crystallization centers to a minimum.

The large crystals of the indicated compounds were obtained by the method of zone recrystallization. Technological conditions were developed for which the synthesis of the material and growth of single crystals were combined in one cycle. In the specimens obtained, a study was made of the effect of the etching agents. The selective etching agents permitted discovery of the dislocation picture formed around the impressions and scratches. Studies were also made of some physical properties of the named compounds.

VAL'KOVSKAYA, M. I.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

Single Crystals

USSR UDC: 546.681'181.1:548.55

VAL'KOVSKAYA, M. I., Institute of Applied Chemistry, Academy of Sciences, Moldavian SSR

"Characteristics of Plastic Deformation of Face (111) in Gallium Phosphide Single Crystals"

Moscow, Neorganicheskiye Materialy, Vol 6, No 2, Feb 70, pp 375-376

Abstract: In GaP single crystals, as in other $A^{III}B^{V}$-type compounds, the manifested polarity of the zinc blende-type structure is responsible for the difference in dissolution rate of faces (111) and ($\overline{111}$) and results in the formation of dislocation cavities. A hot etching solution consisting of 80% ethylalcohol and 20% bromine exposes cavities in both faces. It has been shown earlier that cavities on faces (111) are not the results of dislocation lines. It is therefore of interest to determine the nature of the cavities which appear with this etching solution on the face ($\overline{111}$). It was established that the cavities on face ($\overline{111}$) reflect linear defects which run toward the depth of the crystal. The fact that this etching solution exposed dislocation etching cavities confirmed earlier observations of etching patterns which had appeared around imprints and scratches

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

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VAL'KOVSKAYA, M. I., Neorganicheskiye Materialy, Vol 6, No 2, Feb 70, pp 375-376

along directions $\langle 11\bar{2} \rangle$. These directions appear to be the sites of the polarity in the mechanical properties and are therefore essential to this face. The specimens were strained at room temperature and then annealed at 550°C for 3 hours, cooled and etched. This technique was used for the face (111) of GaP. The results of the effects of annealing on the imprints and scratches were then examined. The same was applied along direction (112), indicating polarity. The experimental results show no differences in dislocation distribution between various directions.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

1/2 026 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--PLASTIC DEFORMATION OF THE (111) FACE OF GALLIUM PHOSPHIDE SINGLE CRYSTALS -U-

AUTHOR--VALKOVSKAYA, M.I.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(2) 375-6

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, CHEMISTRY

TOPIC TAGS--SINGLE CRYSTAL, ETCHED CRYSTAL, PLASTIC DEFORMATION, GALLIUM COMPOUND, PHOSPHIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0548 STEP NO--UR/0363/70/006/002/0375/0376

CIRC ACCESSION NO--AP0105533

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

2/2 026 UNCLASSIFIED

CIRC ACCESSION NO--AP0105533 PROCESSING DATE--18SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ETCH PITS FORMED ON THE (111) FACE OF GAP CRYSTALS WERE STUDIED BY ETCHING THE FACES WITH A HOT SOLN. CONSISTING OF 80PERCENT ETOH AND 20PERCENT BR. THE SAMPLES WERE DEFORMED AT ROOM TEMP., WHEREUPON THEY WERE ANNEALED AT 550DEGREES FOR 3 HR, THEN COOLED AND ETCHED. AN EFFECT WAS OBSD. AS A RESULT OF ANNEALING ON THE SHAPE AND IMPRESSIONS ON THE (111), FACE THAT WAS NOT OBSD. ON THE (111) FACE. NEW CRACKS FOLLOWING THE (110), (101), AND (011) DIRECTIONS WERE OBSD. ON THE (111) FACE. ETCH PITS ON THE (111) FACE REPRESENT LINEAR DEFECTS WHICH GO DEEP INSIDE THE CRYSTAL. WHEN DETG. THE DIRECTIONS ALONG WHICH THE DISLOCATION LOOPS WERE LOCATED, IT WAS TAKEN INTO CONSIDERATION THAT THE SCRATCHING WAS DONE ALONG THE (112) AND (112) DIRECTIONS, I.E. ALONGSIDE THE EDGES OF THE DISLOCATION ETCH PIT; FURTHER, THE ETCH PITS HAD THE SHAPE OF TRIANGULAR PYRAMINDS, THE SIDES OF THE TRIANGULAR BASES OF WHICH WERE PARALLEL TO THE MEAN VALUE OF (110) DIRECTIONS.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR

VAL'KOVSKIY, V. A.

