"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

URINSON, P.S.

Typological Spaces

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JPRS 54563
24 Nov 71

NEW BOOKS OF 'NAUKA' PUBLISHING HOUSE

[List; Moscow, Vestnik Akademii Nauk, Russian, Vol 41, No 9, September 1971, pp 140-142]

Physical, Mathematical, and Technical Sciences

Avtomatizatsiya nauchnykh issledovaniy v mashinostroenii i priborostroenii (Automation of Scientific Investigations in Machine-Building and Instrument-Making). Collection of Articles. Institute of Machine Studies. Moscow, 1971, 272 pages, 3200 copies, 1 r 02 k.

Adaptivnye sistemy. Bol'shie sistemy (Adaptive Systems. Complex Systems). Collection. Institute of Problems of Control (Automatin and Telemechanics). Moscow, 1971, 534 pages with ill., 3750 copies, 2 r 99 k.

1305645

P. S. Aleksandrov and P. S. Urinson. Memuar o kompaktnykh tipologicheskikh prostranstvakh (Memoir on Compact Typological Spaces). Moscow, 1971, 144 pages, 9900 copies, 7 k.

K. N. Belkin. Izobrazhenia prostranstvennykh figur (Images of Spatial Figures). Moscow, 1971, 99 pages, 10,000 copies, 12 k.

1011429

I. M. Gel'fand, Ya. G. Glagoleva, and A. A. Kirillov. Metod koordinat (The Method of Coordinates). Moscow, 1971, 85 pages with ill., 200,000 copies, 15 k.

6507083

E. M. Gel'fman. Statisticheskie modeli interpretatsii (Statistical Models of Interpretation). Moscow, 1971, [illegible] pages, 7000 copies, 1 r 3[illegible] k.

6502001

N. N. Malakhovskiy. Magnitnye shumy (Magnetic Noises). Moscow, 1971, 110 pages with ill., 5[illegible] copies, 43 k.

A. N. Nalimov. Orientirovannye graf[illegible] i [illegible] avtomat. Teoreticheskie osnovy tekhnicheskoy kibernetiki (Oriented

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

USSR

UDC 532.516

GONCHARENKO, B. N., URINTSEV, A. L.

"Stability of Motion of Liquid Caused by Thermocapillary Forces"

Zhurnal Prikladnoy Mekhaniki i Tekhnicheskoy Fiziki, No 6, 1971, pp 94-98.

ABSTRACT: The problem is studied of the stability of the plane parallel flow of a viscous fluid in a layer with a free boundary under weightless conditions. The motion of the fluid results from the dependence of surface tension on temperature. The precise solution for an unperturbed boundary is produced by the same method used in an earlier work, but with a more general boundary condition for temperature. The study of stability is performed by the method of slight oscillations, considering perturbation of the free boundary. The asymptotes of long waves and low Reynolds numbers are studied, and instability conditions determined.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

Acc. Nr: AP0034679

PRIMARY SOURCE: Antibiotiki, 1970, Vol 15, Nr 2, pp 140-144 Ref. Code: UR 0297

PRIMARY ASSESSMENT OF ANTITUMOROUS ACTIVITY OF SOME FRACTIONS ISOLATED FROM THE CELLS OF STRIGOMONAS ONCOPELTI

Sukhareva-Nemakova, N. N.; Silayev, A. B.; Katrukha, G. S.; Zeleneva, R. N.; Urinyuk, V.M.

Moscow State University

The study of the effect of fractions isolated from the cells of Strigomonas oncopelti on sarcoma-180 revealed that the cellular homogenate stimulates the growth of this tumor, the amino-acid fraction inhibiths it, the peptide fraction is inactive, the total lipid fraction inhibits the growth of sarcoma-180 at early periods of tumor development and causes stimulation in a more prolonged introduction, the lipid fraction devoid of sterines and their esters is not endowed with a stimulating action, both at early and late periods of tumor development, microsomal-mitochondrial fraction possesses a significant antitumorous activity; the removal of lipids by the extraction of this fraction with a chloroform-methanol mixture leads to a loss of its antitumorous effect.

REEL/FRAME 19711384

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

USSR

UDC 547.75'821.07:541.69

URITSKAYA, M. Ya., LOGINOVA, V. A., and YAHONTOV, L. N., USSR Institute of Chemical-Pharmaceutical Scientific Research imeni S. Ordzhonikidze, Moscow

"Azaindole Derivatives XLIII: Synthesis of 1-acetyl-4-methyl-7-azatriptamines"

Riga, Akademiya Nauk Latviiskoy SSR, Himiya Geterotsiklicheskih Soedinenii, No 10, Oct 73, pp 1370-1373

Abstract: The synthesis of 1-acetyl-4-methyl-7-azatriptamine from the ethyl ester of (4-methyl-7-azaindolyl-3)acetic acid by way of the 2-(β-chloroethyl)-4-methyl-7-azaindole, followed by replacement of the halogen by a nitro group and reduction of the nitro group to the amine is shown. An alternate method is to remove the halogen by reacting 1-acetyl-3-(β-chloroethyl)-4-methyl-7-azaindole with ammonium hydroxide, potassium bis-(dimethylmethoxysilyl)amide and potassium phthalimide (followed by removal of the phthalimide protector). The IR spectrum was used to determine the final structure.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

USSR

UDC: 621.382.333.33.001.15

BELLAVIN, V. K., URITSKIY, V. Ya.

"On the Density of Surface States at the $Si-SiO_2$ Interface in MDS-Structures"

Moscow, Radiotekhnika i Elektronika, Vol 17, No 4, Apr 72, pp 889-890

Abstract: The paper presents the results of a study of the effect which heating MDS-structures has on the density of states localized at the $Si-SiO_2$ interface. The potential difference between the metal electrode and the silicon body is held constant. Phosphorus-doped n-silicon and boron-doped p-silicon specimens were studied. It was found that the density of states is not altered by heating without biasing or with positive biasing. The density of states close to the middle of the forbidden band is increased by heating with negative biasing. However, it was also found that cooling MDS-structures to 77°K brings about a reduction in the density of states close to the corresponding edge of the forbidden band.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

USSR

UDC 621.382.322

URITSKIY, V. Ya., TSVETKOV, V. V., YURCHENKO, Ye. P.

"To the Problem of Stability of Metal-Dielectric-Semiconductor Transistors"

Elektron. tekhnika. Nauch.-tekhn. sb. Mikroelektronika (Electronic Technology. Scientific-Technical Collection. Microelectronics), 1970, Issue 5(26), pp 154-156 (from RZh--Elektronika i yeye primeneniye, No 5, May 1971, Abstract No 5B159)

Translation: It is shown that the effect of migration of a negative charge on the outer surface of the oxide determines to a considerable degree the stability of a metal-dielectric-semiconductor transistor, giving rise to an increase of the residual current. However, with a specific construction of the MDS transistor, the migration of the negative charge does not affect the stability of these devices. Summary.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

USSR

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KAL'FA, A. A., URITSKIY, Z. I. (Ural State University)

"Behavior of Lower Exciton Levels in Strong Magnetic Fields"

Tomsk, Izvestiya Vysshikh Uchebnykh Zavedeniy, Fizika, February 1970, pp 7-11

Abstract: The behavior of exciton levels n = 2 and n = 3 in a strong magnetic field when the distance between the Coulomb levels is much greater than the distance between the Landau levels is studied. A comparison of the results obtained with data on magnetooptic absorption in Cu_2O is made. It is shown that the observed splitting of these levels can be explained as a consequence of the appearance of a Landau series over the Coulomb levels.

The article includes 9 equations. There are 10 references.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

1/2 020 UNCLASSIFIED

TITLE--BEHAVIOR OF LOWER EXCITON LEVELS IN STRONG MAGNETIC FIELDS -U-

PROCESSING DATE--30OCT70

AUTHOR-(02)-KALFA, A.A., URITSKIY, Z.L.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., FIZ. 1970, 13(2), 7-11

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--EXCITON, STRONG MAGNETIC FIELD, MAGNETOOPTIC EFFECT, COPPER OXIDE, LINE SPLITTING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/0900

STEP NO--UR/0139/70/013/002/0007/0011

CIRC ACCESSION NO--AT0112064

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

2/2 020

CIRC ACCESSION NO--AT0112064 UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE MAGNETOOPTICAL EFFECTS ON EXCITONS WERE STUDIED FOR THE COULOMB LEVELS N EQUALS 2 AND N EQUALS 3 FOR THE CONDITION THAT THE WIDTH BETWEEN THEEM IS GREATER THAN THE WIDTH BETWEEN THE LANDAU LEVELS. THE REASONS AND RULES FOR THEIR SPLITTING WERE CONSIDERED, AND THE THEORETICAL RESULTS WERE COMPARED WITH THE EXPTL. DATA FOR CU SUB2 O IN THE REGION OF THE YELLOW EXCITON SERIES (E. GROSS AND ZAKHARCHENYA, 1956). THE SPLITTING WHICH WAS OBSD. IN THESE LEVELS IS ATTRIBUTED TO THE APPEARANCE OF THE LANDAU SERIES ABOVE THE COULOMB LEVELS.

SVERDLOVSK, USSR. FACILITY: URAL. GOSUNOV. IM. GOR'KOGO,

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

USSR

UDC 616.21-057:797.22

SHAPARENKO, B. A., GULER, S. A., ZHURBA, A. N., and URKIN, A. A., Chair of Otorhinolaryngology, Donetsk Medical Institute, and Donetsk Department, Central Experimental Design Bureau for Special Equipment

"Functional State of the Otorhinolaryngological Organs in Aquanauts and Scuba Divers During the 'Ikhtiandr 68' Underwater Experiment"

Moscow, Vestnik Otorinolaringologii, No 6, Nov/Dec 70, p 93

Translation: Examination of the condition of the ear, nose, and throat of four aquanauts (group 1) and 13 scuba divers (group 2) who remained under water at a depth of 13 to 15 m for a long time under conditions of high pressure (2.2 atm), high humidity (92 to 96%), and decreases in temperature revealed that during the first 24 hours the first group of subjects had a "full and stuffy" feeling in the ears. No objective changes were noted in the otorhinolaryngological organs. On the next day they developed swelling and hyperemia of the mucosa of the upper respiratory tract, retraction and cloudiness of the tympanic membranes, and lowering of the barofunction of the middle ear to the second degree. On the 3rd day they exhibited signs of infiltration of the mucosa and lymphoid tissue of the respiratory tract, hyperemia of the tympanic membranes, hoarseness, and closure of the vocal

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

USSR

SHAPARENKO, B. A., et al, Vestnik Otorinolaringologii, No 6, Nov/Dec 70, p 93

chords. On the 4th day all members of the underwater laboratory showed inflammatory changes in the mucosa and lymphoid tissue of the upper respiratory tract, infiltration of Gerlach's tonsils, and early indications of eustachitis.

During their stay under water, the 13 scuba divers (group 2) experienced the same changes in the otorhinolaryngological organs as those in group 1. The changes were indistinct, and their condition returned to normal within 2 days after the men left the water. Increased time under water resulted in the development of incipient signs of catarrhal inflammation of the organs studied.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

USSR

URLAPOVA, M.N.

UDC 621.387.3

"Linear Gas-Discharge Indicator With Low-Voltage Control"

Dokl. nauchno-tekhn. konferentsii po itogam nauchno-issled. rabot za 1968-1969 gg. Mosk. energ. in-t, 1970 g. Sekts. Elektron.tekhniki. Podsekts. Prom. elektroniki (Report Of The Scientific-Technical Conference On The Results Of Scientific-Research Work During 1968-1969. Moscow Power Engineering Institute, 1970. Electronic Technology Section. Industrial Electronics Subsection), Moscow, 1969, pp 138-144 (from RZh--Elektronika i yeye primeneniye, No 6, June 1970, Abstract No 6A166)

Translation: The results are described of an investigation of the parameters of linear gas-discharge indicators with an auxiliary cathode, controlled by signals in several units of volts, which makes it possible to simplify considerable or even to eliminate the transistor control circuit. I.V.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

USSR

URLI, N.B., DESNITSA, U.V.

