"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

Aleshina, L. A., Vrublevskaya, E. L., Mokrov, A. P., Rykova, L. L., Shivrin, O. N., Rabinovich, Ye. M., Moscow, Fizika i Khimiya Obrabotki Materialov, No 6, Nov-Dec 73, pp 111-117.

50 wt. % W. Increasing the temperature for this alloy leads to the formation of concentration heterogeneities. The kinetics of sintering in the surface layer differ from sintering in the volume of a specimen. The surface layers are richer in W.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

UDC 539.67

USSR

KRISHTAL, M. A., VYBOYSHCHIK, M. A., VODOP'YANOV, V. N., GOLOVIN, S. A., MOKROV, A. P., and GONCHARENKO, I. A.

"Dislocation Damping and Study of Dislocation Structure and Mobility Along the Dislocation Tubes"

Sb. "Vnutrenneye treniye v metallicheskikh materialakh" (Internal Friction in Metallic Materials), Moscow, Izd-vo "Nauka," 1970, pp 85-90

Abstract: The effect of weakly soluble impurities and their mobility on stress in surface layers and upon formation of a dislocation network before the diffusion front is studied. The change in dislocation structure is investigated by internal friction time dependence. At the same time, the additional impurities precipitation upon dislocations was considered in the recovery process of Cu-La, Cu-Li, and Cu-B alloys. An increased dislocation density in the diffusion zone was studied on an Fe-In system. Diffusion equations for impurity atoms along the dislocation, its solution, and analysis are presented. The described model works in dilute solutions with impurity concentrations less than 0.05% and at temperatures lower than those corresponding to the formation of Cotterell's atmospheres. 1 table. 5 figures, 3 references.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

USSR UDC 669.017:620.18

BELOBRAGIN, YU. A., KRISHTAL, M. A., MOKROV, A. P., and STRELKOV, V. I., Tula

"Interdiffusion in the Iron-Nickel System During the Investigation of the Kirkendall Effect"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 1, Jan-Feb 72, pp 108-113

Abstract: The Kirkendall effect was experimentally investigated on multilayer Fe-Ni specimens with passive marks located both on the welding surface and inside the metals at specific distances. The dislocations of the marks in the diffusion zone in the whole area of concentrations of the Fe-Ni system were tested. The results are discussed by reference to diagrams showing dislocations of the marks relative to the x-coordinate, the length variations of specimens as a function of time, and the distribution of non-equilibrium concentration of vacancies in the diffusion zone of the specimen. A sign change of the Kirkendall effect in the area of high Ni concentrations was observed in long-term annealing and at the maximal temperature fo 1340°C, which is explained by the high diffusion mobility of Ni atoms. The development of a diffusion porosity from the Fe side (Frenkel effect), resulting in an elongation of the specimen during annealing according to a parabolic rule, was observed. The non-equilibrium concentration of vacancies along the diffusion area is estimated. Four illustrations, 10 formulas, 11 biblio. refs.
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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

1/2 026 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--KINETICS AND THERMODYNAMICS OF THE FORMATION OF A DIFFUSION LAYER IN THE IRON CHROMIUM SILICON ALLOY SYSTEM -U-

AUTHOR-(03)-KRISHTAL, M.A., MOKROV, A.P., MYASNIKOVA, L.V.

M

COUNTRY OF INFO--USSR

SOURCE--FIZ. KHIM. MEKHAN. MAT., 1970, 6, (2), 59-65

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CHROMIUM STEEL, SILICON CONTAINING ALLOY, METAL DIFFUSION, THERMODYNAMIC ANALYSIS, METAL SURFACE PROPERTY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1679 STEP NO--UR/0369/70/006/002/0059/0065

CIRC ACCESSION NO--AP0129049

UNCLASSIFIED

APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7"

"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

UNCLASSIFIED PROCESSING DATE--27NOV70

2/2 026

CIRC ACCESSION NO--AP0129049

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SOME GENERAL LAWS GOVERNING THE KINETICS AND THERMODYNAMICS OF THE FORMATION OF A DIFFUSION LAYER ON CR STEELS IN THE COURSE OF SILICIZING (RESULTING IN THE FORMATION OF AN FE,CR,SI ALLOY) ARE PRESENTED. THE EFFECT OF CR ON THE SI DISTRIBUTION IS INDICATED AND THE KINETIC AND THERMODYNAMIC CONSTANTS FOR THE DIFFUSION OF SI IN THE FE,CR,SI SYSTEM ARE LISTED. THE RESULTS PRESENT A CLEAR PICTURE OF THE PROCESSES GOVERNING THE MUTUAL REDISTRIBUTION OF CR AND SI DURING THE SILICIZING OF CR STEELS AND HELP IN ESTIMATING THE MECHANICAL PROPERTIES OF THE SURFACE LAYER.

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USSR UDC 616.89-008.46-053.2-085.356:577.164.1

DERGACHEV, V. V., PIVOVAROVA, G. N., KHAMAGANOVA, T. G., SHAGINYAN, Ye. V., KRASNUSHKINA, N. A., KULIKOVA, N. V., and MOKROVSKIY, V. B., Medico-Biological Faculty, Second Moscow Medical Institute imeni N. I. Pirogov and Department of Higher Nervous Activity Institute of Hygiene of Children and Adolescents, Ministry of Health USSR

"Orotic and Folic Acids and Vitamin B_{12} in the Treatment of Children with Memory Disorders"

Moscow, Sovetskaya Meditsina, Vol 33, No 7, Jul 70, pp 78-82

Abstract: Since the genetic apparatus contained in all cells preserves not only phylogenetic but also ontogenetic information, and since nucleoproteins and nucleic acids are essential constituents of the memory mechanism, a study was undertaken in which the cofactors and precursors of proteins and nucleic acids -- orotic acid, folic acid, and vitamin B_{12} -- were administered to a group of children with disturbed memory. The results indicated, that even though short-term memory, attention, and certain other mental functions were not affected, long-term memory improved significantly. Positive results can be obtained only if treatment is begun early, before marked organic changes develop in the central nervous system.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

USSR UDC:

BARDYSHEV, I. I., GOL'DANSKIY, V. I., and MOKRUSHIN, A. D., Institute of Chemical Physics of the USSR Academy of Sciences, Moscow

"The Effect of Illumination on the Lifetime of Positrons in Silver Halide Crystals"

Leningrad, Fizika Tverdovo Tela, Vol 14, No 3, Mar 1972, pp 935-937

Abstract: The authors present and discuss the results of measuring the lifetime of positrons in AgCl and AgBr crystals before and after illumination at 300 and 77°K. Generally accepted methodology was used for measuring positron lifetime using an Ortec unit with a 437-A model, time-amplitude converter. The halfwidth of the peak of instantaneous coincidence from Co^{60} is $0.4 \cdot 10^{-9}$ sec. and the logarithmic slope of the sides of the peak is $0.07 \cdot 10^{-9}$ sec. A $Na^{22}Cl$ precipitate is used as a positron source and placed between two mica foils 1 mg/cm^2 thick. Curves are given of the lifetime spectra of positrons in AgCl at room temperature along with a table of the duration and intensity values of the components of the time spectra. The results show that the τ_2 component in ion crystals is related to the formation of A-centers, while τ_3 is caused by the annihilation of positrons in F-centers. Original article: One figure, one table, and 10 bibliographic entries.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

1/2 021 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--FORMATION OF POSITRONIUM IN 1S AND 2S STATES IN OXIDES -U-

AUTHOR-(03)-GOLDANSKIY, V.I., LEVIN, B.M., MOKRUSHIN, A.D.