"Global Desequencing of Programs"

Sistemnoye i Teor. Programmirovaniye [Systems and Theoretical Programming -- Collection of Works], Novosibirsk, 1972, pp 312-333 (Translated from Referativnyy Zhurnal Kibernetika, No 6, 1973, Abstract No 6V663, by the author).

Translation: A class of desequencing algorithms is studied, containing an algorithm described in earlier works by the author as an element.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR

UDC 8.74

VAL'KOVSKIY, V. A.

"A Method of Desequencing Operator Circuits"

V sb. Teoriya yazykov i metody postroyeniya sistem programmir. (Language Theory and Methods of Constructing Programming Systems--collection of works), Kiev-Alushta, 1972, pp 71-81 (from RZh-Kibernetika, No 12, Dec 72, Abstract No 12V432)

Translation: A method is proposed for solving the following problem. There is a universum comprising objects of an arbitrary nature which can be found in two states: operating and nonoperating. These objects function absolutely randomly by random successive transfers from one state to another independently of each other and random information exchange. When fixing some fragment of this process the fragment is represented by a sequence of executions ordered in time. It is necessary to transform the defined control law for the functioning of the universum into another law of a natural nature retaining the result but permitting greater possibilities in selecting the specific order of execution of the objects of the universum. The information structure comprising the finite number of uninterpreted operators and an information graph the arrows of which simulate the information links and combine certain outputs of certain operators of the structure with certain inputs of the operators, is assumed as the formal expression of the universums. The bibliography has 11 entries.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR

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

VALKYAVICHYUS, R. A., KROTKUS, A. I., and REPSHAS, K. K.

"Transverse Magnetoresistance in n-Ge in Strong Electric Fields"

Lit. fiz. sb. (Collection of Lithuanian Works on Physics), 1971, 11, No 2, pp 247-252 (summaries in Lithuanian and English) (from RZh-Fizika, No 10, Oct 71, Abstract No 10YE734 by authors)

Translation: The authors present and explain theoretically the experimental results of a study of transverse magnetoresistance of n-type Ge as a function of electric field intensity at the temperature of liquid nitrogen in the case in which $j \parallel \langle 111 \rangle$ and the magnetic field is perpendicular to the (110) plane of the specimen.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

1/2 011 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--DEPENDENCE OF THE S MATRIX ASYMPTOTICAL PROPERTIES IN THE ANGULAR MOMENTUM PLANE UPON THE REGGE POLES DISTRIBUTION IN NONRELATIVISTIC

AUTHOR--VALL, A.N.

COUNTRY OF INFO--USSR

SOURCE--TEORETICHESKAYA I MATEMATICHESKAYA FIZIKA, 1970, VOL 3, NR 1, PP 94-99

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--SCATTERING AMPLITUDE, S MATRIX, ASYMPTOTIC PROPERTY, REGGE POLE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/1016 STEP NO--UR/0646/70/003/001/0094/0099

CIRC ACCESSION NO--AP0130051

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

2/2 011

UNCLASSIFIED

CIRC ACCESSION NO--AP0130051 PROCESSING DATE--13NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ASYMPTOTICAL PROPERTIES OF THE SCATTERING PHASE IN THE LEFT SEMIPLANE OF ANGULAR MOMENTUM ARE INVESTIGATED FOR THE NONRELATIVISTIC CASE. THE DISTRIBUTION OF REGGE POLES IS CONSIDERED AS GIVEN. THE FUNCTION CLASS DESCRIBING THIS DISTRIBUTION IS CHOSEN WITH THE AID OF ANALYSIS OF BORN TERMS AND SOLUBLE MODELS. IT IS SHOWN FOR THE CLASS CHOSEN THAT THE SCATTERING PHASE IN THE LEFT SEMIPLANE OF COMPLEX ANGULAR MOMENTUM INCREASES FASTER THAN ANY POLYNOMIAL. FACILITY: INSTITUT MATEMATIKI SIBIRSKOGO OTDELENIYA AKADEMII NAUK SSSR.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR

VALLANDER, S. S.