UDC 535.215.1

"Effect Of Thermal Treatment And Doping On The Photoconductivity And Characteristics Of p-n Junctions In Cadmium Telluride"

V sb. Probl. fiz. soyedineniy $A^{II}B^{VI}$. T. 1 (Problems Of The Physics Of $A^{II}B^{VI}$ Compounds. Vol. 1 -- Collection Of Works), Vil'nyus, 1972, pp 230-234 (from RZh:Elektronika i yeye primeneniye, No 11, Nov 1972, Abstract No 11B335)

Translation: The effect was studied of annealing in air for 45 min. at temperatures from 200 to 450° C on the dark conduction, photoconductivity, and photo emf of p-type CdTe with various initial resistivities (4. 10^3 and 100 ohm.cm). The dark conduction always decreases with the annealing temperature. The highest photoconductivity and photo emf was observed after annealing at 400° C for specimens with $\rho = 4.10^3$ ohm.cm and not above 250° C for specimens with $\rho = 100$ ohm cm. The rise time of the photocurrent is ~60 microsec, and the decay is 750 microsec. The results of the measurements show that very photosensitive and satisfactorily high-speed photoconductors were produced from CdTe by the method of thermal treatment in air. Surface-barrier photodiodes resistant to γ-irradiation are produced by diffusion of indium into p-type material and by deposition of gold in a vacuum. 3 ill. 7 ref. I.V.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

USSR

UDC 617.735-073.97:615.849.19

BOGOSLOVSKIY, A. I., URMAKHER, L. S., VOLKOVA, A. D., ZHDANOV, V. K., and SHAPIRO, Ye. I., Laboratory of Physiological Optics imeni S. V. Kravkov and Moscow Scientific Research Institute of Eye Diseases imeni Helmholtz

"The Laser Electroretinogram"

Moscow, Vestnik Oftal'mologii, No 2, 1973, pp 3-6

Abstract: By applying stimulation of the eye in tolerated doses with radiation at approximately 630nm emitted by a He-Ne laser of type LG-50, pure cone electroretinograms of rabbits and humans were obtained. The output power of the laser was 0.2 mwt and the power at the retina $\leq$ 0.15 mwt. Short stimuli with a duration of 0.02 or 0.4 sec and intervals of 1 min between them were applied. Under conditions of adaptation to a weak source of daylight (illumination at the eye approximately 3 lux), the electroretinograms were due solely to the bioelectric activity of the cones. Under conditions of dark adaptation, the rod apparatus of the retina began to participate in the reaction. Laser electroretinograms of humans were obtained for the first time in the work described. Experiments with ruby and Ar lasers are being conducted at present in an expanded stage of the investigation.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

USSR

URMAN, Yu. M., Gor'kiy State University imeni N. I. Lobacheskiy

UDC 531.383

"On Calculating the Force Characteristics of the Outer Spherical Suspension of a Cryogenic Gyroscope"

Leningrad, Izvestiya VUZov: Priborostroyeniye, Vol 16, No 8, 1973, pp 72-74

Abstract: A method is considered for calculating the forces and rigidities of the suspension of a cryogenic gyroscope in the case where the magnetic field of the suspension system is arbitrary in nature. The computational procedure simplifies the formulas for the forces and rigidities and can be used for extending the problem to the case of bodies with arbitrary permeability.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

USSR

VINOGRADOV, A. V., URNOV, A. M., and SHEVEL'KO, V. P., Physics Institute imeni P. N. Lebedev, USSR Academy of Sciences

"Distribution by Orbital Quantum Numbers of Highly-Excited Atoms, Forming by Collisions of Heavy Particles"

Moscow, Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 60, No 6, Jun 71, pp 2060-2065

Abstract: The formation of highly excited atoms as a result of atomic collisions is of interest in a number of problems in astrophysics and plasma physics. Since the energy spectrum of a highly excited atom is similar to that of hydrogen, it is especially important to investigate the processes that take place and lead to the formation of excited hydrogen atoms. The usual method of obtaining excited hydrogen atoms in laboratory plasma is the charge transfer of protons and the excitation of H atoms by collisions with various atomic targets.

In this article the authors find analytical expressions for the cross sections of formation of fast H atoms in the reactions $H^+ + A \rightarrow H(n\,l) + A^+$ and $H(1s)+A \rightarrow H(n\,l)+A$ (A is an arbitrary atom) that are valid when $n \gg 1$. Comparison with precise computations, using an argon target as an example, showed that these formulas may be used even when $n \geqslant 3$.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

USSR

VINOGRADOV, A. V., et al., Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 60, No 6, Jun 71, pp 2060-2065

As would be expected, hydrogen atoms form with the greatest probability in states with $\ell = 0, 1$.

Figures 1 and 2 show the cross section of charge transfer as a function of the principal quantum number and the orbital moment, respectively; Figures 3 and 4 show the cross sections of excitation of a hydrogen atom as a function of the principal quantum number of a finite state and the orbital moment of the finite state, respectively.

The article contains 4 figures and a bibliography of 11 titles.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

1/2 018 UNCLASSIFIED

TITLE--BORN CROSS SECTION FOR THE N, N PRIME TRANSITICT -U-

PROCESSING DATE--27NOV70

AUTHOR-(03)-BEYGMAN, I.L., URNOV, A.M., SHEVELKO, V.P.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL EKSPERIMENTAL'NOY I TEORETICHESKOY FIZIKI, 1970, VOL 58, NR 5, PP 1825-1829

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--HYDROGEN, ATOM, GREEN FUNCTION, ELECTRON TRANSITION, OXCILLATOR STRENGTH, CAPTURE CROSS SECTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/0015

STEP NO--UR/0056/70/058/005/1825/8129

CIRC ACCESSION NO--AP0127665

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

2/2 018

UNCLASSIFIED

CIRC ACCESSION NO--AP0127665

PROCESSING DATE--27NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN ANALYTIC EXPRESSION FOR THE TOTAL (WITH RESPECT TO L AND L PRIME) SQUARED BORN AMPLITUDE FOR THE N, N PRIME TRANSITION IS OBTAINED BY MEANS OF THE COULOMB GREEN'S FUNCTION. TTHE FORMULA CAN BE SIGNIFICANTLY SIMPLIFIED IN THE LIMITING CASES OF LARGE VALUES OF N AND N PRIME. AN EXPRESSION FOR THE TRANSITION CROSS SECTION IS OBTAINED AT HIGH ELECTRON ENERGIES WHICH IS SIMILAR TO THE KRAMERS APPROXIMATION FOR OSCILLATOR STRENGTH (1 IS MUCH LESS THAN DELTA N IS MUCH LESS THAN N).

FACILITY: FIZICHESKIY INSTITUT IM. P. N. LEBEDEVA, AN SSSR.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

USSR

UDC 621.762.001

ABARBANEL', Z. I., SAVITSKIY, S. Ye., URODOV, V. I., and SADOVNIKOV, YE G.

"Determination of the Spectrum of Particles of Fine Polydispersed Systems"

Tr. Vitebsk. tekhnol. in-ta legk. prom-sti [Works of the Vitebsk Technological Institute for Light Industry], 1, 1970, pp. 80-82, (Translated from Referativnyy Zhurnal-Metallurgiya, No. 1, 1971, Abstract No. 1G427 by V. KVIN).

Translation: A method and device have been developed for centrifugal photosedimentation analysis of polydispersed materials. A pure sedimentation liquid (SL) is placed in a cuvette, and a samll quantity of another liquid with lower density is added, forming a thin buffer (starter) layer on the surface of the SL. When the suspension to be studied is introduced, the starter layer facilitates better dispersion of the particles on the surface of the SL and stabilizes the initial conditions of particle motion. The optimal analysis conditions, depending on the density and degree of dispersion of the material being studied, are achieved by proper selection of the SL, the dispersing liquid, and the rotating speed of the cuvette. 4 biblio. refs.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

USSR

GURVICH, Ye. I., UROBUSHKIN, V. I.

"Method of Synthesis of Combination Circuit Tests"

Metody kontrolya i diagnoza slozhn. sistem i avtomatov [Methods of Testing and Diagnosis of Complex Systems and Automata -- Collection of Works], Kiev, 1972, pp 27-36 (Translated from Referativnyy Zhurnal - Kibernetika, No 8, 1973, Abstract No 8 V424)

Translation: A method is presented for construction of checking tests for combination circuits in which defects amounting to a constant at the input (or output) of one element are allowed. The authors state that the method allows tests which are near minimal to be produced.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

1/2 054 UNCLASSIFIED

TITLE--EFFECT OF HARDENING AND SOFTENING IMPURITIES AND IRRADIATION ON THE THERMOLUMINESCENCE AND THERMOEMISSION OF EXCELECTRONS WITH LITHIUM

PROCESSING DATE--13NOV70

AUTHOR-(04)-BELYAYEV, L.M., KNAB, G.G., UROSOVSKAYA, A.A., DOBRZHANSKIY, G.F.

COUNTRY OF INFO--USSR

SOURCE--KRISTALLOGRAFIYA 1970, 15(2), 317-21

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--THERMOLUMINESCENCE, CRYSTAL IMPURITY, LITHIUM FLUORIDE, PHOTON EMISSION, HARDNESS, LUMINESCENCE SPECTRUM, RADIATION EFFECT, URANIUM, MAGNESIUM INDIUM, MERCURY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/1476

STEP NO--UR/0070/70/015/002/0317/0321

CIRC ACCESSION NO--AP0118465

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2/2 054

CIRC ACCESSION NO--AP0118465 UNCLASSIFIED PROCESSING DATE--13NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF DIFFERENT TYPES OF IMPURITIES (U, MG, WHICH HARDEN AND IN, AND HG WHICH SOFTEN THE CRYSTAL) AND OF IRRADN. WAS STUDIED ON THE LUMINESCENCE, EMISSION, AND MECH. PROPERTIES OF LIF. THE PROPERTIES WERE COMPARED FOR PURE AND IMPURE CRYSTALS FOR DIFFERENT IRRADN. TIMES. THE HARDENING IMPURITIES INCREASE THE INTENSITY OF THE LUMINESCENCE AND DECREASE THE EMISSION INTENSITY. IN THE THERMOLUMINESCENCE SPECTRA FOR LIF,MG, U PRODUCES MAX. WHICH CORRESPOND TO THE V BAND ABSORPTION. HG FACILITATES THE ACTIVATION DURING IRRADN. FOR LONG EXPOSURES TO X RAYS OF SOME NEW PROCESSES WHICH SUPPRESS THE ELECTRON EMISSION AND RECOMBINATION. THE SOFTENED CRYSTALS HAVE AN INTENSE EXOEMISSION AND STRONG THERMOLUMINESCENCE. X RADIATION REACTS WITH THE IMPURITIES, BRINGING ABOUT COMPLEX CHANGES IN THE DEFECT STRUCUTRE.

FACILITY: INST. KRISTALLOGR., MOSCOW, USSR.

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

USSR

URSATIY, M. K.

UDC 621.391.8

"Quality of the Feedback Channel in Data Transmission Equipment"

Kiev, Mekhanizatsiya i Avtomatizatsiya Upravleniya, No 6, Nov/Dec 71, pp 49-50

Abstract: A method is considered for determining the probability of transition from an "Interrogation" signal to a signal which confirms correct reception for data transmission systems with resolving feedback operating in an expectation mode. Curves are given for this probability as a function of the length of the feedback signal. These curves can be used for direct determination of the length of the feedback signal when the probability of transition is known, and also for evaluating the quality of the feedback channel of existing data transmission equipment. Two figures.

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USSR

UDC 621.791.763.1:51.001.57

PODOLA, N. V., Candidate of Technical Sciences, and DONCHENKO, N. A., Engineer, Institute of Electric Welding imeni Ye. O. Paton, Academy of Sciences Ukrainian SSR; and URSAT'YEV, A. A., Engineer, Institute of Cybernetics, Academy of Sciences Ukrainian SSR

"Mathematical Description of the Process of Resistance Spot Welding of Light Alloy Using Isomorphous Models"

Kiev, Avtomaticheskaya Svarka, No 2, Feb 74, pp 16-19

Abstract: A possible method of accomplishing weld joint quality control using mathematical models to develop simpler mathematical descriptions of the spot welding process for parts of varying thickness and construction is described using the spot welding of D16AT alloy with a thickness of 1-1.5 mm in the region of optimum parameters of the weld mode. Tables are given with welding parameters which are then used in statistical equations for isomorphous models to produce the optimum parameters for producing quality welds which allows the proper welding parameters to be determined for the welding of parts of differing thicknesses and design. Seven tables, two bibliographic references.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

USSR

URSAT'YEV, A. A.