M

COUNTRY OF INFO--USSR

SOURCE--PIS'MA ZH. EDSP. TEOR. FIZ. 1970, 11(1), 38-42

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--POSITRONIUM, FORBIDDEN BAND, ANTIMONY, LANTHANUM OXIDE, MERCURY, METAL OXIDE, EXCITED STATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/0999 STEP NO--UR/0386/70/011/001/0038/0042

CIRC ACCESSION NO--AP0115020

UNCLASSIFIED

APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7"

"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

UNCLASSIFIED PROCESSING DATE--27NOV70

2/2 021

CIRC ACCESSION NO--AP0115020

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. POSITRONIUM (I) FORMATION REPORTED IN VARIOUS OXIDES IS LIMITED TO OXIDES WITH A FORBIDDEN ENERGY BAND (E SUBG) OF LARGER THAN OR EQUAL TO 6.8 EV. FOR THE FORMATION OF I IN THE 1S STATE IT IS NECESSARY THAT 6.8 EV SMALLER THAN OR EQUAL TO E SUBG SMALLER THAN OR EQUAL TO 13.6 EV, AND FOR THE FORMATION OF I IN THE 2S STATE, 1.7 EV SMALLER THAN OR EQUAL TO E SUBG SMALLER THAN OR EQUAL TO 3.4 EV. THE SPECTRUM OF LIFE TIMES OF POSTIRONS IN B SUB2 O SUB3 (E SUBG EQUALS 9.0 EV) SHOWED A LONG LIVED COMPONENT (1.7 TIMES 10 PRIME NEGATIVE9 SEC). THE SPECTRA FOR POSITRONS IN HGO (E SUBG EQUALS 1.0-1.2 EV), LA SUB2 O SUB3 (E SUBG EQUALS 2.6 EV), AND SB SUB2 O SUB3 (E SUBG EQUALS 4.2 EV) SHOW NO I (1S) IS FORMED BUT MAY SHOW THE FORMATION OF I (2S) IN LA SUB2 O SUB3 AND SB SUB2 O SUB3. FACILITY: INST. KHIM. FIZ., USSR.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

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PROCESSING DATE--13NOV70

1/2 015

TITLE--FORMATION OF POSITRONIUM IN 1S AND 2S STATES IN OXIDES -U-

AUTHOR-(03)-GOLDANSKIY, V.I., LEVIN, B.M., MOKRUSHIN, A.D.

COUNTRY OF INFO--USSR

SOURCE--JETP LETERS (USA), VOL. 11, NO. 1, P. 8-42 (JAN. 1970)

DATE PUBLISHED----JAN70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--POSITRONIUM, BORON OXIDE, POSITRON, SPECTRUM, FORBIDDEN BAND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/1750

STEP NO--US/0000/70/011/001/0008/0042

CIRC ACCESSION NO--AP0133655

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APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7"

"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

UNCLASSIFIED PROCESSING DATE--13NOV70

2/2 015

CIRC ACCESSION NO--AP0133655

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACTS. MEASUREMENTS OF THE POSITRON LIFETIME SPECTRUM OF GRANULATED B SUB2 O SUB3 POWDER REVEALED POSITRONIUM PRODUCTION. THIS ACCORDS WITH A PORPOSED SCHEME TO CORRELATE POSITRONIUM FORMATION WITH FORBIDDEN BAND WIDTH IN OXIDES. A CRITERION FOR POSITRONIUM FORMATION IS FORMULATED. FACILITY: USSR ACAD. SCIS.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

1/2 025 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--EFFECT OF THE CHEMICAL STATE OF THE SURFACE ON POSITRONIUM ANNIHILATION CHARACTERISTICS IN POROUS SYSTEM -U-

AUTHOR-(05)-LEVIN, B.M., MUKRUSHIN, A.D., KALIKO, M.A., GOLDANSKIY, V.I., PERVUSHINA, M.N.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(4), 855-

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--SPECTROSCOPIC ANALYSIS, POROSITY, PHYSICAL CHEMISTRY PROPERTY, SILICA GEL, ALUMINA, SODIUM, ISOTOPE, POSITRON, PARTICLE ANNIHILATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/0774 STEP NO--UR/0020/70/191/004/0855/0858

CIRC ACCESSION NO--AT0131368

UNCLASSIFIED

APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7"

"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

2/2 025 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AT0131368

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A RELATIVE STUDY WAS MADE OF THE TIME SPECTRA FOR POSITRON ANNIHILATION IN MEDIUM SIZED POROUS SAMPLES OF SILICA GEL, ALUMINA GEL, AND ALUMNIOSILICATE CATALYST. THE LIFETIME OF THE POSITRONIUM WAS MEASURED BY OBSERVING THE DELAYED COINCIDENCES OF ONE OF THE ANNIHILATION (0.5 MEV) GAMMA QUANTA AND THE 1.3-MEV NUCLEAR GAMMA QUANTA WHICH IS IN A CASCADE WITH THE POSITRON, WHICH GIVES A MEASURE OF THE TIME FOR THE EMISSION OF A POSITRONIUM BY THE PRIME22 NA SOURCE. THE OBSD. DIFFERENCE IN THE QUENCHING OF THE LIFETIME FOR THE ORTHOPOSITRONIUM, TAU SUB3, IN 2 SAMPLES OF THE CATALYST DEPENDING ON THE DEGREE OF DEHYDRATION OF THEIR SURFACE ALLOWS THE ORDER OF MAGNITUDE OF THE RATE FOR THE REACTION H PRIME POSITIVE EQUALS P SUBS YIELDS H PLUS E PRIME POSITIVE PLUS E SUBE PRIME POSITIVE IS THE EXCESS ENERGY REMOVED BY THE POSITRON, TO BE EVALUATED FOR POSITRONIUM ATOMS WHICH ARE LOCALIZED IN THE PORES. IN THE RANGE OF RELATIVE PRESSURES, P-P SUBS EQUALS 0.2-0.014, THE SP. RATE OF QUENCHING OF THE POSITRONIUM IS (.05-1.0) TIMES 10 PRIME7-SEC. BECAUSE OF THE REPEATED COLLISION OF THE POSITRONIUM WITH THE WALLS OF THE PORES, THIS RATE OF QUENCHING CAN ENSURE A NOTICEABLE DECREASE IN THE POSITRONIUM'S LIFETIME FOR VERY SMALL SURFACE CONCNS. OF H PRIME POSITIVE IONS IN THE PORES.

FACILITY: INST. KHIM. FIZ., MOSCOW, USSR.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

Ion Exchange

UDC: 541.1238/.9

USSR

GOL'DANSKIY, V. I., Corresponding Member Academy of Sciences USSR, LEVIN B. M., MOKRUSHIN, A. D., KALIKO, M. A., and PERVUSHINA, M. N., Institute of Chemical Physics, Moscow, Academy of Sciences USSR: All Union Scientific Research Institute of Oil Refining, Ministry of Petroleum USSR

"Effect of the Chemical State of the Surface on Annihilation Characteristics of Positronium in Porous Systems"

Moscow, Doklady Akademii Nauk, SSSR, Vol 191, No 4, Apr 70, pp 855-858

Abstract: The authors studied annihilation of positronium atoms localized in the pores of medium porous samples of silica gel, alumina and aluminum-silicon catalyst in an attempt to develop a method for determination of the volume and surface of the pores, since in such pores positronium exists much longer. The life span of positronium was measured by observing delayed coincidence of one of the annihilating γ-quanta and the nuclear γ-quantum in series with the positron which yielded a time tag for the emission of a positron by the Na^{22} source. Because of instrumental limitation the τ_2 component of the time spectrum could not be determined. Only

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

USSR

GOL'DANSKIY V. I., et al, Doklady Akademii Nauk, SSSR, Vol 191, No 4. Apr 70, pp 855-858

the characteristics of the longest component connected with the loss of positronium atoms could be obtained -- average life span (τ_3) and intensity (I_2).