"Weak Convergence of Certain Probability Distribution Sequences"

Vestn. Leningr. Un-ta. [Leningrad University Herald], 1972, No 13, pp 21-31 (Translated from Referativnyy Zhurnal, Kibernetika, No 1, 1973, Abstract No 1 V26 by the author).

Translation: Let μ be the distribution of probabilities in $[0, +\infty)$, ξ, η be independent random quantities, the distribution of each of which is μ. Then $P\mu$ is defined as the distribution of random quantity $|\xi - \eta|$. This work proves the weak convergence of sequence $\{pk_\mu\}$ for certain classes of distributions μ.

Theorem 1 relates to reticular distributions, concentrated at a finite number of points. Theorem 2 relates to reticular distributions acting at infinity in a certain sense like a geometric progression. One condition of this type, not the most general, is the existence of a limit

$$\lim_{n\to\infty} \frac{\mu([n, +\infty))}{\mu([n+1, +\infty))}$$

(certain technical conditions are also necessary).

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VALLANDER, S. S., Vestn. Leningr. Un-ta., 1972, No 13, pp 21-31.

The rest of the work presents a more general and more cumbersome formulation. An analog of theorem 2 is also formulated for absolutely continuous distributions -- theorem 3.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR

UDC: 532.5

VALLANDER, S. V. (editor)

"Aerodynamics of Rarefied Gases. Collection 5"

Aerodinamika razrezhennykh gazov. Sb. 5 (cf. English above), Leningrad, Leningrad University, 1970, 171 pp, ill. 1 r. 11 k. (from RZh-Aviatsionnyye i raketnyye dvigateli, No 3, Mar 71, Abstract No 3.34.147 K)

Translation: This collection of works of the Sci-Res Inst of Math and Mechanics, Leningrad State University, on the aerodynamics of rarefied gases deals with topics such as general problems of the kinetic theory of gases, problems relating to the study of kinetic equations and their solution, aerodynamic problems in the near-free molecular state, and problems of rarefied plasma. Numerical computations are given for a number of specific problems along with a study of theoretical models. The collection is written for engineers, scientific workers, and for graduate and undergraduate students interested in problems of the aerodynamics of rarefied gases, their development and application. Resumé.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR UDC 621.382.2:621.317.799

VALOV, A.N., GLAVNOV, V.N., TRUNOV, YU.A.

"Measurement Of Temporal Parameters Of High-Speed Diodes"

Sb.nauch. tr. po probl. mikroelektron. Mosk. in-t elektron-tekhn. (Collection Of Scientific Works On Problems Of Microelectronics. Moscow Institute Of Electronics Technology), 1971, Issue 7, pp 86-102 (from RZh:Elektronika i yeye primeneniye, No 5, May 1972, Abstract No 5B477)

No abstract.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR

UDC 577.391+575.1+633.15:575.1

VALODZIN, U. G., GARDZEY, I. A., and GARDZEY, H. M.

"Postradiation Restoration of Primary Cytogenetic Injuries and the Radioresistance of Plants"

Minsk, Izvestiya Akademii nauk BSSR, Seriya Biologicheskikh Nauk, No 3, 1970, pp 73-79

Translation: The study deals with the dynamics of changes in chromosome abberations of a high-heterosis corn hybrid Minskiy-1 and its original parent forms. The most intensive reduction in the number of cells with chromosome aberrations was observed at the end of the first mitotic cycle. This indicates the presence of more pronounced reparative processes. It is suggested that one reason for the increased radioresistance of heterosis hybrids is their capacity for more intensive restoration of cytogenetic damage.