"Some Peculiarities of the Statement of an Active Poisson Experiment"

Avtomatiz. nauch. issled. i tekhn. podgotovki proiz-va [Automation of Scientific Research and Technology of Preparation for Production -- Collection of Works], Kiev, 1972, pp 3-15 (Translated from Referativnyy Zhurnal - Kibernetika, No 8, 1973, Abstract No 8 V253 by the author)

Translation: In the case when it is impossible to produce a mathematical description adequate to a process being studied on the basis of active experiments, the need arises for active-passive experiments, allowing the joint influence of controlled and uncontrolled factors to be considered.

In this case, two main problems must be solved: selection of the number of experiments and selection of a plan for placement of points in the factor space according to certain optimality criteria.

This article discusses these problems.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

USSR

UDC: 669.15.018.29:539.389.2:536.4

IL'IN, V. P., PADUN, A. N., ANIKAYEV, V. A., URSHANSKIY, A. M., KULALAYEV, Yu. A., SABKO, V. F.

"Study of Thermal Stability of Certain Wear-Resistant Metals"

Progressiv. Sposoby Svarki, Novyye Materialy i Konstruktsii v Svaroch. Proiz-ve [Progressive Methods of Welding, New Materials and Structures in Welding Production -- Collection of Works], Izhevsk, 1973, pp 54-55 (Translated from Referativnyy Zhurnal Metallurgiya, No 8, 1973, Abstract No 8I509, by V. Bochkareva).

Translation: The thermal stability of two groups of wear-resistant steels was studied. In group I, the C content varied from 0.16 to 0.89%, while the content of the other elements remained constant as follows (in %): Cr 4.0, W 1.0, V 1.0, Mo 10.0. In the steels of group II, the content of C varied from 0.4 to 1.0%, the content of Cr from 5.0 to 10.0%, with the contents of the other elements (in %): Mn 0.35, Si 0.65, W 10.0, V 0.8, Mo 1.4, Ti 0.5. A regression equation is produced to estimate the influence of C and Cr content and tempering temperature on thermal stability of steels of group II. Analysis of this equation shows that within the limits studied, C significantly

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Il'in, V. P., Padun, A. N., Anikayev, V. A., Urshanskiy, A. M., Kulalayev, Yu. A., Sabko, V. F., Progressiv. Sposoby Svarki, Novyye Materialy i Konstruktsii v Svaroch. Proiz-ve, Izhevsk, 1973, pp 54-55.

reduces, Cr increases the resistance to thermal cracking. The combined influence of C and tempering temperature greatly decreases the thermal stability of group II steels. For the steels of group I, it was established that hardness in the state after casting is increased with increasing C content, while resistance to formation of hot cracks decreases.

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USSR

Graphite

UDC: 620.171.32

URSIN, V. A., ANUFRIYEV, Yu. P., KHOMYAKOV, E. P., Moscow

"Study of the Influence of Stress Concentration on Variation of Strength Characteristics of Graphites"

Kiev, Problemy Prochnosti, No 7, Jul 73, pp 106-107.

Abstract: A method and results are described from an experimental investigation of the influence of stress concentrators on the strength of graphite materials during heating. The variation factors of strength are calculated. These factors are included in the formula for reliability of the structures. The influence of stress concentrators on reliability of structural elements of heterogeneous graphite materials subjected to forces and heat is studied. VPP and ARV graphites were used in the study.

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USSR

TRAPEZNIKOV, D. A., ANUFRIYEV, Yu. P., KOCHETOV, D. V., LAUKHINA, N. S., URSIN, V. A., Moscow

UDC: 620.171.32

"Evaluating the Thermal Stability of Graphites Over a Broad Temperature Range"

Kiev, Problemy Prochnosti, No 9, Sep 72, pp 18-21

Abstract: Experimental studies are conducted as a basis for analyzing the heat-stressed and limiting states of graphite construction elements and plotting their thermal resistance as a function of temperature. Five grades of graphite were tested: VPP, VPP-1000, MPG-8, ARV and PROG-2400. Annular specimens were subjected to a load consisting of a steady-state radial heat flux. The temperature was recorded at four points along the radius of the specimen at the time of fracture, and diametric displacements were determined. These figures were then used to calculate the temperature distribution through a cross section of the specimen, as well as tangential strain on the outer surface. The thermal stability of the graphite materials was calculated by determining the temperature differential as a function of surface temperature at the beginning of fracture. An expression is given which approximates the

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USSR

TRAPEZNIKOV, D. A. et al., Problemy Prochnosti, No 9, Sep 72, pp 18-21

deformed state of the rings within 10%. It is found that the temperature differential and heat flux at fracture are complicated functions of temperature, and that these functions are determined by temperature changes in the principal characteristics of the graphite materials -- maximum tensile deformation, coefficient of thermal expansion, modulus of elasticity and thermal conductivity.

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USSR

Graphite

UDC 666.764.4:620.17

URSIN, V. A., ANUFRIYEV, YU. P., PETUKHOVA, I. A., and LAUKHINA, N. S.

"On the Evaluation of the Strength of Graphite Materials"

Moscow, Zavodskaya Laboratoriya, Vol 38, No 12, 1972, pp 1518-1519

Abstract: Regression functions were used to determine effective coefficients of stress concentration α_σ in graphites for which a correlation relationship between strength and density exists and the correlation coefficients are in the 0.5-0.9 limits. By applying this correlation relationship, the error in determining α_σ could been reduced by more a factor at two in comparison with usual methods, where for α_σ is taken the relation of arithmetic mean values. The material strength depends on a series of technological factors, whereas α_σ-values are determined by the graining of the material. One figure, three formulas, three tables, five bibliographic references.

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USSR

UDC 620.171.32

URSIN, V. A., TRAPEZNIKOV, D. A., KOCHETOV, D. V., and ANUFRIYEV, Yu. P.,
Moscow

"Concentration of Thermal and Mechanical Stresses in Graphites"

Kiev, Problemy Prochnostic, No 8, Aug 71, pp 64-66

Abstract: Concentrations of thermal and mechanical stresses near peripheral incisions were experimentally investigated on ring-shaped specimens (outside diameter 60 mm, internal diameter 22 mm, height 15 mm) of ARV, ARVU, VPR and PROG-2400 graphites. The inner ring surface was heated uniformly by radiation and the outer surface was cooled by the contact method. The stress concentration coefficients and sensitivity indices were analyzed by reference to tabulated data and diagrams. It is demonstrated that thermal and mechanical stress concentrations are of one and the same character. The sensitivity of the investigated graphites to incisions was found to be proportional to the radius of curvature in the top of the incision and inversely proportional to the graphite graining. Two illustrations, four formulas, four tables, four bibliographic references.

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Graphite

USSR

TRAPEZNIKOV, D. A., URSIN, V. A., KOCHETOV, D. V., and ANUFRIYEV, Yu. P.,
Moscow

UDC 620.171.32

"Investigation of Destruction Conditions of Graphites in Heat Treating Furnaces"

Kiev, Problemy Prochnosti, No 12, Dec 72, pp 68-71

Abstract: The destruction conditions by thermal stresses of two practically isotropic ring-shaped specimens of graphites ARV_{NTU} (γ = 1.64 g/cm^3) and ARV_{STU} (γ = 1.51 g/cm^3) of small-grained structure and uniformly distributed porosity were experimentally investigated on a described device. The types of observed destructions and their character are discussed by reference to pictures, schemata, and diagrams of the temperature gradient, relative deformation, and tangential and axial surface stresses. The possibility of using numerical calculation methods of the stress-deformed condition of ring-shaped graphite specimens by thermal loads is demonstrated. Seven illustrations, one table, three bibliographic references.

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USSR

UDC 621.396.656

VOLKOV, V. M., URSU, A. I., BELOVA, N. D.

"Application of Controlled Attenuators in Transistor Amplifiers"

Elektron. tekhn. v avtomatike (Electronic Engineering in Automation), vyp. 1, Moscow, Soviet Radio Press, 1969, pp 45-52 (from RZh-Radiotekhnika, No 3, Mar 70, Abstract No 3D31)

Translation: In realizing the functional amplitude characteristic in amplifiers made of transistors it is expedient to apply controlled attenuators by means of which AGC is effected in a relatively broad dynamic range of the input signal with unchanged operating mode of the transistor with respect to direct current. The basic calculational relations are derived for controlled attenuators in which semiconductor diodes are used as the nonlinear controlled elements. The schematic of a transistorized amplifier is presented in which the required dynamic range of regulation with a given law of variation of the amplification coefficient is realized. The amplification coefficient of the amplifier varies from 10 to $2 \cdot 10^4$. Two diode controlled attenuators are used in the five-cascade amplifier. In transistorized amplifiers, controlled attenuators can find application in electronic devices for various purposes (measuring instruments, radar receivers, and so on).

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USSR

GORSKIY, YU. M., URSUL, A. D.

UDC 621.311-52

"Information in the Control of Large Systems (Procedural Aspects)"

V sb. Optimiz. i upr. bol'shimi sistemami v energ. (Optimization and Control of Large Systems in Power Engineering -- collection of works), Irkutsk, 1970, pp 47-79 (from RZh-Elektrotekhnika i Energetika, No 4, Apr 71, Abstract No 4 Ye234)

Translation: A study was made of the possibilities of using the means of information theory for analysis of the control of large systems in power engineering, the interrelation of the concepts of information, organization, entropy and purpose, classification of types of movement and representation of information, the possibilities of separating the basic levels of description and simulation of information processes in large systems. Organization is one of the fundamental properties of all material systems. It is proposed that various types of representation of information be characterized by the degree of elimination of disorder (the inverse of organization) of the following basic types: linear, step logarithmic and exponential. The approach to description and simulation of the information problems of functioning of artificial large systems (composition, structure and properties of various levels of abstraction of the systems,

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GORSKIY, Yu. M., URSUL, A. D., Optimiz. i upr. bol'shimi sistemami v energ. (Optimization and Control of Large Systems in Power Engineering -- collection of works), Irkutsk, 1970, pp 47-79 (from RZh-Elektrotekhnika i Energetika, No 4, Apr 71, Abstract No 4 Ye234)

control units, information converters) is discussed. It is noted that the content of the information problems discussed is preliminary and it must be refined and developed further. There are 3 illustrations, 1 table and a 25-entry bibliography.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

USSR

BOTOSHAN, N. I., MOSKALENKO, V. A., and URSU, A. M.

UDC: 537.312.62

"Investigating the Densities of the Electronic States of a Two-Zone Superconductor With a Paramagnetic Impurity"

Kishinev, V sb. Issled. po kvant. teorii sistem mnogikh chastits (Investigating Systems of Many Particles by the Quantum Theory) 1971, pp 70-77 (from RZh--Radiotekhnika, No 4, 1972, Abstract No 4D493)

Translation: An investigation is made of the densities of the electronic states of a two-zone superconductor with a low concentration of paramagnetic impurity in a broad frequency interval. The frequency Ω_n at which the densities of the electronic states have a maximum, as well as the values of these maxima, is determined. Bibliography of 10. Resume

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USSR

UTKIN, N. N., URSULYAK, D. N., MIKHAI'CHENKOV, A. G., and ZUYEV, V. A.

UDC 553.35:548.55

"Inhomogeneity of Composition of Single Crystals of Calcium-Vanadium-Bismuth Ferrogarnet"

Moscow, Neorganicheskiye Materialy, Vol 6, No 1, Jan 70, Pp 104-107

Abstract: It was demonstrated earlier that when growing single crystals of calcium-vanadium-bismuth ferrogarnet by the method of static spontaneous crystallization from solution in a melt of lead oxide, the cooling rate of the melt V_{cool} has an essential effect on the composition and on the most important parameter -- the ferromagnetic resonance band width $2\Delta H$. On decreasing the cooling rate, the molecular composition of the single crystals $\{Bi_{3-2x}Ca_{2x}\}[Fe_2](Fe_{3-x}V_x)O_{12}$ growing from charges of the same initial composition ($CaCO_3$--32.9 mole %; Fe_2O_3--35.9 mole %; V_2O_5--5.3 mole %; Bi_2O_3--7.1 mole %, and PbO--18.8 mole %) varies toward an increase in the content of calcium and vanadium which for $V_{cool} \approx 1.5$ deg/hour reaches the limit. The results of these investigations are tabulated. The established nature of the dependence of saturation magnetization $4\pi M_s$ and $2\Delta H$ on the composition of the calcium-vanadium-bismuth ferrogarnet agrees with the earlier results. However, for single crystals of $Bi_{0.3}Ca_{2.7}Fe_{3.65}V_{1.35}O_{12}$ grown at $V_{cool} < 1.5$ deg/hour, a continuing drop in the value of $2\Delta H$

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

USSR

UTKIN, N. N., et al, Neorganicheskiye Materialy, Vol 6, No 1, Jan 70, pp 104-107

with a decrease in their crystallization rate is characteristic. This law is also observed for single crystals of constant composition obtained from various initial charges.