At the pressure $p=p_s$ (pressure of saturated water vapor at room temperature) τ_3 was absent and I_2 was zero. In the range $p/p_s=1-0.3$ I_2 increases sharply while τ_3 remains quite unchanged. At pressures $p/p_s<0.3$ the situation becomes different. In the case of the aluminum-silicone catalyst there occurs a strong quenching of positronium and along with τ_3 time a drop in I_2 occurs with the decrease of p/p_s. No quenching of positronium occurs in silica gel while only slight quenching occurs in alumina accompanied by a small change in I_2. A relationship exists between the strength of Bronsted acid centers and the changes in τ_3 and I_2.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

UDC 669.183.218.5

USSR

TRUVETSKOV, K. M., TARASOV, V. M., KONOVALOV, I. M., MOKRUSHIN, K. D., TAT'YANSHCHIKOV, A. G., and YAKUSHIN, V. I.

"Operation of a Dual Bath Steel Melting Furnace at the Cherepovetsk Metallurgical Plant"

Proisvodstvo Chernykh Metallov (Production of Ferrous Metals - Collection of Works), No 75 Metallurgiya Press 1970, pp 56-68

Translation: The operating indicators of a dual bath steel-making furnace for 1968 are analyzed. The productivity of the dual bath furnace was 1.024 million tons. The technology of melting of steel in the dual bath furnace has a number of specifics in the mode of carbon oxidation, steel heating, and desulfuration and dephosphoration of the metal. Over 60% high-quality structural steel is produced by the furnace. The quality of the metal is equal to that of open-hearth steel. 8 figures; 3 tables; 5 biblio. refs.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

UDC 669.183.218.5

USSR

TRUBETSKOV, K. M., TARASOV, V. M., ALYMOV, A. A., MOKRUSHIN, K. D., TAT'YANSHCHIKOV, A. G., CHIZHOVA, V. YA., and YAKUSHIN, V.I.

"Material Balance of the Process in Dual-Bath and Open-Hearth Furnaces"

Proizvodstvo Chernykh Metallov [Production of Ferrous Metals--Collection of Works], No 75, Metallurgiya Press, 1970, pp 68-73

Translation: A method of determining the yield of usable steel and consumption of metal charge is studied, as well as the methodology of experimental melts with material balance. Data are presented on the consumption of iron in dual-bath and open-hearth furnaces operating with intensive blowing of the bath with oxygen. The yield of iron in a dual-bath furnace is 93.6%, in an open-hearth furnace--93.5%. 2 tables; 3 biblio. refs.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

UNCLASSIFIED PROCESSING DATE--11SEP70

1/2 019

TITLE--EFFECT OF TEMPERATURE ON THE ADSORPTION OF GELATIN AND GELATIN ACTIVATED COLLOIDAL PARTICLES ON THE FREE SURFACE OF A HYDROSOL AIR

AUTHOR--KRASNOVA, G.S., SKRYLEV, L.D., MOKRUSHIN, S.G.

M

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(3) 692-5

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--COLLOID, ADSORPTION, GEL, SULFIDE, HIGH TEMPERATURE EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1993/0279 STEP NO--UR/0080/70/043/003/0692/0695

CIRC ACCESSION NO--AP0113209

UNCLASSIFIED

APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7"

"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

UNCLASSIFIED PROCESSING DATE--11SEP70

2/2 019

CIRC ACCESSION NO--AP0113209

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AT 20DEGREES AIR BUBBLES UNDER DYNAMIC CONDITIONS ADSORBED 3.0 AND 6.0 TIMES 10 PRIME NEGATIVE7 G-CM PRIEM2 OF GELATIN FROM ITS 0.02 AND 0.07PERCENT SOLNS., RESP. AN INCREASE OR A DECREASE OF THIS TEMP. LOWERED THE ADSORPTION OF GELATIN. ADSORPTION OF PARTICLES OF HYDROSOLS OF CD AND SB SULFIDES ACTIVATED WITH GELATIN BY AIR BUBBLES WAS INDEPENDENT OF TEMP. FROM 15 TO 45DEGREES, WHILE THE ADSORPTION OF ACTIVATED PB SULFIDE AND CU FERROCYANIDE HYDROSOLS DECREASESHARPLY IN THE SAME TEMP. INTERVAL. THIS OBSERVATION IS EXPLAINED BY THE ADSORPTION OF DISPERSED GELATIN BY COLLOIDAL SULFIDES OF CD AND SB, WHICH WERE COMPOSED OF SMALLER PARTICLES WHEN COMPARED TO PB AND CU CONTG. HYDROSOLS.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

UNCLASSIFIED PROCESSING DATE--11SEP70

1/2 011

TITLE--RIBOFLAVINE ANALOGS. V. TRIFLUOROMETHYL DERIVATIVES OF DINITRODIHYDROPHENAZINE -U-

AUTHOR--MOKRUSHIN, V.S., PUSHKAREVA, Z.V., VAVILOV, G.A.

COUNTRY OF INFO--USSR

SOURCE--KHIM. GETEROTSIKL. SOEDIN. 1970, (1), 119-21

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HETEROCYCLIC NITROGEN COMPOUND, AROMATIC AMINE, ORGANIC NITRO COMPOUND, RIBOFLAVIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1987/1691 STEP NO--UR/0409/70/000/001/0119/0121

CIRC ACCESSION NO--AP0104904

UNCLASSIFIED

APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7"

"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

UNCLASSIFIED PROCESSING DATE--11SEP70

2/2 011

CIRC ACCESSION NO--AP0104904

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A SERIES OF THE TITLE COMPDS. (I) WAS PREPD. FROM THE CORRESPONDING DIPHENYLAMINES (II). THUS, A MIXT. OF 0.00175 MOLE O-NITROANILINE, 8 ML ETOH, AND 0.5 RANEY NI WAS HYDROGENATED AT ROOM TEMP. AND 1 ATM 12-15 HR, THE CATALYST FILTERED OFF, AND THE FILTRATE DILD. WITH 0.0035 MOLE ACONA IN 10 ML H SUB2 O AND SHAKEN WITH 0.0018 MOLE PICRYL CHLORIDE IN 14 ML ETOH 1 HR TO GIVE THE CORRESPONDING II. THE FOLLOWING II WERE PREPD. (R PRIME1, R PRIME2, R PRIME3, M.P. (ETOH), AND PERCENT YIELD GIVEN): CH SUB2 CH SUB2 OH, ME, CF SUB3, 174DEGREES, 69; CH SUB2 CH SUB2 OH, H, CF SUB3, 176DEGREES, 83; CH SUB2 CH SUB2 OH, CF SUB3, H, 168DEGREES, 54. II(R PRIME1 EQUALS 1,DEOXY,D,GALACTIT,1,YL "D,GALACTYL") FORMED I WHEN CRYSTD. II BOILED WITH ACONA IN ETOH 5 HR GAVE I. THE FOLLOWING I WERE PREPD. (R PRIME1, R PRIME2, R PRIME3, M.P., AND PERCENT YIELD GIVEN): CH SUB2 CH SUB2 OH, ME, CF SUB3, 270DEGREES, 67; CH SUB2 CH SUB2 OH, H, CF SUB3 273DEGREES, 68; CH SUB2 CH SUB2 OH, CF SUB3, H, 248DEGREES, 58; "D,GALACTYL," ME, CF SUB3, 235DEGREES, 74; "D,GALACTYL," H, CF SUB3, 237DEGREES, 69; "D,GALACTYL," CF SUB3, H, 228DEGREES, 52. I HAVE UV LAMBDA SUBMAX. 550-55 NM.

UNCLASSIFIED

APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7"

"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

1/2 017 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--MECHANICAL PROPERTIES, OF CARBON STEEL, AFTER HIGH TEMPERATURE THERMOMECHANICAL TREATMENT, AND THE AUSTENITE GRAIN SIZE -U-

AUTHOR-(03)-SHAVRIN, O.I., MOKRUSHIN, YU.A., ILINA, A.N.