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USSR

UDC 577.391+575.1+633.15: 575.1

VALODZIN, U. H., GARDZEY, I. A., and GARDZEY, H. M., Institute of Genetics and Cytology, Academy of Sciences Belorussian SSR

"Postradiation Recovery of Primary Cytogenetic Damage and Radioresistance of Plants"

Minsk, Izvestiya Akademii Nauk BSSR, Seriya Biologicheskikh Nauk, No 3, 1970, pp 73-79

Abstract: Dynamics of changes in chromosomal aberrations in cells of the high-heterosis corn hybrid Minskiy-1 and its original parental forms were studied. It is shown that a more intensive decrease in the quantity of cells with chromosomal aberrations is observed in the hybrid at the end of the first mitotic cycle. This indicates the presence of more pronounced reparative processes. It is assumed that one of the causes of the increased radioresistance of heterosis hybrids is their capacity for more intensive recovery from cytogenetic damage.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR

UDC 621.762.2.001

FISHMAN, B. D., SILAYEV, A. F., and VALOV, M. Ye., Siberian Institute of Metallurgy imeni S. Ordzhonikidze, All-Union Institute of Aviation Materials

"Effect of Physical Properties of Metal Melts on Spheroidization of Drops in the Process of Their Crystallization"

Kiev, Poroshkovaya Metallurgiya, No 2 (122), Feb 73, pp 5-8

Abstract: The conditions for the formation of particles of spherical form, when diffusing melts by compressed air, are discussed. A brief analysis is made of existing theories and available practical data of relations between volumetric, thermophysical, and surface properties of substances. To estimate the capacity for spheroidization, it is suggested that a comparison be made between simple substances by the magnitude of the ratio of surface energy and the product of atomic volume and temperature conductivity values. Methods are given for the determination of the spheroidization capacity of particles for binary systems with unlimited mutual solubility, for binary systems containing chemical compounds, and for ternary systems. Three figures, eight formulas, thirteen bibliographic references.

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USSR

UDC 621.315.592

AGAFONOV, B. G., VALOV, P. M., RYVKIN, B. S., YAROSHETSKIY, I. D., Physico-technical Institute imeni A. S. Ioffe of the USSR Academy of Sciences, Leningrad

"Photon Drag of Electrons in the Presence of Intraband Light Absorption by Free Current Carriers in $A^{III}B^{V}$ Semiconductors"

Leningrad, Fizika i Tekhnika Poluprovodnikov, Vol 6, No 5, 1972, pp 909-914

Abstract: A study was previously made of the drag effect as applied to IV type semiconductors where the scattering of the carriers is determined by acoustic, nonpolar optical phonons and ionized impurity centers [A. M. Danishevskiy, et al., ZhETF, No 58, 544, 1970; A. A. Grinberg, ZhETF, No 58, 989, 1970]. Now an experimental and theoretical study has been made of the photon drag of electrons in $A^{III}B^{V}$ semiconductors where the scattering of the carriers on the polar optical phonons is the defining factor. The effect was recorded by means of a CO_2 laser (λ = 10.6 microns) using n-type InAs of various concentrations. A drag current caused by intraband transitions was detected experimentally. In accordance with the theoretical analysis, the electrons were dragged by the light. The corresponding temperature functions are presented for an electron concentration of $n = 1.6 \cdot 10^{16} cm^{-3}$ with consideration of three currents:

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AGAFONOV, B. G., et al., Fizika i Teknika Poluprovodnikov, Vol 6, No 5, 1972, pp 909-914

a) the current connected with absorption with the participation of polar optical phonons, b) the current connected with absorption in the presence of acoustic phonons and c) the current connected with absorption in the presence of admixture centers. The current connected with light absorption in the optical phonon section is predominate in the sample with the concentration $n = 1.6 \cdot 10^{16} cm^{-3}$. The theoretical and experimental curves (considering absorption) are also presented for a concentration of $1.8 \cdot 10^{17} cm^{-3}$. In this case the "cold" electron current can be neglected and the absorption coefficient with the participation of charged impurities can be considered independent of temperature. For this concentration the "admixture" drag current must become comparable with the "optical" current, and the rise of the theoretical curves with a decrease in temperature is connected with both of these currents.

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USSR

VALOV, P.M., DANISHEVSKIY, A.M., KASTAL'SKIY, A.A., RYVKIN, B.S., RYVKIN, S.M., YAROSHETSKIY, I.D., Physicotechnical Institute imeni A.F. Ioffe, Academy of Sciences, USSR; Institute of Semiconductors, Academy of Sciences, USSR

"Photon Drag of Electrons During Intraband Light Absorption by Free Current Carriers in Semiconductors"

Moscow, Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, No 12, 1970, pp 1919-1925

Abstract: Photon drag of electrons during indirect intraband absorption of light in semiconductors has been detected experimentally. This effect is due to an asymmetry of the distribution function originating as a result of the momentum of the incident photon flux. The effect was recorded during the absorption of radiation from a CO_2 laser in electronic germanium. The experimental results are in satisfactory agreement with the theory developed in a cited source. 2 figures, 9 bibliographic entries.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR

UDC 51

YEREMENKO, B. A., VALOVOY, R. N., YARMILKO, V. C., TAVARTKILADZE, YA. N., GAKHARIYA, K. T.