In order to discover the causes of the effect of the cooling rate of the melt on the composition of single crystals of calcium-vanadium-bismuth ferrogarnet and, consequently, their properties, some samples were subjected to microradiography using the electron probe microanalyzer JXA-3A. It was discovered that in order to grow single crystals of calcium-vanadium-bismuth ferrogarnet with a homogeneous composition, the crystallization process must be carried out with melt cooling rates of no more than 1.5 deg/hour. This also promotes improved reproducibility of the single crystal composition and improved magnetic and super-high-frequency properties. It is pointed out that the more homogeneous composition arises from the fact that the diffusion processes and convection fluxes insure a favorable ratio of ferrite-forming components in the layer of the melt near the surface of the growing single crystals.

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JPRS 59208

6-73

III-12b. THE POSSIBILITY OF OBTAINING CRYSTALS FROM SOLUTIONS WHICH ARE UNIFORM WITH RESPECT TO COMPOSITION

[Article by M. D. Urzulyak, A. V. Belitskiy, Shchelkovo; Novosibirsk, III Simpozium po Protsessam Rosta i Sinteza Poluprovodnikovykh Kristallov i Plenok, Russian, 12-17 June, 1972, p 37]

A study was made of the possibility of growing substituted crystals which are uniform with respect to composition from solid solutions of the type of ($He_{a}H_{b-x}He_{x}$) by selecting the cooling rate of the solution. For the case where the diffusion coefficients of the substituting components are appreciably larger than the diffusion coefficient of the unsubstituted component from the material balance equation in the solid and liquid phases, considering the temperature and concentration dependence of the distribution coefficients, conditions were obtained the satisfaction of which insures growth of uniform crystals.

From the solution of the diffusion equation, an expression was obtained for the cooling rate of the solution which depends on the nature of the solubility curve, the distribution coefficients of the substituted components, the diffusion coefficient and the volume of the solution. The conditions of selecting the temperature range of crystallization were defined in which growth of crystals which are uniform with respect to composition is possible.

URSULYAK, M. D.

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1"

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III-12. SELECTION OF THE GROWTH CONDITIONS OF CRYSTALS FROM SOLUTIONS

[Article by A. V. Reiltakiy, N. D. Ursulyak, Shchelkovo; Novosibirsk, III Simpozium po Protsessam Rosta i Sintezu Poluprovodnikovykh Kristallov i Plenok, Russian, 12-17 June, 1972, p 36]

Some semiconductor materials are grown from solutions. In this case the process rate usually is determined by the diffusion of the crystal forming components to the crystallization front and is regulated by mixing.

From the joint solution of the diffusion equation and the material balance equation in the solid and liquid phases, the cooling rate was obtained as a function of the nature of the solubility curve, the magnitude of the introduced seed crystals, the volume of the solution and the mixing conditions. The cooling rate increases with an increase in the supersaturation of the solution, the diffusion coefficients and with a decrease in the solution volume. On mixing the solution by reverse rotation of the crystallizer, the angular velocity of the rotation increases with an increase in viscosity and volume of the solution.

An estimate was made of the thickness of the diffusion layer. The optimal cooling conditions and reckoning conditions of the solution can insure an increase in the crystal growth rate by an order by comparison with the static crystallization conditions.

URSULYAK, N. D.

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

USSR

SUDAKOV, N. I., VERSHININA, N. I., DROKIN, A. I., and URSULYAK, N. D., Krasnoyarsk Institute of Nonferrous Metals imeni M. I. Kalinin, Krasnoyarsk State University

"Magnetic Anisotropy of Bismuth-Calcium-Iron-Vanadium Garnets"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, Vol 34, No 5, May 70, pp 1077-1081

Abstract: The variation of the crystallographic magnetic anisotropy constant K_1 of single crystal samples of ferrite garnets with the field and temperature was measured by the mechanical moment method. Some of the samples had an addition of gallium and aluminum ions; a list of the composition of the samples follows:

No of sample	Composition
1	$Bi_{0.42}Ca_{2.58}Fe_{3.71}V_{1.25}O_{12}$
2	$Bi_{0.25}Ca_{2.62}Fe_{3.69}V_{1.31}O_{12}$
3	$Bi_{0.22}Ca_{2.68}Fe_{3.68}V_{1.32}O_{12}$
4	$Bi_{0.14}Ca_{2.86}Fe_{3.57}V_{1.43}O_{12}$
5	$Bi_{0.56}Ca_{2.44}Fe_{3.67}V_{1.22}Al_{0.11}O_{12}$
6	$Bi_{0.56}Ca_{2.44}Fe_{3.57}V_{1.22}Al_{0.21}O_{12}$
7	$Bi_{0.56}Ca_{2.44}Fe_{3.42}V_{1.22}Al_{0.36}O_{12}$
8	$Bi_{0.42}Ca_{2.58}Fe_{3.54}V_{1.29}Ga_{0.17}O_{12}$
9	$Bi_{0.42}Ca_{2.58}Fe_{3.42}V_{1.49}Ga_{0.29}O_{12}$
10	$Bi_{0.42}Ca_{2.58}Fe_{3.39}V_{1.29}Ga_{0.32}O_{12}$

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

USSR

SUDAKOV, N. I., et al, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, Vol 34, No 5, May 70, pp 1077-1081

Analysis of the curves of the mechanical moments in the (100) plane in samples of all composition showed that the curves of the moments have a clearly expressed periodicity of $\pi/2$ at room temperatures even for weak fields of 40 oersted. A change in the temperature leads to a change in the amplitude of the sine curve and a shift in the saturation fields. The addition of the diamagnetic ions Al^{3+} and Ga^{3+} produces an expressed dependence of K_1 on their content for a fixed quantity of vanadium ions: K_1 decreases with an increase in the aluminum and gallium content for all temperatures. The effect of the type of substitute ion on the anisotropy was difficult to estimate from the results of this study, since the experiments were conducted with different vanadium contents: $x = 1.22$ for the Al-substitute and $x = 1.29$ for the Ga-substitute. The following four conclusions were made: (1) K_1 for bismuth-calcium-iron-vanadium garnets is only slightly dependent on the composition. The introduction of additional diamagnetic Al^{3+} and Ga^{3+} ions considerably reduces its value. (2) The dependence $K_1(T)$ for all samples is qualitatively the same. K_1 is negative in the entire temperature interval studied and its value rises sharply with a drop in temperature. (3) The dependence of K_1 on the field for all samples is in agreement with

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SUDAKOV, N. I., et al, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, Vol 34, No 5, May 70, pp 1077-1081

theory. (4) The samples of Bi-Ca-Fe-V-garnets of basic and substitute compositions are not sensitive to heat and thermomagnetic treatments.

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Acc. Nr: AP0049429

Abstracting Service: CHEMICAL ABST. 5/70

Ref. Code: UR0363

104760a Compositional heterogeneity of calcium-vanadium-bismuth iron garnet single crystals. Utkin, N. I.; Ursulyak, N. D.; Mikhal'chenkov, A. G.; Zuev, V. A. (USSR). Akad. Nauk SSSR, Neorg. Mater. 1970, 6(1), 104-7 (Russ). The reasons for the influence of the cooling rate of the melt on the compn. of Ca-V-Bi Fe garnet single crystals, and consequently, also on their properties, were investigated. To grow these garnet crystals that are homogeneous in compn., the crystn. must be carried out at melt cooling rates not >1.5 degree/hr. This also increases the reproducibility of the compn. of the single crystals and improves the magnetic and ultrahigh-frequency properties.
S. A. Mersol

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

UNCLASSIFIED PROCESSING DATE--27NOV70

1/2 007

TITLE--CORRELATION BETWEEN AVAILABLE PHOSPHATES DETERMINED BY VARIOUS METHODS AND THE FRACTIONAL COMPOSITION OF INORGANIC PHOSPHATES -U-

AUTHOR-(03)-GURBUCHEV, I., NEYKOVABOCHEVA, YE., URUMOVA, A.

COUNTRY OF INFO--USSR

SOURCE--AGROKHIMIYA 1970, (2), 23-9

DATE PUBLISHED--------70

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TOPIC TAGS--PHOSPHATE, SOIL CHEMISTRY, CHEMICAL ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

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CIRC ACCESSION NO--AP0127119

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UNCLASSIFIED

PROCESSING DATE--27NOV70

007

CIRC ACCESSION NO--AP0127119

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CORRELATION COEFF. BETWEEN THE ACTIVE FRACTIONS OF INORG. PHOSPHATES ACCORDING TO CHANG AND JACKSON (1957) AND THE CONTENTS OF 5 SOILS OF THE BULGARIAN TYPE IN EXCHANGEABLE (MOBILE) PHOSPHATE WAS ESTABLISHED BY 7 DIFFERENT METHODS. NH SUB4 F FRATIONATION IS A MOST SIGNIFICANT INDICATOR OF P RESERVES FOR PLANT NUTRITION. THE METHOD OF OLSEN IS MOST APPROPRIATE FOR ESTG. THE MOBILE P IN CARBONATE AS WELL AS IN OTHER SOILS ENRICHED IN P.

FACILITY: INST. POCHVOVED. IM. PUSHKAROVA, SOFIA, BULG.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

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CIRC ACCESSION NO--AP0127119 UNCLASSIFIED
ABSTRACT/EXTRACT--
ACTIVE

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

USSR

UDC 529.67

URUMYAN, R. U., and MOZZHUKHIN, Ye. I.

"Certain Features of the Amplitude-Dependent and Amplitude-Independent Internal Friction of SAP Material"

Sb. "Vnutrenneye treniye v metallicheskikh materialakh" (Internal Friction in Metallic Materials), Moscow, Izd-vo "Nauka," 1970, pp 110-114

Abstract: Internal friction in cold-rolled plates made of sintered aluminum powder (SAP) and technically pure aluminum was studied by the method of forced lateral vibrations. Annealing has a different effect on the recovery of the amplitude-independent internal friction and the Q^{-1} amplitude dependence in samples of the indicated materials. The coating of SAP plates by a pure aluminum layer theoretically changes the internal friction amplitude dependence characteristic of a given material.

The results obtained are discussed on the basis of well-known concepts, 4 figures, 6 references.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

1/2 075 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--STUDY OF THE FAILURE OF TRANSPARENT POLYMERIC MATERIALS (BLOCKS) UNDER THE ACTION OF LASER BEAMS IN THE FREE GENERATION MODE -U-

AUTHOR-(03)-SULTANOV, M.A., NARZULLAYEV, B.N, URUNOV, V.

COUNTRY OF INFO--USSR

SOURCE--AKADEMIIA NAUK TADZHIKSKOI SSR, DOKLADY, VOL. 13, NO. 3, 1970, P. 12-16

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--MATERIAL FAILURE, POLYMETHYLMETHACRYLATE, QUARTZ, POLYSTYRENE RESIN, GLASS, NEODYMIUM GLASS, LASER BEAM, SHOCK WAVE, EXPLOSION EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/1106 STEP NO--UR/0425/70/013/003/0012/0016

CIRC ACCESSION NO--AT0119964

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

2/2 075 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AT0119964

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STUDY OF THE MECHANISM OF FAILURE OF TRANSPARENT POLYMERIC MATERIALS (POLYMETHYL METHACRYLATE, QUARTZ, GLASS, AND POLYSTYRENE) UNDER THE ACTION OF NEODYMIUM GLASS LASER RADIATION IN THE FREE GENERATION MODE. THE CHANGES IN THE NATURE OF THE FAILURE PROCESS IN THESE MATERIALS ARE DETERMINED AS A FUNCTION OF THE FOCAL LENGTH OF THE LENSES, THE OUTPUT POWER, AND THE SPOT WHERE THE LASER BEAM IS FOCUSED IN THE MATERIAL. A GENERAL PICTURE IS GIVEN OF THE FAILURE OF POLYMETHYL METHACRYLATE AND POLYSTYRENE UNDER THE ACTION OF LASER BEAMS IN THE FREE GENERATION MODE. IT IS SHOWN THAT THE PASSAGE OF A LASER BEAM THROUGH ONE OF THESE MATERIALS CAUSES THE MATERIAL TO HEAT UP RAPIDLY AT THE FOCUSING POINT AND TO PASS INTO THE LIQUID STATE, THUS FORMING A PLASMA WHICH EXPANDS AT A LARGE VELOCITY. THIS PHENOMENON LEADS TO A POINT, INSTANTANEOUS, AND HIGH POWER EXPLOSION ACCOMPANIED BY THE FORMATION OF A SHOCK WAVE WHICH PROPAGATES AT A HYPERSONIC VELOCITY. FACILITY: TADZHIKSKII GOSUDARSTVENNYI UNIVERSITET, DYUSHAMBE, TADZHIK SSR.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

Acc. Nr: AP0046699

Abstracting Service: 5/70 INTERNAT. AEROSPACE ABST.