COUNTRY OF INFO--USSR

SOURCE--METALLOVEDENIE I TERM. OBRABOT. METALLOV. 1970, (3), 57-58

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--MECHANICAL PROPERTY, CARBON STEEL, THERMOMECHANICAL TREATMENT, BORON CONTAINING ALLOY, BORON INTERNSIFIED STEEL, METAL HEAT TREATMENT, TOUGHNESS, GRAIN SIZE, AUSTENITE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/0928 STEP NO--UR/0129/70/000/003/0057/0058

CIRC ACCESSION NO--AP0133017

UNCLASSIFIED

APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7"

"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

UNCLASSIFIED PROCESSING DATE--04DEC70

2/2 017

CIRC ACCESSION NO--AP0133017

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RELATION BETWEEN THE MECHANICAL PROPERTIES OF C STEEL CONTG. TRACES OF B, THE FORM OF HEAT TREATMENT APPLIED TO THE STEEL (E.G. HIGH TEMP. THERMOMECHANICAL TREATMENT COMPRISING 30PERCENT DEFORMATION AT 900DEGREESC), AND THE AUSTENITE GRAIN SIZE WAS STUDIED. IN GENERAL THE PRECISE FORM OF THERMOMECHANICAL TREATMENT HAD NO MARKED EFFECT ON THE UTS AND YS, ALTHOUGH IT APPRECIABLY INCREASED THE TOUGHNESS AND DUCTILITY OF THE STEEL, PRESUMABLY AS A RESULT OF THE CORRESPONDING FALL IN AUSTENITE GRAIN SIZE.

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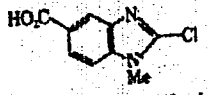
Acc. Nr. AP0045160 Abstracting Service: CHEMICAL ABST 4/70 Ref. Code: UR0409

90369r Substitution of a hydrazine group by chlorine in a benzimidazole series. Moksnshina, G. A.; Kunakova, R. V.; Bednyagina, N. P. (Ufal. Politekh. Inst. im. Kirova, Sverdlovsk, USSR). *Khim. Geterotsikl. Soedin.* 1970, (1), 151-2 (Russ). Refluxing 1-methyl-2-hydrazino-5-benzimidazolecarboxylic acid (HCl salt m. 309-11°) with $SOCl_2$ gave 1-methyl-2-chloro-5-carboxybenzimidazole (I), m. 197°. This is a peculiar



(I)

nucleophilic displacement in the benzimidazole series. 1-Methyl-2-hydrazinobenzimidazole and 1-benzyl-5-nitro-2-hydrazinobenzimidazole reacted similarly with $SOCl_2$. G. M. Kosolapoff

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REEL/FRAME
19780060

APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7"

"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

AA0052665 MOKRYAKOV, V. M. UR 0482

Soviet Inventions Illustrated, Section III Mechanical and General, Derwent, 1-70

241296 PILE-DRIVING SUSPENSION ARRANGEMENT differs from that in Pat. 233536 by hinging carriage 7 to the driving jib 8, at which end there is a stop made in the form of an electric jack electrically connected to the switch terminals placed in a hinged movable carriage, allowing free motion of the driving jib 8 in the vertical plane. This improves the construction. 20.4.67. as 1164347/29-14, Add to 233536, LOSHAK, I.A. et al. "Glavsevkavstroya" Office (15.8.69) Bul. 13/1.4.69. Class 84c, Int. Cl. E 02d.

8/5/13

Loshak, I. A.; Zal'tsman, T. M.; Grinberg, L. I.; Mokryakov, V. M.; Mazyar, Ye. Z.; Beyzym, Ya. T.

Konstruktorskoye Tekhnologicheskoye Byuro Spetsializirovannogo Upravleniya Mekhanizatsii Stroitel'stva Glavsevkavstroya

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19821415

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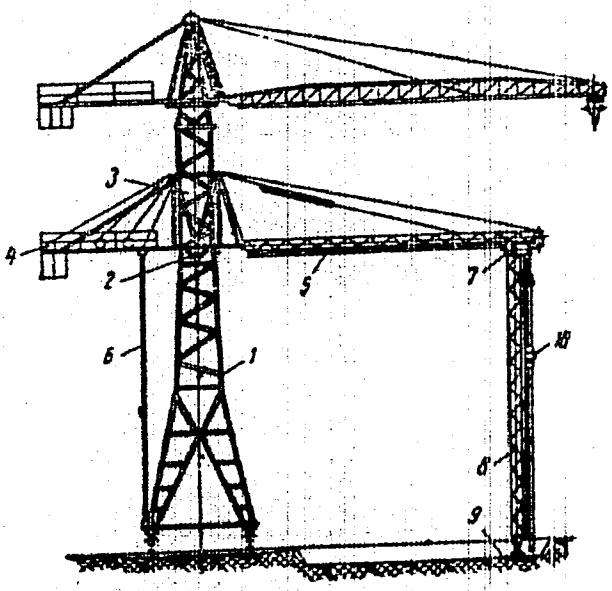

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19821416

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

UDC 621.762.002.5

USSR

MOKSHANTSEV, G. E., BULANOV, V. Ya., MIKHAYLICHENKO, A. V., and ROIMISTROVA, V. P.

"Experience in the Production of a Reducing Atmosphere From Compressed Propane-Butane Mixture and Its Utilization in Powder Metallurgy"

Nauka i proiz-vo [Science and Production -- collection of works], No. 4, Chelyabinsk, 1970, pp. 47-52, (Translated from Referativnyy Zhurnal—Metallurgiya, No. 1, 1971, Abstract No.1 G501 by G. Derkacheva).

Translation: A compact laboratory gas reactor has been produced which can be used to perform various processes involved in the conversion of compressed propane-butane mixtures and their application for reduction and sintering of various metal powders. The operating principle of the reactor is described. Optimal modes are determined for complete conversion of the propane-butane mixture. The mixture produced is also recommended for heat treatment processes during heating of metals and alloys in controlled atmospheres. 4 figures; 6 tables.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

USSR UDC 621.762.669.018.29

BOGODUKHOV, S. I., BULANOV, V. Ya., and MOKSHANTSEV, G. F.

"Study of Properties of Certain Highly Alloyed Metal Ceramic Compositions Based on Powdered R18 Steel"

Nauka i proiz-vo [Science and Production -- collection of works], No. 4, Chelyabinsk, 1970, pp. 57-59 (Translated from Referativnyy Zhurnal-Metallurgiya, No. 2, 1971, Abstract No. 2 G456 by G. Derkacheva)

Translation: The composition and technology of manufacture of four highly alloyed compositions based on powdered R18 steel filings are presented. The technology of heat treatment and strength properties of these compositions are compared to cast steel. 3 tables; 3 biblio. refs.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

UNCLASSIFIED PROCESSING DATE--23OCT70

1/2 010

TITLE--KINETICS OF THE REDUCTION OF IRON OXIDES BY THE COMBINATION OF GASES AND SOLID CARBON -U-

AUTHOR-(02)-VERESHCHAGIN, YU.F., MOKSHANTSEV, G.F.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., CHERN. MET. 1970, 13(2), 16-19

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--IRON OXIDE, METAL REDUCTION, CARBON BLACK, CARBON MONOXIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/1407 STEP NO--UR/0148/70/013/002/0016/0019

CIRC ACCESSION NO--AT0120200

UNCLASSIFIED

APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7"

"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

UNCLASSIFIED PROCESSING DATE--23OCT70

2/2 010

CIRC ACCESSION NO--AT0120200

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PURPOSE OF THE WORK WAS TO OBTAIN EXPRESSIONS FOR THE RATE OF THE PROCESS AND THE TIME OF ATTAINING A GIVEN DEGREE OF REDN., ON THE BASIS OF THE KNOWN PREREQUISITES RELATIVE TO THE STAGEWISE MECHANISM OF THE GASIFICATION PROCESS AND RELATIVE TO THE PROPOSITIONS ASSUMED BY S. T. ROSTOVTSEV (1952). IT WAS ALSO ASSUMED THAT THE LAYER TO BE REDUCED CONSISTS OF ONE LOWER OXIDE, WHICH IS UNIFORMLY MIXED WITH SOLID C (SOOT), THAT THE CALCN. MODEL IS AN INFINITE LAYER OF THICKNESS ALPHA, AND THAT THE REDUCING ATM. IS PURE CO. FROM THESE CONSIDERATIONS, FORMULAS WERE DEDUCED TO DESCRIBE THE KINETIC DEPENDENCES RELATIVE TO THE COMBINATION REDN. PROCESS. FACILITY: ORENBURG. FILIAL KUIBYSHEV. POLITEKH. INST., ORENGURG, USSR.