"Control Algorithms for the Diffusion Process of Sugar Beet Production"

V sb. Prom. kibernetika, (Industrial Cybernetics -- collection of works), Kiev, 1971, pp 256-260 (from RZh-Kibernetika, No 9, Sep 72, Abstract No 9V551)

No Abstract

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR

UDC 616.986.7-036.2(571.1)

MEFOD'YEV, V. V. and VALOVA, G. P., Tyumen' Institute of Regional Infectious Pathology

"Motivating Factors in Leptospirosis Epidemics in Western Siberia: a Review of the Literature"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 10, 1972, pp 87-91

Abstract: Natural foci of leptospirosis embrace the tundra, forest-tundra, forest, forest-steppe, steppe, and Altay-Sayany mountain zones of Western Siberia where rodents are the main carriers of the pathogen, and most epidemics have originated. However, the situation changed during the last 10 years because of the mechanization of agriculture, development of livestock raising, and rapid industrialization. Numerous outbreaks have occurred among the inhabitants of new cities and settlements chiefly as a result of drinking or swimming in the water of small rivers and ponds contaminated by the excretions of infected cattle. The article includes two tables, one showing the etiological structure of leptospirosis among farm animals (by landscape zone, animal species, and leading serotypes isolated) and the other showing the immunological structure of the local population (by landscape zone, leading serotypes isolated, and number of positives in the agglutination-lysis test).

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1/2 024 UNCLASSIFIED

TITLE--ANALYSIS OF THE GORSKII BRAGG WILLIAMS MODEL. I. TRANSITION ORDER. PHASE ABILITY BOUNDARIES -U-

PROCESSING DATE--30OCT70

AUTHOR-(02)-PASKAL, YU.I., VALOVSKAYA, L.I.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., FIZ. 1970, 13(1), 101-7

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--PHASE TRANSITION, PHASE EQUILIBRIUM, CRYSTAL STRUCTURE, STOICHIOMETRY

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STEP NO--UR/0139/70/013/001/0101/0107

CIRC ACCESSION NO--AT0112079

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

2/2 024 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AT0112079

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN EXPRESSION WAS DERIVED FOR THE EQUIL. OF ORDERED PHASES OF VARIOUS TYPES OF SUPERSTRUCTURE. THE TITLE MODEL WAS ANALYZED BY USING THIS EXPRESSION AND BY CONSIDERING ORDER DISORDER TRANSITIONS. THE BOUNDARIES OF ORDERED AND DISORDERED STATES WERE DETD. FOR SUPERSTRUCTURES OF EQUIAT. STOICHIOMETRY. THEY COINCIDE WITH A 2ND ORDER TRANSITION CURVE. FACILITY: SIB. FIZ.-TEKH. INST. IM. KUZNETSOVA, TOMSK, USSR.

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR

UDC 681.325.65

VAL'SKIY, B. G., KNYUPFER, A. P., SOLOPCHENKO, G. N.

"A Device for Automatically Measuring the Statistical Characteristics of Random Errors of Analog-Digital Converters"

USSR Author's Certificate No 319065, Division H, G, filed 8 Jun 70, published 25 Jan 72 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 11, Nov 72, abstract No 11B329 P)

Translation: This invention, which applies to the field of measurement technology, is designed for measuring the integral distribution function of analog-digital voltage-to-code converters and digital voltmeters for practically any ratios between the mean square deviation of the error and a unit in the least significant place of the instrument code. A device is known for automatically measuring the statistical characteristics of random errors of analog-digital voltage-to-code converters which contains the instrument to be studied, a control device, and an arithmetic unit. However, this device can be used to determine the statistical characteristics of random errors only for the case in which the noise level at the input to the instrument is greater than its digital error. The purpose of the invention is to enable measurement of the integral distribution function of random

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR

VAL'SKIY, B. G., et al., USSR Author's Certificate No 319065

errors in analog-digital voltage-to-code converters. In order to achieve this, a master code-to-voltage converter, digital reset device, and digital comparison circuit are added to the installation. The input of the instrument to be studied is connected to the output of the master code-to-voltage converter, and the counting input of this converter is connected to the output of the control device. The separate inputs are connected to the outputs of the digital reset device and to one of the inputs of the digital comparison circuit. The other input of the comparison circuit is connected to the digital outputs of the instrument to be studied, and the output is connected to the arithmetic unit.