Ref. Code: UR0185

A70-23196 # Neutron diffraction study of atom ordering in alloys nickel-chromium (Neitronograficheskoe doslidzhennia vporiadkuvannia atomiv u splavakh nikel'-khrom). E. Z. Vintaikin and G. G. Urushadze (Tsentral'nyi Nauchno-Issledovatel'skii Institut Chernoi Metallurgii, Moscow, USSR). *Ukrains'kii Fizichnii Zhurnal*, vol. 15, Jan. 1970, p. 132-134. In Ukrainian.

The temperatures of the order-disorder transition are determined by the neutron diffraction method for the alloys nickel-chromium. The temperature dependence is determined and the ordering kinetics is investigated on the alloy of stoichiometric composition Ni2Cr. Considering the data on kinetics, a conclusion is drawn on a homogeneous ordering of atoms in the alloys nickel-chromium.

(Author)

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REEL/FRAME 19782015

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

USSR

UDC: 539.3:534.231.1

URUSHADZE, G. I.

"Surface Waves in Solids"

Seminar In-ta Prikl. Mat. Tbilis. Un-t Annotatsii Dokl. T. 5 [Seminar of Institute of Applied Mathematics, Tbilisi University, Annotation of Reports, Vol 5 -- Collection of Works], 1972, No 6, pp 37-41 (Translated from Referativnyy Zhurnal Mekhanika, No 12, 1972, Abstract No 12V106, by E. L. Aero)

Translation: Surface waves propagating in a moment medium with restricted rotation are studied. The dynamic equations of the moment theory of elasticity are solved for a half space with a boundary free of force and moment loads. The solutions are dispersed in the form of monochromatic longitudinal and transverse waves. Existence of a transverse wave, the oscillations in which are in the plane of the boundary, in contrast to a non-moment medium, is predicted. Its velocity is determined by two moment elastic constants ν and δ with dispersion rule $\omega \approx k^2$ for $kl \ll 1$, $kl' > 1$, where $l = \nu/2\mu$, $l' = \delta/2\mu$, μ is the Lame coefficient. Five biblio. refs.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

USSR

UDC 542.91:547.431.4+547.241

KHUNYANTS, I. L., URUSHADZE, M. V., and ROKHLIN, YE. M., Institute of Organoelemental Compounds, Academy of Sciences SSSR

"Interaction of Alkylperfluoroisobutenyl Ethers with Triethyl Phosphite"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 6, Jun 71, pp 1365-1366

Abstract: The interaction of nucleophiles with alkylperfluoroisobutenyl ethers results in replacement of the vinyl atom of fluorine or in dealkylation, the reaction going in one or the other direction according to the reactant. The authors found that triethyl phosphite, unlike other previously studied nucleophiles, is capable of reacting with the above ethers in both directions.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

USSR

UDC: 534.222.2

SIL'VESTROV, V. V., TITOV, V. M., URUSHKIN, V. P.

"Study of Gas Flow upon Dynamic Loading of Liquid Nitrogen and Hydrogen"

Dinamika Splosh. Sredy [Continuous Medium Dynamics -- Collection of Works], No 10, Novosibirsk, 1972, pp 233-238 (Translated from Referativnyy Zhurnal Mekhanika, No 12, 1972, Abstract No 12B202, by O. K. Rozanov)

Translation: The peculiarities of the flow of liquid nitrogen and hydrogen resulting from the action of dynamic loading of high intensity on the liquids are studied experimentally. Two methods of loading of deliquified gasses are used: planar loading of a layer by the impact of a plate accelerated to high velocity by detonation products, and cylindrical compression of an ampule containing the cryogenic liquid. The experimental installations are described in detail. The nature of flow of the liquids, differing significantly in molecular weight, compressibility and density, was analyzed in glass pipes 10-12 mm in diameter attached to the unloaded side of the liquid through a thin diaphragm. The air pressure in the pipe was 0.5-1 mm hg. In the case of hydrogen, a pipe of stainless steel 100 mm long was connected to the diaphragm, followed by the glass pipe. The waves propagating in the pipes were recorded by a streak camera.

With planar loading, it was found that the maximum shock wave velocities in

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

USSR

Sil'vestrov, V. V., Titov, V. M., Urushkin, V. P., Dinamika Splosh. Sredy, No 10, Novosibirsk, 1972, pp 233-238.

the pipe occur for nitrogen when the working chamber, with a volume of 2-3 cm^3, was shaped like a truncated cone with a peak angle of 90°. It is demonstrated that the influence of rear loading on velocity is slight, while variation of the cone angle has a significant influence on flow velocity, which is related to the effect of reflection from the side walls of the cone. It is noted that the exhaust velocity remains practically unchanged over the first 300 mm from the diaphragm. With planar loading of the hydrogen layer, the velocity in the initial sector reaches 35 km/sec, at a distance of 1 m it drops to 23 km/sec. The flow arising in this case is characteristically unstable. Cylindrical compression of the ampule of nitrogen formed a Mach configuration. In the case of hydrogen, pulsed x-ray studies showed complete closure of the ampule. It is emphasized that cylindrical loading produces no increase in flow velocity over flat loading for 150-300 mm. Six biblio. refs.

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Dec. '72

(2)

critical point of a blunt body. Thus, for hypersonic flight velocities, the assumption of small width of the shock layer in comparison to a characteristic dimension of the body is valid. It becomes possible to describe the flow distribution near the critical point by systems of ordinary differential equations. Considerations are presented for disregarding the viscous structure of the shock wave so that the problem is solved without separating the shock layer into a nonviscous region and a boundary layer. It is noted that the final expression for the total heat flux at the critical point contains only values obtained from the solution to the "nonviscous" problem with allowance for gas radiation in the shock wave, as well as other values from the solution to the "viscous" problem, but with radiation ignored. An iteration method is used to solve the integro-differential system of equations. Graphic results are presented of computer--aided calculations of the relationships of the total heat flux and its convective and radiant components owing to variation of the flight velocities (to 20 km/sec) and the nose curvature radius at the critical point.

Sil'vestrov, V. V., and V. P. Urushkin. Method for determining density of high speed gas jets. IN: Dinamika sploshnoy sredy. Novosibirsk, no. 7, 1971, 125-129. (RZhMekh, 5/72, no. 5B477)

A method is proposed for determining the density of gas jets moving at a speed of 8-12 km/sec. The jets are formed from the detonation of an explosive in a channel. The method is based on an experimentally obtained law of the motion of a propelled body, using a steel ball. The successive positions of the ball in a chamber are recorded by x-ray pulse photography. The characteristics of the x-ray facility

URUSHKIN, V.P.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

1/2 021 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--THE CLINICAL PICTURE AND TREATMENT OF GANGLIONITIS OF THE MARGINAL SYMPATHETIC STEM -U-

AUTHOR--URUSMAMBETOV, SH.N.

U

COUNTRY OF INFO--USSR

SOURCE--KLINICHESKAYA MEDITSINA, 1970, VOL 48, NR 5, PP 151-153

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--NERVOUS SYSTEM DISEASE, PAIN, SYNDROME, MUSCULAR ATROPHY, GANGLIONIC BLOCKING AGENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/1001 STEP NO--UR/0497/70/048/005/0151/0153

CIRC ACCESSION NO--AP0126642

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

2/2 021 UNCLASSIFIED

CIRC ACCESSION NO--AP0126642 PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PAIN SYNDROME WITH A TENDENCY TO WIDE IRRADIATION IS THE PROMINENT MANIFESTATION, IRRESPECTIVE OF THE LEVEL OF AFFECTION OF SYMPATHETIC GANGLIA. A CHARACTERISTIC SEGMENTARY TYPE OF SENSATION DISTURBANCE IS OFTEN THE CAUSE OF AN ERRONEOUS DIAGNOSIS OF SYRINGOMYELIA. PAROXYSMAL COURSE OF THE DISEASE, ACTUE PAIN WITH HYPERPATHIA AND A TENDENCY TO IRRADIATION, AN ABSENCE OF MARKED LOCAL AND GENERAL MUSCULAR ATROPHY, PATHOLOGICAL SINGS, AS WELL AS RESPONSE TO GANGLIONIC BLOCKING AGENTS AND NOVOCAIN BLOCK, TESTIFY IN FAVOR OF GANGLIONITIS. IN GANGIOSOLAR CRISES THE ABDOMINAL PAIN SYNDROME IS ONE OF THE CAUSES OF HOSPITALIZATION OF PATIENTS INTO A SURGICAL CLINIC. A METICULOUS STUDY OF THE ANAMNESIS, EVALUATION OF SUBJECTIVE DATA AND DYNAMIC OBSERVATION MAKE IT POSSIBLE TO AVOID THE UNNECESSARY OPERATIVE INTERVENTION. IN AFFECTION OF CARVICAL GANGLIA IT IS NECESSARY TO DIFFERENTIATE GANGLIONITIS FROM DIFFERENT FORMS OF MIGRAINE AND FACIAL SYMPATHALGIA. THE TREATMENT SHOULD BE COMPLEX INVOLVING THE USE OF GANGLIONIC BLOCKING AGENTS, NOVOCAIN BLOCKS, BALNEOLOGICAL FACTORS AND SEDATIVES. FACILITY: KAFEDRA NERVNYKH BOLEZNEW TESNTRAL'NOGO INSTITUTA USOVERSHENSTOVOVANIYA VRACHEY.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

USSR

UDC 661.143.004.14

(2)

SOKOLOV, V. A., STYROV, V. V., NASLEDNIKOV, YU. M., KHORUZHIY, V. D., LUBYANSKIY, G. A., and URUSOV, B. G.

"On the Feasibility of Employing Radical Recombination Luminescence in the Physicochemical Control of Phosphor Crystals"

Sb. nauch. tr. VNII lyuminoforov i osobo chist. veshchestv (Collection of Scientific Works of All-Union Scientific Research Institute for Phosphors and Ultrapure Substances), 1971, vyp. 6, pp 88-94 (English summary) (from RZh-Khimiya, No 16, 25 Aug 72, Abstract No 16L135 from summary)

Translation: The article suggests a new method of physicochemical control of the synthesis conditions and the quality of phosphor crystals, based on the use of the phenomenon of radical recombination luminescence (RRL). RRL with high sensitivity detects small concentrations of impurities in a phosphor, polymorphic transformations, decay of solid solutions, etc. Some examples are examined.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

1/2 011 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--A SERIES OF CONTACTLESS SYNCHRONOUS POWER GENERATORS UP TO 100 KW FOR WIND DRIVEN ELECTRIC POWER UNITS -U-

AUTHOR-(04)-URUSOV, I.D., RYZHKOV, V.S., ZILBERSHTEYN, L.A., VOLCHKOV, V.K.