UNCLASSIFIED

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

USSR UDC 532.517.2:536.25

BRDLIK, P. M., DUBOVIK, V. I., MOLCHADSKIY, I. S., Moscow

"Heat and Mass Transfer with Natural Convection on a Vertical Porous Surface During Injection of Carbon Dioxide Into Air"

Zhurnal Prikladnoy Mekhaniki i Tekhnicheskoy Fiziki, No 6, 1971, pp 122-125.

ABSTRACT: Results are presented from the numerical calculation of a laminar boundary layer with free convection of a binary mixture of carbon dioxide and air at a vertical heated surface. A comparison is presented of the numerical solution with an approximate analytic solution and experimental results.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

USSR UDC:669.715.046.54/55

KOROTKOV, V. G., MOKSUNOV, A. M. and SALOKHIN, A. V.

"Refining of Aluminum Alloys with Briquetted Salts"

Moscow, Tsvetnyye Metally, No 2, Feb 74, pp 59-61

Abstract: The use of briquetted salts for simultaneous refinement and modification of aluminum alloys increases the degree of their purification from oxide inclusions and hydrogen, causes the necessary refinement of the structure and reduces the time required for alloy-processing operations. A diagram is presented of a device for charging and dosing of briquettes. The device consists of a hopper with a vibrator, a belt transporter, a pulse-counting relay and a distributing and unloading trough.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

USSR UDC: 681.3

KORSHUNOV, Yu. M., STEPASHKIN, A. I., VAKARIN, I. A., IOFA, A. L., MOLCHADSKIY, L. I., STEPANENKO, V. N., EMIKH, L. A.

"A Digital Spectral Analyzer"

Tr. Ryazan. radiotekhn. in-ta (Works of the Ryazan Radio Engineering Institute), 1970, vyp. 29, pp 158-168 (from RZh-Kibernetika, No 9, Sep 71, Abstract No 9V554)

Translation: The paper describes a model of a specialized digital computer device designed for studying the frequency make-up of random signals. Expressions are presented for estimating the basic parameters of the device under various operating conditions. Authors' abstract.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

USSR UDC: 621.391.81

MOLCHADSKIY, L. I., YANOVER, B. I.

"A Quadrature Receiver Which Utilizes Discrete Representation of Signals"

Tr. Ryazan. radiotekhn. in-ta (Works of the Ryazan Radio Engineering Institute), 1970, vyp. 29, pp 275-285 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6A59)

Translation: The authors consider a correlation receiver for a signal with an unknown initial phase, represented by discrete samplings. An algorithm is found for the operation of a correlation receiver which uses discrete samplings of the quadrature components of initial processes. It is shown that at a quantization frequency equal to to the width of the frequency spectrum of the signals, only multiplication of instantaneous samplings of the signals in the receiver is possible without accounting for the high--frequency functions of the readings. Resumé.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

MOLCHAN, G.. Geophysics

19. USSR

KANTOROVICH, L., Academician, SADOVSKIY, M., Academician, KEYLIS-BOROK, V., MEDVEDEV, S., MOLCHAN, G., and NEKOSSOV, I., Institute of Earth Physics imeni O. Yu. Shmidt, USSR Academy of Sciences

"Cities in the Earthquake Zone"

Moscow, Pravda, 28 Jul 70, p 3

Abstract: Over 13 percent of the USSR, more than 2,900,000 square kilometers with a population of 32,000,000, lies in seismic zones where destructive earthquakes with an intensity of 7 or more are possible -- large parts of the Far East, Central Asia, Caucasus, Carpathian region, Crimea, and Siberia. This year some 31 percent of the housing is to be built in these areas. The authors stress the economics of earthquakeproof building. Prime consideration should be given less to the intensity of potential earthquakes than to their frequency and the potential damage they may cause. Location of industries and housing should be planned accordingly. In addition, the earthquake insurance system should be based on differential rates according to the type of structure and degree of seismic stability. The authors call for all seismological research to follow a single state plan with centralized financing. Adoption of their recommendations would not only result in substantial savings but increase the safety of the population.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

USSR

MOLCHAN, V. A., SHELEST, V. A., ASTAKHOV, V. I.

"Some Problems of Automation of Composition of a Class Schedule in a University Using the Minsk-22 Computer, with Kiev Institute of Petrochemistry as an Example"

Mekhaniz. Ucheta i Vychisl. Rabot. Mezhved. Nauch. sb. [Mechanization of Accounting and Calculation Work. Interdepartmental Scientific Collection], No 13, 1971, pp 105-111, (Translated from Referativnyy Zhurnal, Kibernetika, No 2, 1972, Abstract No 2 V726 by the author's).

Translation: An actual problem of introduction of a method of automation of the process of composition of a class schedule for the Kiev Institute of Petrochemistry is studied, with the task of assuring timely scheduling. A mathematical formulation of the problem of composition of a semester schedule is presented for the statement used in most universities.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

USSR UDC 621.396.6-181.48

MORALEV, S. A., TABARNYY, V. G., MOLCHANOV, A. A., LESHCHENKO, YU. I., and LOGVINENKO, N. P.

"A System for the Machine Design of BIS (Large Scale Integrated Circuits) Based on MOS-Transistors"

Elektron. prom-st'. Nauchn-tekhn. sb. (Electronics Industry. Collected Scientific-Technical Articles), 1972, No 2, pp 44-49 (from RZh-Radiotekhnika, No 11, Nov 72, Abstract No 11 B225)

Translation: The proposed machine design system makes it possible to automate the basic stages of the design and development of MOS type, large integrated circuits. This includes the following: from the statement of the technical specifications in the form of functional circuits with an inventory of the circuit-technical and technological limitations to the representation of the topology of the microcircuit in the form of a geometric drawing, along with the corresponding code on perforated tape. The information recorded on the perforated tape is used for the automated production of photopatterns. Resume.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

USSR

MOLCHANOV, A. A., OLEKSENKO, P. F., SVECHNIKOV, S. V., and SHARADZIN, A. M.

UDC 621.383

"Regenerative Optron Theory"

Kiev, Poluprovodnikovaya tekhnika i mikroelektronika, No. 6, 1971, pp 91-100

Abstract: The optron is an optical-electronic device which, operated with positive feedback, is widely used as a basic element in many devices. The theoretical investigation of its static and dynamic operation modes is connected with the solution of algebraic or non-linear differential equations of a complex nature. The present paper analytically investigates the static and dynamic modes of the optron in regenerative optical feedback through the use of a power series approximation of the volt-brightness characteristic of the electroluminophor, with the electronic computer used at certain stages of the computation. As a result of the analysis, a condition of compatibility for the impedance moduli of the electroluminophor and the photoresistor is obtained, which can be used as the basis for engineering computations of the optron. It is

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USSR

MOLCHANOV, A. A., et al., Poluprovodnikovaya tekhnika i mikroelektronika, No 6, 1971, pp 91-100

found that the computation relationships found theoretically agree closely with the experimentally obtained expressions. The authors are connected with the Semiconductor Institute of the Ukrainian Academy of Sciences.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

UDC 624.041:519.2

USSR

MOLCHANOV, A. A. (Moscow)

"Statistical Methods of Evaluation of the Results of Experimental Investigations of Rod Structures"

Moscow, Stroitel'naya Mekhanika i Raschet Soouzheniy, No 1, 1971, pp 31-34

Abstract: The article deals with the reliability of results of experimental research on rod structures. Determination of the forces in the structural elements on the basis of measured stresses is reduced to a problem of regression. Methods are set forth for checking the significance of the forces, the adequacy of the equation, and the construction of the confidence regions. The results of statistical analysis yield a formalized criterion for placement of the measurement facilities in the investigated cross sections of the structural elements. Practical examples are presented. 1 figure, 1 table, 4 bibliographic entries.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