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USSR

UDC 621.793.3:669.245'28'781

VAL'SYUNENE, YA. I., PROKOPCHIK, A. YU., KIMTENE, D. P., and VILUTENE, V. A.

"Preparation of Tri-Component Ni Coatings by Chemical Methods"

Kaunas, Tr. AN LitSSR (Works of the Academy of Sciences LitSSR), No 2(69), Series B, 1972, pp 3-16 (from Referativnyy Zhurnal -- Khimiya, No21(II), 1972, Abstract No 21L313 by E. Z. Napukh)

Translation: Conditions for the chemical deposits of coatings and some physical and mechanical properties of Ni-B alloys containing Mo, W, Fe, and Re are discussed. Alloys under consideration can be deposited under industrial conditions from alkaline solutions containing Ni^{2+}, reducer $NaBH_4$, stabilizer $K_2S_2O_5$, ethylenediamine (individually or mixed with tartarates), and Na_2MoO_4, K_2WO_4, $NaReO_4$, or $FeSO_4$ salts, depending on the alloy composition. The concentration of Re in individual alloy reached 20 weight %, Mo 7 weight %, W 9 weight %, Fe 60 weight %. The concentration of B in all cases was from 3 to 7 weight %. All alloys were semilustrous, with low porosity, and their microhardness after thermal treatment was within 1050-1500 kg/mm^2. All of them were nonmagnetic, with the exception of Ni-Fe-B alloy.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR

BEKHTEREVA, N. P., Director, Institute of Experimental Medicine, Corresponding Member, Academy of Sciences, USSR, PRIBRAM, K., Stanford University, WALTER, G., Burden Neurological Institute, Bristol, and MANUCHAROVA, Ye.

"On the Eve of Discovery"

Moscow, Nedelya, No 29, 17-23 Jul 72, p 8

Abstract: The human brain is a product of its environment. It is preeminently social. The frontal lobes of the brain, where planning and decision-making functions are performed, are well-developed in humans, but poorly developed in animals. Experiments on animals' higher mental activities and on herd animals may be more analogous to human brain functions. Two questions are presented: How has the complexity of the human brain, largely unexercised, been maintained for centuries? Will the brain continue to be able to cope with the increasing loads required of it? That the brain exercises many unneeded systems when it confronts the unknown is one hypothesis for the preservation of its complexity.

The brain has many codes, comparable to the various IBM machine languages. These codes may be different for each individual. Sensory perceptions and motor functions may operate on the principle of a hologram. An electrical signal, generated by input such as an overheard word, sets up a biochemical

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USSR

BEKHTEREVA, N. P., et al., Nedelya, No 29, 17-23 Jul 72, p 8

reaction in the brain. This signal is specific for each word. A signal can be transmitted to the brain which generates a specific mental image. This signal will be the brain's code for the word described by the generated mental image.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR

UDC 547.766:543.422.4

VALTER, R. E., Riga Polytechnic Institute, Riga

"Ring-Chain Transformations With the Participation of a C=N Group. II. 2-Substituted 3-Alkylamino- 3-Arylamino-3-phenylisoindolinones"

Riga, Khimiya Geterotsiklicheskikh Soyedineniy, No 6, Jun 73, pp 762-766

Abstract: In the reaction of 2-R^1-3-chloro-3-phenylisoindolinones with primary amines R^2NH_2 in dioxane solutions in the presence of NEt_3, the nucleophilic agent, depending on the structure of R^1 and R^2, attacked predominantly the 1-C or 3-C atom (the C=O or C-Cl group) of the isoindolinone molecule with the formation of 2-R'-3-amino-3-phenylisoindolinones or substituted imines of 2-benzoylbenzamides. On prolonged boiling with NEt_3 in EtOH, products of the latter type underwent cyclization to 2-R^2-3-amino-3-phenylisoindolinones with R^1 in the 3-amino group. The constitution of the synthesized 2-substituted 3-alkylamino- and 3-arylamino-3-phenylisoindolinones was established by IR spectroscopy and acid hydrolysis to 2-substituted 3-hydroxy-3-phenylisoindolinones.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR

UDC 547.298:547.665 + 547.745

VALTER, R. E., Riga Polytechnical Institute, Riga, Latvian Sovnarkhoz

"Ring-Chain Transformations Involving the Carbonyl Group. V. N,N-Dialkylhydrazides of (2-phenylindandione-1,3-yl-2)-acetic acid"

Riga, Izvestiya Akademii Nauk Latviyskoy SSR, Seriya Khimicheskaya, No 2, 1970, pp 223-228

Abstract: It was determined that the reaction of (2-phenylindandion-1,3-yl-2)-acetyl chloride with N,N-dialkylhydrazines yields either N,N-dialkylhydrazides of (2-phenylindandion-1,3-yl-2)-acetic acid (I) or their mixtures with 1-dialkylamino-2,3-(CO)-benzoylene-2-hydroxy-3-phenylpyrrolidones-5. When alcohol solutions of N,N-dialkylhydrazides are refluxed, they isomerize to 1-dialkylamino-2,3-(CO)-benzoylene-2-hydroxy-3-phenylpyrrolidones-5 (II), which upon heating to their melting point undergo reisomerization to the original material. Data from IR and UV spectroscopic analysis suggest that protonation of the dialkylamino group in (II) leads to the opening of the hydroxypyrrolidone ring as well as to the formation of a protonated form (chlorohydrate) of N,N-dialkylhydrazide of (I). This may be due to the action of a strong negative induction effect of the -NHNR' group.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR

UDC 669.141.241.2:621.746.5

BURDONOV, B. A., ANOKHINA, A. I., RYZHKOV, V. P., VAL'TER, V. A., and BRONFENMAKHER, A. M., Kazakh Metallurgical Plant

"The Quality of Small Ingots of Killed Steel"

Moscow, Metallurg, No 12, Dec 70, pp 17-19

Abstract: The optimum consumption of aluminum (300-400 g/ton) for the deoxidation of St.3 and St.6 steels poured to small ingots was determined. With an aluminum consumption of 300-400 g/ton and a pouring rate of 0.4 m/min or less, cracks do not generate and hairline cracks are not observed on the final rolled metal. An increase in the number of deoxidizers in the foundry ladle results in a greater concentration of oxide impurities. A linear dependence was established between the depth of the shrink hole and the bailing period. The possibility of using calcium carbide for desulfurization of steel in the ladle is demonstrated.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR

UDC: 681.32.001

VALTERIS, S. E., GERTNERIS, P. Kh.

"Calculating the Threshold Recording Level in Magnetic Storage Elements"

Techn. kibernetika, Tekhn. kibernetika (Technical Cybernetics), Kaunas, 1970, pp 318-321 (from RZh-Avtomatika, Telemekhanika i vychislitelnaya tekhnika, No 9, Sep 70, Abstract No 9B216)

Translation: An analytical relation is derived for the stored induction level in a magnetic storage element as a function of the parameters of the stored pulses, the recording circuit, and the magnetic core. The probability that the stored induction level will be within the range insuring a constant number of stored pulses is determined. The bibliography has two entries.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420018-9

USSR

UDC: 681.32.001

ANDRUSHKYAVICHUS, R. R., VALTERIS, S. E., GERTNERIS, I. Kh.

"Some Problems of Analyzing the Magnetic Elements of Computers"

Techn. kibernetika, Tekhn. kibernetika (Technical Cybernetics), Kaunas, 1970, pp 311-317 (from RZh-Avtomatika, Telemekhanika i vychislitelnaya tekhnika, No 9, Sep 70, Abstract No 9B214)

Translation: This article contains an investigation of the dynamic state equations of a magnetic core with a rectangular hysteresis loop taking into consideration the process of pulsed magnetic reversal of the magnetic cores. The results from numerical calculations on a digital computer are presented. There are three illustrations and a three-entry bibliography.

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