COUNTRY OF INFO--USSR

SOURCE--ELEKTROTEKHNIKA (ELECTRICAL ENGINEERING), 1970, NO 1, PP 56-58

DATE PUBLISHED--------70

SUBJECT AREAS--ENERGY CONVERSION (NON-PROPULSIVE)

TOPIC TAGS--SYNCHRONOUS GENERATOR, WIND POWERED MOTOR, MAGNETIC CIRCUIT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/0252 STEP NO--UR/0292/70/000/001/0056/0058

CIRC ACCESSION NO--AP0130988

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

2/2 011 UNCLASSIFIED

CIRC ACCESSION NO--AP0130988 PROCESSING DATE--20NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SPECIFIC OPERATING CONDITIONS OF GENERATORS IN WIND DRIVEN POWER PLANTS ARE ANALYZED. THE REQUIREMENT FOR DESIGNING A SPECIALIZED SERIES OF CONTACTLESS SYNCHRONOUS GENERATORS OPERATING AT THE INDUSTRIAL FREQUENCY IS PROVED. THE FOLLOWING SERIES OF NOMINAL POWERS IS ADOPTED: 1, 2, 4, 8, 16, 30 KW (ROTATIONAL SPEED 1500 RPM), 60, AND 200 KW (SPEED 1000 RPM). THE TYPE OF MACHINE WITH CLAW SHAPED ROTOR AND EXTERNAL MAGNETIC CIRCUIT IS SELECTED AS BEING OPTIMAL WITH REGARD TO A COMPLEX OF TECHNICAL AND ECONOMIC CRITERIA. THE CONFIGURATION IS ENCLOSED WITH NATURAL EXTERNAL COOLING. THE BASIC TECHNICAL SPECIFICATIONS OF THE GENERATOR SERIES IS PRESENTED (FROM THE RESULTS OF PROTOTYPE TESTS). A DESCRIPTION OF THE MACHINE CONSTRUCTION IS GIVEN. THE GENERATORS OF THIS SERIES ARE AT THE LEVEL OF THE MACHINES OF THE VERY BEST CONTEMPORARY SERIES WITH REGARD TO ENERGY, WEIGHT, AND SIZE CRITERIA AND HAVE VERY HIGH RELIABILITY.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

USSR

UDC 621.313.322.621.316.729

URUSOV, I. D., SIMONOVSKIY, V. I.

"Procedure for Synchronizing Synchronous Generators"

USSR Author's Certificate No 266023, filed 31 May 65, published 2 Jul 70, (from RZh-Elektrotekhnika i Energetika, No 2, Feb 71, Abstract No 2 Yel21 P)

Translation: This patent describes a synchronization procedure for which the angle Θ between the axes of synchronized generators is measured in order to increase reliability in the synchronization process. Depending on the magnitude of this angle, the excitation voltage of the generators is varied. With an angle between the rotors in the range of

$$-\alpha-90^\circ<\Theta< -\alpha+90^\circ \qquad (1)$$

the synchronizing moment proportional to the expression $E_1E_2\sin(\Theta+\alpha)$ (where E_1 and E_2 are the ends of the generators, α is the angle defined by the network parameters) prevents divergence of the rotors, that is, promotes synchronization. When

$$-\alpha+90^\circ < \Theta < -\alpha+90^\circ \qquad (2)$$

the moment becomes accelerating. It is possible to select the law of variation of the excitation currents (and also E_1 and E_2) as a function of Θ so

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

USSR

URUSOV, I. D., et al., USSR Author's Certificate No 265023, filed 31 May 65, published 2 Jul 70

that for small angles in the interval (1) the excitation currents will reach maximum values, and for the angles in interval (2), they will be minimal. Decreasing the emfs E_1 and E_2 in opposite phase decreases the current and voltage spikes. The proposed method can be realized using known schemes for automatic excitation regulators.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

USSR Ion Exchange

UDC 533.66.063

FEDOTOV, N. A., URUSOV, K. KH., and SKURATNIK, YA. B., Scientific Physical-Chemical Research Institute Imeni L. YA. Karpov, Moscow

"Determination of the Selfdiffusion Coefficient of Water in Ion Exchange Membrane Electrolytes"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 46, No 11, Nov 72, pp 2842-2844

Abstract: The study was aimed at obtaining data on the "mobility" of water in a membrane electrolyte under conditions excluding its direct transfer together with ions under the influence of the electric field. The methodology was developed for the determination of the selfdiffusion coefficient of water in membrane electrolytes using triturated water, these data being reported for a series of heterogeneous membranes with varying content of the cation exchange resin KU-2-8 and fluoroplastics 42-L, as well as for a homogeneous membrane. It has been noted that the coefficient of selfdiffusion increases rapidly with an increased content of the cation exchange resin in the membranes, eventually approaching the value characteristic of the homogeneous membranes.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

1/2 014 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--EFFECTS OF DIFFERENCES IN CHEMICAL BOND TYPES AND STRUCTURES OF PURE COMPONENTS ON THE ISOMORPHIC MISCIBILITY RANGES -U-

AUTHOR--URUSOV, V.S.

COUNTRY OF INFO--USSR

SOURCE--GEOKHIMIYA 1970, (1), 59-65

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL BONDING, IONIC BONDING, MOLECULAR STRUCTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0655 STEP NO--UR/0007/70/000/001/0059/0065

CIRC ACCESSION NO--AP0124327

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

2/2 014 UNCLASSIFIED PROCESSING DATE--30OCT7(

CIRC ACCESSION NO--AP0124327

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A REVIEW OF LITERATURE SHOWS THAT THE INFLUENCE OF THE DIFFERENCE IN THE CHARACTER OF CHEM. BOND UPON THE ISOMORPHOUS MISCIBILITY IS GENERALLY ACCEPTED AND HAS, FOR A LONG TIME, BEEN TAKEN INTO ACCOUNT BY DIFFERENT QUAL. METHODS. IN THIS PAPER THE TASK IS PUT TO FIND THE QUANT. EXPRESSION FOR SUCH A DEPENDENCE. IT IS SOLVED IN 2 GENERAL APPROXNS.: (1) THE BOND CHARACTERS (IONICITY DEGREE) ARE DIFFERENT, BUT THE STRUCTURE OF COMPONENTS ARE SIMILAR, (2) BOTH THE BOND CHARACTERS AND THE STRUCTURE OF COMPONENTS ARE DIFFERENT. THE OBTAINED EXPRESSIONS INDICATE A STRONG QUADRATIC DEPENDENCE OF THE POS. MAGNITUDE OF THE MIXING ENERGY AND, CONSEQUENTLY, ALSO OF THE CRIT. TEMPERATURE OF ISOMORPHIC DECOMPN. ON THE DIFFERENCES IN THE IONICITY DEGREES OF PURE COMPONENTS. THIS EXPLAINS MANY KNOWN GEOCHEM. OBSERVATIONS. THE 2ND OF THE INDICATED APPROXNS. ALLOWS ONE TO FORMULATE AND PROVE ON A NO. OF EXAMPLES THE NEW RULE OF THE POLARITY OF ISOVALENT ISOMORPHIC REPLACEMENTS: SOLY. IN SOLID STATE OF A MORE COVALENT MATTER IN A LESS COVALENT IS GREATER THAN IN THE REVERSE CASE.

FACILITY: INST. GEOKHIM. ANAL. KHIM. IM. VERNADSKOGO, MOSCOW.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

1/2 017 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--ENERGY THEORY OF ISOVALENT ISOMORPHISM -U-

AUTHOR--URUSOV, V.S.

U

COUNTRY OF INFO--USSR

SOURCE--GEOKHIMIYA 1970, (4), 510-24

DATE PUBLISHED--------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, PHYSICS

TOPIC TAGS--ISOMORPHISM, ATOM, TEMPERATURE, GEOCHEMISTRY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0125 STEP NO--UR/0007/70/000/004/0510/0524

CIRC ACCESSION NO--AP0119121

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

2/2 017 UNCLASSIFIED

CIRC ACCESSION NO--AP0119121 PROCESSING DATE--16OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ISOMORPHISM IS THE PROPERTY OF ATOMS OF VARIOUS ELEMENTS TO REPLACE EACH OTHER IN CRYST. STRUCTURES. THE DETN. OF TEMP. DEPENDENT ISOMORPHIC MISCIBILITY WAS MADE BY THERMODYNAMIC APPROXN. OF ASYM. REGULAR SOLNS. THE HEAT (OR ENERGY) OF MIXING, EXPRESSED AS A FUNCTION OF DIFFERENCES IN SIZE (INTERAT. DISTANCES) AND CHARACTER OF CHEM. BOND (IONIC DEGREE) OF COMPONENTS OF ISOMORPHIC MIXT., ARE THE MAIN CHARACTERISTICS OF THIS APPROXN. NOMOGRAPHS AND TABLES ARE GIVEN FOR DETN. OF MAX. MUTUAL MISCIBILITY. THE RANGE OF ISOMORPHISM OF CERTAIN PAIR OF ELEMENTS AT GIVEN TEMP. (T) INCREASES WITH DECREASE IN DIMENSIONAL PARAMETER, I.E. WITH INCREASE IN EFFECTIVE SIZE OF MUTULA STRUCTURAL COMPONENT OF THE MIXT. THE MUTUAL MISCIBILITY, AS A RULE, INCREASES WITH COMPLICATION IN STRUCTURE AND COMPN. OF COMPDS. THE MISCIBILITY RANGES OF COMPONENTS, HAVING SMALLER SIZE (RADIUS) OF ION (ATOM), INTERAT. DISTANCE, PARAMETER, OR LATTICE VOL. IN STRUCTURE OF THE COMPONENT WITH LARGER DIMENSIONAL PARAMETER IS WIDER THAN VICE VERSA (AT GIVEN T), WITH ASYMMETRY OF SOLY. INCREASING WITH INCREASED VALUE OF DIMENSIONAL PARAMETER (RULE OF ISOMORPHIC POLARITY). MUTUAL MISCIBILITY OF COMPDS. WITH DIFFERENT CHARACTER OF CHEM. BOND IS MUCH LOWER THAN THAT OF COMPDS. WITH SIMILAR CHARACTER OF BOND AT THE SAME STRUCTURE AND DIMENSIONAL PARAMETER. THE RANGE OF ISOMORPHISM AT A GIVEN TEMP. INCREASES RAPIDLY WITH INCREASED DIFFERENCES IN CHARACTER OF THE BOND. FACILITY: V. I. VERNADSKII INST. GEOCHEM. ANAL. CHEM., MOSCOW, USSR.

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1"

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Acc. Nr: AP0048207 Abstracting Service: CHEMICAL ABST. 5-70 Ref. Code: UR0009

102487t Relation of effective charges of silicon and oxygen atoms to the structure and composition of silicates. Urusov, V. S. (Inst. Geokhim. Anal. Khim., im. Vernadskogo, Moscow, USSR). *Geokhimiya* 1970, (2), 248-52 (Russ). The effective charges of Si in quartz, albite, orthoclase, leucite, anorthite, enstatite, wollastonite, diopside, and fayalite were detd. and compared with the data on $K\beta$ spectra given by E. W. White and G. V. Gibbs (1967). They indicated the decrease in effective charges of Si in direction of quartz → skeleton → layered → chain → insular silicates from +1.40 to +1.30. The changes in Si charges corresponded to increase in av. intraat. distances of Si-O from 1.61 to 1.64 Å in the same direction. The partial energy of the SiO-O bond increased 111-114 kcal in the same direction. This can be attributed only to increase of av. effective charges of O atom from quartz to insular silicates. Increase in the charge of O from quartz to insular silicate is ~2 times more rapid than decrease in charge of Si in the same series. This provided for increase of electrostatic component of the Si-O bond energy which, to a certain degree, was compensated by the increase in av. interat. Si-O distance and corresponding to it decrease in covalence contribution to the energy of the bond.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

1/2 037 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--PLASTIC DEFORMATION OF CORUNDUM SINGLE CRYSTALS -U-

AUTHOR-(05)-KLASSENNEKLYUDOVA, M.V., GOVORKOV, V.G., URUSOVSKAYA, A.A., VOINOVA, N.N., KOZLOVSKAYA, E.P.
COUNTRY OF INFO--USSR

SOURCE--PHYSICA STATUS SOLIDI, 1970, VOL 39, NR 2, PP 679-688

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--PLASTIC DEFORMATION, SINGLE CRYSTAL, CORUNDUM, RUBY, SAPPHIRE, CRYSTALLOGRAPHY, RESEARCH FACILITY, CHROMIUM IMPURITY, CRYSTAL IMPURITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/0337 STEP NO--GE/0030/70/039/002/0679/0688

CIRC ACCESSION NO--AP0124094

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

2/2 037 UNCLASSIFIED

CIRC ACCESSION NO--AP0124094 PROCESSING DATE--20NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE STRESS STRAIN CURVES AND THE DEFECT STRUCTURE OF CORUNDUM SINGLE CRYSTALS (SAPPHIRE AND RUBY) WERE STUDIED. THE INFLUENCE OF IMPURITY (CR) PRESENCE, CRYSTALLOGRAPHIC ORIENTATION, TEMPERATURE, AND DEFORMATION RATE WAS INVESTIGATED. CHROMIUM MAKES CORUNDUM HARDER AND CAUSES A YIELD POINT PHENOMENON. THE YIELD POINT WAS ALSO INCREASED BY THE TRANSITION FROM 60DEGREES TO 90DEGREES ORIENTATION OF THE SPEICIMENS, BY LOWERING THE TEMPERATURE, AND BY AN INCREASE IN THE DEFORMATION RATE. IN 60DEGREES SPECIMENS THE DEFORMATION OCCURS BY MEANS OF GLIDING ON BASAL PLANES IN (1120) AND (1010) DIRECTIONS. IN 90DEGREES SAMPLES BESIDE THIS ONE GLIDING IN (1010), (1011), (2021) AND (2243) IS FOUND. FACILITY: INSTITUTE OF CRYSTALLOGRAPHY OF THE ACADEMY OF SCIENCES OF THE USSR, MOSCOW.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

USSR

UDC 8.74

TER-MIKAELYAN, T. M., URUTYAN, R. L.