USSR

UDC 621.643+001.5

MOLCHANOV, A. A., Central Scientific Research, Planning and Design Institute ~~of Steel Construction~~

"Examination of the Shroud-Type Crossing Over the Amudar'ya River"

Moscow, Stroitel'stvo Truboprovodov, No 1, Jan 71, pp 22-23

Abstract: The shroud-type suspended bridge over the Amudar'ya River, 390 m span length, built for the Bukhara-Ural gas pipeline, has been examined after three years of service. The examination included operating conditions, bridge structural elements, the internal work of structural joints by high-strength bolts, and deformations of the shroud-type systems. A special investigation comprised the problem of reutilization of high-strength bolts in the event of their necessary displacement. From tests on a lot of bolts having been in service, the dependence of their tensile stress N on the torque M_t was determined and compared with non used bolts. A diagram shows the N vs Mt dependence in comparison with greased and dry threads of the nut. The tests indicate the possibility of a reutilization of high-strength bolts after their proper processing after three years of service. Determined structural deformations of the shroud-type trussed beams, dislocations of truss joints

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

USSR

MOLCHANOV, A. A., Stroitel'stvo Truboprovodov, No 1, Jan 71, pp 22-23

and pylons, and the creeping of ropes are discussed and recommendations are given to improve the operating conditions. Four biblio. refs.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

UNCLASSIFIED PROCESSING DATE--23OCT70

1/3 027

TITLE--CERTAIN POSSIBILITIES OF APPLICATION OF PRINCIPLES OF OPTO ELECTRONICS FOR IMPROVEMENT OF MEASURING INSTRUMENTATION -U-

AUTHOR-(05)-BOGOSLAVSKIY, G.E., MOLCHANOV, A.A., OLEKSENKO, P.F., SVECHNIKOV, S.V., SITNIKOV, L.S.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, IZMERITEL'NAYA TEKHNIKA NO 1, JAN 70, PP 5-8

DATE PUBLISHED----JAN70

SUBJECT AREAS--METHODS AND EQUIPMENT, ELECTRONICS AND ELECTRICAL ENGR., PHYSICS

TOPIC TAGS--ELECTROOPTIC MEASURING EQUIPMENT, ELECTRIC MEASURING INSTRUMENT, ELECTROLUMINESCENCE, PHOTORESISTOR

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0393 STEP NO--UR/0115/70/000/001/0005/0008

CIRC ACCESSION NO--AP0119338

UNCLASSIFIED

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

2/3 027 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119338

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIS ARTICLE PRESENTS THE RESULTS OF INVESTIGATIONS ON THE POSSIBILITIES OF APPLYING THE PRINCIPLES OF OPTO ELECTRONICS TO THE DESIGN OF ELECTRIC MEASURING INSTRUMENTS AND CONVERTERS OF VARIOUS PHYSICAL VALUES INTO VOLTAGE AND FREQUENCY. THE ADVANTAGES OF OPTO ELECTRONIC METERING DEVICES WITH RESPECT TO POINTER TYPE INSTRUMENTS ARE STRESSED. ONE OPTO ELECTRONIC SHIFT REGISTER BASED ON THE USE OF AN INTERNAL PHOTO EFFECT PHENOMENON AND ELECTROLUMINESCENCE IS DESCRIBED AND ITS SCHEMATIC DIAGRAM IS GIVEN. THE DESIGN CALCULATIONS OF THIS REGISTER ARE PRESENTED. THEY ARE REDUCED TO A CALCULATION OF THE ELECTROLUMINISCENCE AND PHOTORESISTOR LAYERS PARAMETERS, TO DETERMINATION OF THE STRUCTURAL FEATURES RELATED TO THE TRANSMISSION OF LIGHT FLUX AND, CONSEQUENTLY, OF VOLTAGE. TESTS OF THE REGISTER PROTOTYPE, CONDUCTED JOINTLY BY THE INSTITUTE OF SEMICONDUCTORS OF THE UKRAINIAN ACADEMY OF SCIENCES AND THE DESIGN BUREAU OF THE KIEV "TOCHELEKTROPRIBOR" PLANT, CONFIRMED ITS EFFICIENCY. THE OPTO ELECTRONIC DEVICES, WHICH ARE THE DEVELOPMENT OF THE SHIFT REGISTER SUCH AS: 1) A METERING DEVICE WITH NO MECHANICAL JOINT, BUT WITH A CODED OUTPUT, ENSURING THE DELIVERY OF DATA TO A DIGITAL DEVICE; AND 2) A DEVICE FOR AUTOMATIC PARTICLE COUNTING AND DETERMINING THEIR SIZE, ARE DESCRIBED. THIS DEVICE ALLOWS THE SORTING OF DATA ON OBJECT PRESENCE AS WELL AS ON ITS SURFACE, WITHOUT USING A COMPLEX APPARATUS OF STATISTICAL APPROXIMATION, USED IN THE ANALOG DEVICES.

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3/3 027 PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119338

ABSTRACT/EXTRACT--A WORKING MODEL OF AN OPTO ELECTRONIC DECODER FOR TWO DECADES, WITH OUTPUT ON GAS DISCHARGE INDICATORS OF 10 TIMES 40 TIMES 30MM OVERALL DIMENSIONS, WITHOUT HIGH VOLTAGE TRANSISTORS, WAS CONSTRUCTED RECENTLY BY THE INSTITUTE OF SEMICONDUCTORS TOGETHER WITH THE INDEPENDENT DESIGN BUREAU OF THE KIEV 'TOCHELEKTROPRIBOR" PLANT. THE ADVANCED TECHNOLOGY OF SUCH DECODERS TOGETHER WITH THE REDUCTION OF THEIR DIMENSIONS MAKES IT POSSIBLE TO ENVISAGE THE REDUCTION OF THEIR PRICES. IT IS CONCLUDED THAT AMONG THE MULTIPLE WAYS OF IMPROVING THE MEASURING INSTRUMENTS, THE APPLICATION OF OPTO ELECTRONIC PRINCIPLES IS A VERY PROMISING ONE.

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M

UDC 621.382.3

USSR

MOLCHANOV, A. A., KHODOSH, L. S.

"Effect of Mobility as a Function of the Transverse Field on MOS Transistor Characteristics"

Kiev, Izvestiya VUZ -- Radioelektronika, Vol 13, No 7, 1970, pp 892-895

Abstract: Practically all mathematical models of MOS transistors described in literature are constructed on the assumption that the effective mobility of charge carriers in the channel is constant, but such models yield substantial errors in a broad range of gate voltages. This brief communication derives the equation for the characteristics of MOS transistors in the non-saturated region with the substrate charge taken into account, and analyzes the causes of the divergence between the model proposed in an earlier work (Crawford, R. H., "MOSFET in Circuit Design" New York, 1967) and experimental results. This model is the basis of the equation derived in the communication, where it is assumed that the mobility of the charge carriers in the channel is a function of the transverse field at the semiconductor surface according to an empirical formula. The disparity between theoretical and experimental curves for the MOS output characteristics are explained by the drop in mobility along the longitudinal field. Curves of the characteristics

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

USSR

MOLCHANOV, A. A., et al., Izvestiya VUZ -- Radioelektronika, Vol 13, No 7, 1970, pp 892-895

for the model proposed in this communication and for the constant mobility model compared with the experimentally plotted characteristic show the first to be far closer to the experimental curve than the second.

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AA0101343

UR 0482

Soviet Inventions Illustrated, Section III Mechanical and General, Derwent, 2-70

242084 DOWNHOLE CONTACT for geophysical instruments comprises two magnetic conductors joined to form a single circuit so that a conductor core (1) carries the input coil (2) and the instrument part consists of a toroidal conductor (3) and output coil (4). When these conductors abut they form a continuous circuit. The coils are sealed by casting in a synthetic composition (5,6). By designing the core member as a truncated cone and the torus as a conical recess the two conductors afford reliable contact when joined.