"General Description of the Garni Computer and the Process of Implementing the Translation Algorithm"

Tr. Vychisl. tsentra AN ArmSSR i Yerevan. un-ta (Works of the Computation Center of the Armenian SSR Academy of Sciences and Yerevan University), 1972, No 7, pp 9 -23 (from RZh-Kibernetika, No 9, Sep 72, Abstract No 9V555)

Translation: A description of the device and functioning of a specialized computer, the Garni, designed for automation of translation from one language to another is presented.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

USSR

UDC 8.74

VARTANYAN, N. V., YEGIAZARYAN, E. V., URUTYAN, R. L.

"Organization of the Dictionaries of the Garni Computer"

Tr. Vychisl. tsentra AN ArmSSR i Yerevan. un-ta (Works of the Computation Center of the Armenian SSR Academy of Sciences and Yerevan University), 1972, No 7, pp 120-139 (from RZh-Kibernetika, No 9, Sep 72, Abstract No 9V561)

Translation: The synthesis of an automaton which realizes associative access is presented. It is demonstrated that the given associative access system differs advantageously from the known ones in that the proportion of the dictionary information retrieval time in the total translation time is reduced appreciably.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

USSR

UDC 8.74

URUTYAN, R. L.

"Garni Computer Instruction System"

Tr. Vychisl. tsentra AN ArmSSR i Yerevan. un-ta (Works of the Computation Center of the Armenian SSR Academy of Sciences and Yerevan University), 1972, No 7, pp 24-46 (from RZh-Kibernetika, No 9, Sep 72, Abstract No 9V556)

Translation: The instruction system of the computer is selected so that along with the traditional operations specific operations connected with the executed algorithm will also be executed. In addition, the characteristic features of the two-dimensional ready-access memory and also associative retrieval of the dictionary information from a magnetic drum are taken into account as a result of which when executing a series of commands the computer functions as a multi-address computer having the possibility of operating with variable-length memory cells. The bibliography has 10 entries.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

UDC 8.74

USSR

URUTYAN, R. L.

"Central Control Unit"

Tr. Vychisl. tsentra AN ArmSSR i Yerevan. un-ta (Works of the Computation Center of the Armenian SSR Academy of Sciences and Yerevan University), 1972, No 7, pp 69-90 (from RZh-Kibernetika, No 9, Sep 72, Abstract No 9V558)

Translation: The structure of a central control unit is discussed. It is implemented by means of two automata and is designed for coordination of the functioning of various circuits and assemblies of the computer.

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USSR UDC 8.74

OVANISYAN, A. G., URUTYAN, R. L.

"Operation Circuit"

Tr. Vychisl. tsentra AN ArmSSR i Yerevan. un-ta (Works of the Computation Center of the Armenian SSR Academy of Sciences and Yerevan University), 1972, No 7, pp 47-68 (from RZh-Kibernetika, No 9, Sep 72, Abstract No 9V560)

Translation: The description of the logical circuitry and synthesis of the local control module and shift circuit are presented. A procedure is given for synthesizing the control circuit realized by means of microprograms considering the utilization of the pulse-potential logical elements. A study was made of the problems of constructing single-cycle functional circuits with many outputs.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

USSR UDC 8.74

OVANISYAN, A. G., URUTYAN, R. L.

"Construction Determinant"

Tr. Vychisl. tsentra AN ArmSSR i yerevan. un-ta (Works of the Computation Center of the Armenian SSR Academy of Sciences and Yerevan University), 1972, No 7, pp 91-101 (from RZh-Kibernetika, No 9, Sep 72, Abstract No 9V562)

Translation: A study was made of the problems connected with constructing automata designed to isolate (find) certain constructions given in advance. A construction is made up of defined (given in advance) configurations of ones and zeros in a set of binary numbers. The possibility of constructing an automaton which realizes search for a series of different types of constructions is demonstrated.

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CAROL

ELECTRONICS AND PRECISION EQUIPMENT

SC: JPRS 59926
30 Aug 73

(2)

TELEVISION PRODUCTION

FORTY YEARS OF TV SET PRODUCTION REVIEWED

[Article by V. Yu. Roginskiy and V. A. Urvalov, Moscow, Tekhnika Kino i Televideniya, Russian, No 6, June 1973, pp 64-68]

Television broadcasting, combining the functions of radio and movies, has become a powerful means of ideological and aesthetic influence over the life of the people in the USSR.

The pool of televisions, which is numbered in the millions, the developing network of transmitting stations and radio relay lines, the Orbit television system, and the Molniya-1 relay transmitter satellites allow for an assured reception of television programs over the vast area of our country where the predominant part of the populace lives.

There are approximately 50 million televisions in the USSR and 5 to 7 million are produced and sold annually. Television has especially grown in the last 20 years. Up until 1950 the number of televisions was relatively small (photo 1)[not reproduced], and their quality in comparison with the contemporary standard was low: the screen dimensions were small and there was a limited number of frequency channels and an unassuming exterior appearance.

The history of modern television operating on the basis of electronic methods formally began on 22 May 1911 when an instructor of the Petersburg Technological Institute, B. L. Rozing, succeeded in effecting the transmission and reception of the most simple images with the aid of an electric telescope he had invented. Rozing's invention, which had been patented in a number of countries as early as 1907, utilized the cathode ray tube, the prototype of the modern television [1]. However up until the 30's electronic television had not spread throughout the world. Men were satisfied with the systems of mechanical television broadcasting.

In the USSR television broadcasting by mechanical scanning at a resolution of 30 lines was begun in 1931 in Moscow, and later in Leningrad, Tomsk, Odessa and Novosibirsk. These were long-wave transmissions which allowed for reception at great distances from the transmitter.

URVALOV, V.A.

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

USSR

UDC: None

NEFED'YEV, A. P. and URVALOV, V. A.

"Transmitting and Receiving Television Tubes"

Moscow, Tekhnika Kino i Televideniya, No. 6, 1970, pp 43-49

Abstract: The most important achievement in television receiver engineering is the increase in guaranteed life of the kinescope to 3000 hours, with an actual life of as much as 8000-10,000 hours. This is the result of the perfection of individual assembly construction, the use of new high-quality materials, and the high level of individual technical operations and production as a whole. The domestic industry is now producing modern kinescopes of the 47LK2B and 59LK2B types, which are given the government "mark of quality." The kinescope with the largest screen, the 65LK1B, is at least as good as the best foreign product. In the near future, rectangular kinescopes with screen diagonals of 50 and 61 cm can be expected, but flat kinescopes and vacuumless electroluminescent screens are more problematical. The wide domestic use of color television requires a fourfold expansion of transmitter tube output as well as a substantial improvement in their parameters and greater uniformity. Other problems in transmitter tube development are increasing resolving power, higher sensitivity, broadening

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NEFED'YEV, A. P., et al, Tekhnika Kino i Televideniya, No. 6, 1970, pp 43-49

of the spectral range, reduction in dimensions, and higher economy. In 1969, Soviet industry produced 50 types of camera tubes: superorthicons, vidicons, and dissectors; various type numbers of black-and-white and color camera tubes are given. The article is illustrated with fairly good photographs showing both kinescopes and camera tubes.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

USSR

UDC 619.616.575.858.1

SHIDKOV, S. A., SERGEYEV, V. A., TRUBITSYN, B. I., and URVANTSEV, N. M., All Union Scientific Research Institute of Veterinary Virology and Microbiology

"Characteristics of a Cold Variant of Foot-and-Mouth Disease Virus (Type O)"

Moscow, Veterinariya, No 10, Oct 71, pp 42-44

Abstract: An earlier study showed that passaging foot-and-mouth disease virus (type O, strain Or-13) in a culture of calf kidney cells at 24°C resulted in its attenuation. Further study revealed that elevation of the temperature led to restoration of the lost properties, the sequence and intensity of which were determined by the temperature. Virus cultured at 30°C became pathogenic for mice and mildly pathogenic for guinea pigs and swine. It had no effect on cattle, could not be transmitted to calves by contact, and produced virtually no immunity. Virus cultured at 34°C became more pathogenic for guinea pigs and swine and caused atypical lesions on the oral mucosa, could be transmitted to cattle by contact but not to swine, and produced marked immunity in cattle and sheep. Virus grown at 37°C produced even stronger immunity and could be transmitted by contact

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USSR

SHIDKOV, S. A., et al, Veterinariya, No 10, Oct 71, pp 42-44

to swine from vaccinated swine and claves. Virus grown at 39°C was able to replicate. The resistance of the cold variant to heating was not affected by elevation of temperature.

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USSR

UDC 547.26'118

URVANTSEVA, G. A., PREDVODITELEV, D. A., and NIFANT'YEV, E. Ye., Moscow Pedagogical Institute imeni V. I. Lenin

"Ethyleneamidophosphites of the Derivatives of Glycerine. V. Synthesis of N-Methylaminoethylglycerophosphates and Phosphonates"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 10, Oct 73, pp 2187-2189

Abstract: Hydrolysis of N-methylethyleneamidophosphate and N-methylethyleneamidophosphite of 1,2-isopropylideneglycerine has been investigated. It has been shown that glycerine N-methylcolaminophosphates can be isolated in form of complexes with cadmium chloride. Chloral adds energetically to N-methylaminoethylphosphate of 1,2-isopropylideneglycerine forming a derivative of phosphonic acid.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

USSR

UDC 547.26'118

PREDVODITELEV, D. A., URVANTSEVA, G. A., and NIFANT'YEV, E. Ye., Moscow Pedagogical Institute Imeni V. I. Lenin

"Ethyleneamidophosphites of Glycerine Derivatives. IV. Synthesis of Methylcolaminoglycerophosphonates, Enolphosphates and Phosphites"

Leningrad, Zhuranl Obshchey Khimii, Vol 43 (105), No 8, Aug 73, pp 1801-1806

Abstract: The reaction of 1,2-isopropylideneglycerylethylene methyl phosphite (I) with chloral and methyl iodide was investigated, the reactions yielding respectively β,β-dichlorovinyl-N-methyl-N-β-chloroethylamidophosphate and N-methyl-N-β-iodoethylmethylphosphonate of 1,2-isopropylideneglycerine. Alcoholysis of (I) yields unsymmetric phosphites which undergo ring-chain tautomerism. The phosphites obtained were used in Perkov and Arbuzov reactions. New phosphorus-organic compounds -- analogues of glycerophospholipids — were synthesized.

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USSR

UDC 547.26'118

PREDVODITELEV, D. A., URVANTSEVA, G. A., FILIPPOVICH, Yu. B., and NIFANT'YEV, E. Ye., Moscow Pedagogical Institute Imeni V. I. Lenin

"Ethyleneamidophosphites of Glycerine Derivatives. III. Sulfohydrolysis of Ethylenemethylamidophosphites of 1,2-Isopropylideneglycerine"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 8, Aug 73, pp 1799-1801

Abstract: Sulfohydrolysis of the cyclic ethylenemethylamidophosphite of 1,2-isopropylideneglycerine gave methylcolaminoglycerophosphothionophosphite. Based on this product a novel analog of natural glycerophospholipids was obtained containing a thiophosphoryl group and a phosphorus-carbon bond in its structure. A new synthetic route for 3-N-methylethyleneamidothionophosphate was developed started from 1,2-isopropylideneglycerine thionophosphite. It was shown that the sulfohydrolysis of ethylenemethylamidophosphites is different from the hydrolysis process.

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USSR

UDC 547.26'118

PREDVODITELEV, D. A., URVANTSEVA, G. A., and NIFANT'YEV, E. Ye., Moscow Pedagogical Institute Imeni V. I. Lenin

"Ethyleneamidophosphites of the Derivatives of Glycerine. Synthesis of N-Methylcephaline Analogues Modified in the Phosphorus Moiety"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 4, Apr 73, pp 948-949

Abstract: Novel analogues of natural N-methylcephaline have been synthesized. A mixture of 2 g distearoylglycerine and 0.79 g hexaethyltriamide of phosphorous acid was heated in 20 ml benzene for 5 hrs at 90°, the solvent removed, and the residue recrystallized to yield tetraethyldiamidophosphite of 1,2-distearoylglycerine (I), m.p. 61-62°. (I) heated in benzene with N-methylcolamine yields 3-N-methylethyleneamidophosphite of 1,2-distearoylglycerine (II), m.p. 67-68°. Adding sulfur to a benzene solution of (II) at 20° converts it to 3-N-methylethyleneamidothionephosphate of 1,2-distearoylglycerine, m.p. 62.5-63°. Adding 0.075 g of chloral to 0.32 g (II) in 5 ml benzene and keeping the mixture for 3 hrs at 20° yield 3-β,β-dichlorovinyl-β-chloroethyleneamidophosphate of 1,2-distearoylglycerine, m.p. 38-39°.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

USSR

UDC: 621.372.061

URYADNIKOV, Yu. F., FOMIN, A. F.

"Threshold Properties of a Frequency Demodulator with Phase Synchronization"

V sb. Metody pomekhoustoychivogo priyema ChM i FM (Methods of Interference--Free FM and PM Reception--collection of works), Moscow, "Sov. radio", 1970, pp 111-123 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12A142)

Translation: The authors investigate the threshold properties of a phase--synchronized demodulator with regard to initial detuning and phenomena of the type of disruptions in synchronization. The investigations are reduced to computational formulas and graphs. Various methods of statistical linearization of the transmission factor of a phase discriminator are also evaluated. Resumé.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

USSR UDC: 550.834:622.241

FROYMOVICH, B. N., POMERANTS, L. I., GERASIMOV, N. N., UR'YASOVA, L. I., All-Union Scientific Research Institute of Geophysical Prospecting Methods; Special Design Office of Electrical Measuring Instruments

"A Method of Measuring the Apparent Resistance of Rocks"

Moscow, Otrkytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 5, 1970, p 71, patent No 261590, filed 24 Nov 66

Abstract: This Author's Certificate introduces a method of measuring the apparent resistance of rocks on alternating current by means of an electromagnetic mirror ratiometer-insert in a light-beam oscilloscope. The procedure consists of sending the signal of apparent resistance to the measurement loop of the ratiometer, and part of the supply current to the current loop of the ratiometer. As a distinguishing feature of the patent, measurement accuracy is improved by rectifying the measurement signal of the apparent resistance and the fraction of the supply current before feeding them to the ratiometer loops.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

1/2 013 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--VIRUS INDUCED SYNTHESES ON PREFORMED SUBCELLULAR CULTURES -U-

AUTHOR--ZHDANOV, V.M., YERSHOV, F.I., URYAYEV, L.V., NOVOKHATSKIY, A.S.

COUNTRY OF INFO--USSR

SOURCE--VOPROSY VIRUSOLOGII, 1970, NR 1, PP 38-46

DATE PUBLISHED--------70

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SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PROTEIN SYNTHESIS, TISSUE CULTURE, EASTERN EQUINE ENCEPHALITIS VIRUS, VENEZUELAN EQUINE ENCEPHALITIS VIRUS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1987/0053 STEP NO--UR/0402/70/000/001/0038/0046

CIRC ACCESSION NO--AP0103733

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

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UNCLASSIFIED

CIRC ACCESSION NO--AP0103733 PROCESSING DATE--11SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE STUDY, SYNTHESIS OF RNA AND PROTEIN WAS INVESTIGATED IN MITOCHONDRIAL MICROSOMAL FRACTION DERIVED FROM CHICK EMBRYO FIBROBLASTS INFECTED WITH EEE VIRUS. IN THIS FRACTION REPLICATIVE COMPLEX OF THE VIRUS WAS FOUND AND THERE OCCURRED INTENSIVE SYNTHESIS OF CELLULAR AND VIRUS SPECIFIC RNA AND PROTEINS. PRODUCTS OF THE SYNTHESIS INCLUDED RIBONUCLEOPROTEINS DIFFERING FROM EACH OTHER IN SEDIMENTATION AND DENSITY CHARACTERISTICS. ONE OF RIBONUCLEOPROTEINS HAD SEDIMENTATION CONSTANT 160 S AND DENSITY OF 1.43G-CMPRIME3 WHICH CORRESPONDED TO PARAMETERS OF RIBONUCLEOPROTEINS OF VEE VIRUS VIRIONS.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

USSR

UDC 576.311.1

URYBAYEV, L. V., DERKACH, YU. S., ZHDANOV, V. M., and YERSHOV, F. I.,
Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR

"Structural Proteins of Venezuelan Equine Encephalomyelitis Virus"

Moscow, Biokhimiya, No 1, 1971, pp 92-96

Abstract: Polyacrylamide gel electrophoresis revealed that highly purified VEE virus contains three main proteins. The ribonucleoprotein fraction isolated by centrifuging virus destroyed by tween and ether in a performed cesium chloride density gradient (1.43 g/cm3) contained a protein with a molecular weight of 59,000 to 61,000. The more mobile hemagglutinin protein had a molecular weight of 34,000 to 38,000. The fraction which may represent basal membrane protein had a molecular weight of 15,000 to 18,000.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420007-1

Acc. Nr. AP0036537

Ref. Code: UR 0069

PRIMARY SOURCE: Kolloidnyy Zhurnal, 1970, Vol 32, Nr 1, pp 110 - 116

THE EFFECT OF VIBRATION ON THE BONDING OF SOLID SURFACES BY HIGH LOADED POLYMER ADHESIVES

Ur'yev, N. B.; Mikhaylov, M. V.

Summary

The rheological properties of epoxy-resins heavily extended with a fine-dispersed quartz filler have been studied in a steady laminar flow and under the action of vibration. The effective viscosity of the systems studied has been found to decrease sharply under the action of vibration due to the breaking up of the coagulation structure formed by the filler. The effect of vibration is accompanied by increase in the monomer polymerization rate and a higher adhesive strength of the bonds between steel samples.

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URYUKOV, B.A.

electronic engineering

TECHNICAL TRANSLATION

FSTC-HT-23-822-71

ENGLISH TITLE: Correlation of Volt-Ampere Characteristics of Coaxial Plasmatron with Magnetic Arc Stabilization

FOREIGN TITLE: Obobshcheniye Vol'tampernykh Kharakteristik Koaksial'nogo Plazmotrona s Magnitnoy Stabilizatsiyey Elektricheskoy Dugi

AUTHOR: V. S. Kisel', B. A. Uryukov, V. I. Yadrov

electronic engineering

SOURCE: *Izvestiya Sibirskogo Otdeleniya Akademii Nauk SSSR* No. 8(2), 1967, pp. 105-103

Translated for FSTC by Leo Kanner Associates

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Electronic Engineering

URYUKOV, B.A.

TECHNICAL TRANSLATION

FSTC-HT-23-825-71

ENGLISH TITLE: Calculation of Temperature Field in Plasmatron Electrodes

FOREIGN TITLE: Raschet Polya Temperatur v Elektrodakh Plazmatrona

AUTHOR: B. A. Uryukov

SOURCE: PMTF, No. 5, 1967, pp. 84-91

Translated for FSTC by Leo Kanner Associates

NOTICE: GRAPHICS NOT REPRODUCIBLE

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[illegible] manuscript. The graphics were not reproducible. An attempt to obtain the original graphics yielded negative results. Thus, this document was published as is, in order to make it available on a timely basis.

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1/2 038 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--GROUP CLASSIFICATION AND PARTICULAR SOLUTIONS OF THE ENERGY EQUATION FOR AN ELECTRIC ARC IN A GAS FLOW -U-

AUTHOR-(03)-VEDERNIKOV, G.A., STRONGIN, M.P., URYUKOV, B.A.

COUNTRY OF INFO--USSR

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ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STUDY OF THE BEHAVIOR OF AN ELECTRIC ARC IN AN UNBOUNDED GAS FLOW ASSUMED TO BE STEADY AND AXISYMMETRIC. PARTICULAR SOLUTIONS TO THE ENERGY EQUATION FOR THIS PROBLEM ARE SOUGHT ON THE BASIS OF A GROUP CLASSIFICATION OF THE ENERGY EQUATION, SINCE KNOWLEDGE OF THE MAIN GROUP MAKES IT POSSIBLE TO OBTAIN A BROAD CLASS OF PARTICULAR SOLUTIONS CALLED INVARIANT GROUP SOLUTIONS.

FACILITY: AKADEMIIA NAUK SSSR, INSTITUT TEORETICHESKOI I PRIKLADNOI MEKHANIKI, NOVOSIBIRSK, USSR.

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plasma

JPRS 58011
18 Jan 73

URYUKOV, B.A.

LOW-TEMPERATURE PLASMA GENERATORS

(Conference in Novosibirsk)

[Article by Candidate of Technical Sciences B. A. Uryukov, Moscow, Vestnik Akademii Nauk SSSR, Russian, [illegible] ber 1972, pp 108-109]

The Institute of Thermal Physics of the Siberian Department of the AS USSR conducted in Novosibirsk on 26-30 June the Fifth All-Union Conference on Low-Temperature Plasma Generators. Participating in it were about 320 Soviet specialists and also scientists from England, Bulgaria, East Germany, Poland, the USA, West Germany, and Czechoslovakia.

The themes of the reports presented at the conference (about 120) were determined by urgent research and industrial requirements.

At the plenary sessions, survey reports of eminent Soviet and foreign scientists were heard. In a report entitled "Low-temperature plasma generators -- results of investigations and problems", M. F. Zhukov shed light on contemporary concepts of the physics of the process of combustion of an electric arc in plasmotrons, the latest achievements in criterial generalizations of their integral characteristics in criterial generalizations, stability of hot electrodes, and questions of the criterial characteristics obtained on the basis of tests of plasmotrons of relatively little power can be extended to high-power plasmotrons, for example, to the 50-megawatt plasmotron created in the USA. It was pointed out that on electrodes of thoriated tungsten very little erosion, of the order of 5×10^{-9} grams/(A x second), is successfully achieved in an atmosphere of various gases.

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L. S. Polak discussed the results and prospects of theoretical, experimental and industrial work on the use of plasmatrons with various designs in the production of chemical products and formulated the requirements for plasma installations.

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In the report of N. P. Kozlov, L. V. Leskov, Yu. S. Protasov and O. I. Khvosyuk, data obtained in investigations of the characteristics of plasma focus were presented and the possibilities of its application in practical applications of low-temperature plasma were noted.

Various contact and contactless methods of determining local characteristics of plasma, including a method with use of an infrared laser interferometer, were examined in the reports of K. I. Soloukhin and Yu. V. Yakobi on "Methods of infrared diagnosis of plasma" and V. M. Gol'dfarb on "Diagnosis of arc plasma". V. I. Rachovsky and V. Germoch (Czechoslovakia) and G. Ecker (West Germany) shed light on contemporary views of various effects near electrodes and new results of investigations in that area.

Analysis of various methods of theoretical solution of problems of the interaction of an electric arc with the medium, and also a first attempt to calculate turbulent flows in the presence of an arc were presented by G. A. Urvuk. V. Boler (East Germany) presented a survey of methods of spraying heat-resistant coatings by means of a plasma jet and designated scientific tasks connected with that plasma process.

I. Uhlenbusch (West Germany), in a report entitled "Investigation of nonequilibrium of arc plasma", characterized mainly the theoretical aspects in the consideration of various processes which lead to the destruction of thermodynamic equilibrium in plasma.

The report of the American scientists E. Pfender and E. Eckort entitled "Results of investigations conducted at the University of Minnesota in the area of arc technology and plasma heat transfer", was devoted to experimental and theoretical questions of heat transfer in the wall of a plasmatron and an electrode.

The sectional reports were distributed over four large sections: theoretical investigations of electric arcs under conditions of induced heat exchange under the effect of aerodynamic and magnetic fields; experimental investigations of electric arc discharges in plasmotrons; near-electrode processes in high-pressure electric arcs and electrode erosion; and the diagnosis of arc plasma. Without discussing the sectional reports, one should positively evaluate the presentation at the conference of work relating to investigations of turbulent arcs, careful experimental study of electrode erosion, theoretical and experimental examination of the stability of combustion of the arc in plasmotrons, and attempts to take into consideration nonequilibrium of low-temperature plasma and differences of temperature of particles of plasma.

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