17.5.68. as 1240170/26-24, MOLCHANOV, A.A. et al. Volgo-Urals Geophysical Survey Inst. (19.9.69.) Bul. 15/25.4.69. Class 5a, Int. Cl. E 21b.

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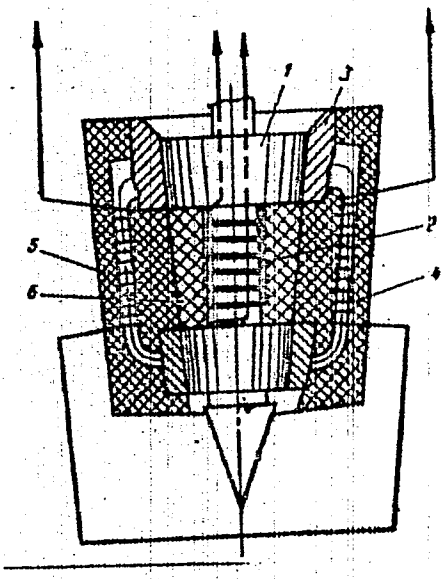
AA0101343



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19851147

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

AA0101343

AUTHORS: Molchanov, A. A.; Sirayev, A. Kh.; Khayrov, A. G.

Volgo-Ural'skiy Filial Vsesoyuznogo Nauchno-Issledovatel'skogo Instituta Geofizicheskikh Metodov Razvedki

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19851148

APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7"

"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

USSR UDC: 532.72; 669.015.23

AKSEL'RUD, G.A., MOLCHANOV, A.D., FIKLISTOV, I.N. and KOSYK, V.P.

"Mass Transfer in Solid Body-Liquid System Under Action of High-Voltage Sparks in Pipe"

Minsk, Red. Kollegiya Inzh.-Fiz. Zh AN BSSR (Editorial Board of Engineering and Physics Journal, Academy of Sciences Belorussian SSR), 1972, Dept. manuscript in VINITI, No 4762-72 DEP of 25 Aug 72 (from Referativnyy Zhurnal-Mekhanika, 1973, Abstract No 2B1044 DEP)

Translation: From the approximation of the underwater point explosion theory the qualitative universal equations are obtained, which describe the kinetics of external mass transfer during oscillatory motion of liquid in the pipe excited by high-voltage spark discharges in the stationary liquid and in the steady flow. Experimental verification of these equations was conducted with the case of dissolving fixed cylindrical specimens of KNO_3 salt in distilled water. It confirmed the high effectiveness of spark discharge method. For instance,

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AKSEL'RUD, G. A., et al., Red. Kollegiya Inzh.-Fiz. Zh AN BSSR, 1972, No 4762-72 DEP of 25 Aug 72

is dissolving a weighed layer of granulated gypsum, grain size of 1-1.5 mm, in a 38 mm diameter pipe, a 2.7 times increase of speed was achieved with discharge energy of 50 joule, frequency of 4 hz, energy density of 1400 kilojoule by 1 m^2 of weighed layer. The theoretical equations agree satisfactorily with the experimental data and in the range of investigation can be used for the design of mass transfer apparatus. 8 references.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

UNCLASSIFIED PROCESSING DATE--04DEC70

1/2 029

TITLE--METHOD OF SPARK DISCHARGES FOR MASS TRANSFER ACCELERATION IN A SOLID LIQUID SYSTEM -U-

AUTHOR-(04)-MOLCHANOV, A.D., AKSELRUD, G.A., CHERNYAVSKIY, A.I., FIKLISTOV, I.N.

COUNTRY OF INFO--USSR

SOURCE--INZH.-FIZ. ZH. 1970, 17(2), 293-8

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--SPARK DISCHARGE, OSCILLATION, ACOUSTIC EMISSION, MASS TRANSFER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/1826 STEP NO--UR/0170/70/017/002/0293/0298

CIRC ACCESSION NO--AP0118790

UNCLASSIFIED

APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7"

"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

2/2 029 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0118790

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SPARK DISCHARGES CAUSING ACOUSTIC PULSED OSCILLATIONS IN THE LIQ. PHASE WERE EFFECTIVE IN ENHANCING DISSOLN. OF SOLIDS IN LIQS. THE EFFECT OF THE DISCHARGES WAS STUDIED EXPTL. BY USING KNO SUB3 CYLINDERS HANGING IN A LIQ. OR FASTENED PARTICLES OF GYPSUM. A MAX. INCREASE IN THE MASS TRANSFER COEFF. IS OBSD. IN THE RESULTING AMPLITUDE OF OSCILLATIONS RANGE OF 190-200 HZ WHEN THE FASTENED PARTICLES SHOWED AN INCREASE OF 500PERCENT; FOR THE LOOSE PARTICLES IT WAS 230PERCENT. THE INTENSITY OF SPARKING WAS 0.5-1 J AND THE DURATION OF A DISCHARGE WAS 25 MU SEC. FACILITY: POLITEKH. INST., LVOV, USSR.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

USSR UDC: 621.791.753.5.037-52:62-413:669.715

KORNEYEV, A. D., Candidate of Technical Sciences, ZUSIN, V. YA., Engineer, FILIPPOV, V. K., Engineer, BAGRYANSKAYA, S. K., Engineer, and MOLCHANOV, A. F., Engineer, Zhdanov Metallurgical Institute

"Automatic Hidden Arc Welding of Thick-Walled Aluminum"

Moscow, Svarochnoye Proizvodstvo, No 6, Jun 73, pp 48-49

Abstract: Aluminum 40mm thick was welded with a hidden arc (under ceramic flux) using the VDM-1601 rectifier as the power source. Two parallel connected VKSM-1000 rectifiers were used for metal thicker than 40mm. The butt joint welding of plates made from A5 aluminum was conducted with two electrode wires, perpendicular to the weld seam axis. A plate made from low-carbon steel with a milled groove was used in forming the reverse side of the seam. Specimens 40, 50, and 62mm thick, consisting of two plates, were welded in testing the one side, single pass method. Analyses of the macro- and microstructure of the seam metal show high density and the absence of pores and slag inclusions both in seam cross section and in places where the plates join the seam. The results show that single pass, one sided welding of sheets up to 70mm is possible without preheating and edge shaping.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

USSR UDC 535.374

BASOV, N. G., DANILYCHEV, V. A., MOLCHANOV, A. G., POPOV, YU. M., and KHODKEVICH, D. D., Physics Institute imeni P. N. Lebedev, Academy of Sciences USSR

"Lasers Using the Luminescence of Self-Trapped Excitons in Condensed Inert Gases"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, Vol 37, No 3, 1973, pp 494-497

Abstract: The article considers a scheme for the population of the working levels and conditions for the generation of vacuum UV radiation in condensed inert gases excited by a fast electron beam. Experimental data are given on the laser coherence and the efficiency of the conversion of the electron beam energy to radiative energy in liquid xenon.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

1/2 037 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--DEVELOPMENT OF AVALANCE IONIZATION IN TRANSPARENT DIELECTRICS UNDER THE INFLUENCE OF A LIGHT PULSE -U-

AUTHOR--MOLCHANOV, A.G.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TVERD. TEL 1970, 12(3), 954-6

DATE PUBLISHED--------70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR., PHYSICS

TOPIC TAGS--AVALANCHE DIODE, EMISSION THRESHOLD, ELECTROMAGNETIC FIELD, DIELECTRIC BREAKDOWN, ELECTRON SCATTERING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/1173 STEP NO--UR/0181/70/012/003/0954/0956

CIRC ACCESSION NO--AP0120020

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APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7"

"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

2/2 037 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0120020

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DEVELOPMENT WAS CONSIDERED OF ELECTRON AVALANCHES IN TIME AND THE THRESHOLD ELECTROMAGNETIC FIELDS AT WHICH BREAKDOWN TAKES PLACE IN TRANSPARENT DIELECS. CONTG. SMALL AMTS. OF IMPURITIES WHEN SCATTERING OF ELECTRONS IS DETD. BY PHONONS. FOR ELECTRON ENERGY NOT SMALLER THAN 1 EV, THE MAIN CONTRIBUTION TO THE COLLISIONS IS GIVEN BY OPTICAL PHONONS, AND AT HIGHER ENERGIES, THE FREQUENCY OF COLLISIONS IS DETD. BY ACOUSTICAL PHONONS. THIS LEADS TO THE FACT THAT IN THE PROCESS OF COLLECTING ENERGY BY THE ELECTRON IN THE LIGHT FIELD, STARTING FROM THE THERMAL ENERGY KT TO THE IONIZATION ENERGY, THE OPTICAL PHONONS PLAY AN ESSENTIAL ROLE ONLY AT THE 1ST COLLISION OF THE ELECTRON WITH ABSORPTION OF A QUANTUM OF LIGHT, AND THE OTHER COLLISIONS TAKE PLACE ON ACOUSTICAL PHONONS. THE KINETIC EQUATION FOR THE ENERGY OF ELECTRONS DISTRIBUTION WAS TAKEN IN THE FORM OF THE GENERALIZED DIFFUSION EQUATION. FACILITY: FIZ. INST. IM. LEVEDEVA, MOSCOW, USSR

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

USSR UDC 577.3

MOLCHANOV, A. M., Institute of Biological Physics, Academy of Sciences USSR, Pushchino, Moscow Oblast'

"Endogenous Biochemical Oscillations as the Probable Basis for Physiological Rhythms"

Moscow, Biofizika, Vol 16, No 5, Sep/Oct 71, pp 878-883

Abstract: In consideration of the evolutionary origin of physiological rhythms, a distinction is usually made between circadian rhythms with a period of 24 hrs, which are regarded as enforced, and shorter endogenous metabolic rhythms with a period amounting to a fraction of a second. It is shown that the period of autooscillations may be sensitive to small changes in the parameters of a biological system, e.g., changes in the activity of a key enzyme. One may assume that before the development of photosynthesis diverse metabolis systems of an endogenous origin existed, some of which were relatively useless and unproductive. Among them were systems with a rhythm the period of which was close to 24 hrs. Their weakness was indicated by the long period. As photosynthesis developed, these systems were reinforced and became of increased importance because their rhythm coincided with that imposed by external conditions.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

USSR

UDC 577.3

MOLCHANOV, A. M., Institute of Biophysics, Academy of Sciences USSR, Pushchino, Moskovskaya oblast and Institute of Applied Mathematics, Academy of Sciences USSR, Moscow

"Biophysics of Complex Systems. Mathematical Models. Control and Adaptation. Evolutionary Aspect of a Control Problem"

Moscow, Biofizika, Vol 15, No 3, May/Jun 70, pp 497-502

Abstract: A hypothesis concerning the connection between control and adaptation within the evolutionary aspect of the problem is presented. Control is a form of adaptation on the level of "associations," connected with disintegration into "passive-steady" and "adaptive" populations and occurring under especially critical conditions. A mathematical model of evolutionary occurrence of control is suggested. The problems and difficulties in studying this model and the value of limiting cases which permit research by special methods are indicated.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

1/2 021 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--RELAXATION MODEL OF ADAPTATION -U-

AUTHOR--MOLCHANOV, A.M.

COUNTRY OF INFO--USSR

SOURCE--BIOFIZIKA 1970, 15(2), 352-60

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PHYSIOLOGIC ADAPTATION, MATHEMATIC MODEL, EVOLUTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/0401 STEP NO--UR/0217/70/015/002/0352/0360

CIRC ACCESSION NO--AP0132626

UNCLASSIFIED

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

2/2 021 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0132626

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MATH. EVALUATION IS GIVEN OF THE MAIN ASPECTS OF THE ADAPTATION PROCESS. THE DIFFERENCE IS SHOWN BETWEEN THE ADAPTATION PROCESS IN AN ISOLATED SYSTEM AND THAT IN A COMPLEX SYSTEM, IN WHICH THE OSCILLATION KINETICS CAN BE OF ADVANTAGE. THE EVOLUTIONARY MEANING OF THE OSCILLATIONS OF ADAPTATION IS DISCUSSED.

FACILITY: INST. BIOL. PHYS., PUSHCHINO, USSR.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

USSR UDC: 621.396.967

KUCHEROV, A. S., KRUCHENETSKIY, V. Z., MOLCHANOV, A. N., ZUBANOV, M. A.

"Doppler Shift Imitator on an Intermediate Frequency"

Tr. Novosib. elektrotekhn. in-ta (Works of the Novosibirsk Electrical Engineering Institute), 1970, vyp. 2, kn. 1, pp 39-47 (from RZh-Radiotekhnika, No 6, Jun 70, Abstract No 6G46)

Translation: The authors consider a method of simulating the Doppler shift on intermediate frequencies by means of phase-variable circuits. The signal spectrum at the output of the imitator is determined by the amplitude of the phase shift during the sawtooth voltage period. The minimum phase lead for obtaining a monochromatic signal is equal to 2π. The proposed method permits variation of the Doppler frequency over a broad range without disrupting signal monochromaticity. Five illustrations, bibliography of two titles. A. M.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

Acc. Nr: AP0047145 Abstracting Service: INTERNAT. AEROSPACE ABST. 5-70 Ref. Code: UR0030

M

A70-25127 # Modeling of signal-analysis processes at the periphery of the acoustic organ (Modelirovanie protsessov analiza signalov na periferii organa slukha). A. P. Molchanov. *Akademiia Nauk SSSR, Vestnik*, vol. 40, Feb. 1970, p. 30-37. In Russian.

Discussion of the problem of modeling signal-analysis processes at the periphery of hearing on the basis of available experimental data. It is shown that with the aid of these data, it is possible to construct a functional model of signal representation at the periphery of hearing. The process of converting a signal into the parameters of a sequence of pulses in the nervous system is analyzed. The manner in which information on the signals reaches the nervous system, and the form in which this information is represented in the nervous system are examined. The respective block diagrams are given and discussed. V.P.

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19790638

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

USSR UDC 632.95

YUKHTIN, N. N., MOLCHANOV, A. V., KELEKHSAYEVA, YE. A., BAZANOVA, S. S., LEBEDEVA, L. I., GRISHINA, YE. A., and PRESNYAKOVA, S. M.

"Propanid -- A Highly Effective Herbicide for Weed Control in Rice Paddies"

V sb. Khim. sredstva zashchity rast. (Chemical Plant Protectants -- collection of works), vyp 1, Moscow, 1970, pp 156-163 (from RZh-Khimiya, No 13, 10 Jul 72, Abstract No 13N514 by. O. A. Koroptkova)

Translation: As a result of a study of propanid yield dependence on the solvent, reactant molar ratios and crystallization conditions, it is suggested that propanid be obtained by acylation of 3,4-$Cl_2C_6H_3NH_2$E+cos H [sic] in a petroleum solvent medium at a 3,4-$Cl_2C_6H_3NH_2$ and solvent ratio of 1:0.5. The reaction is conducted for 12-15 hours with stirring and at 140-160°, distilling the aqueous azeotrope at 90-95° at the beginning of the process, and 135° at the end. The unreacted starting materials are recycled. The resultant propanid has a purity of 98.5-99.5 percent, melting point 89-91°, yield 83-98 percent.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

1/2 008 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--ADDITION OF DICHLOROCARBENE TO TRANS,1,PHENYL, 1,3,5,HEXATRIENE -U-

AUTHOR-(02)-KOSTIKOV, R.R., MOLCHANOV, A.P.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970 6(3) 628

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHLORINATED ORGANIC COMPOUND, BENZENE DERIVATIVE, CYCLOPROPANE, HYDROGENATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1545 STEP NO--UR/0366/70/006/003/0628/0628

CIRC ACCESSION NO--AP0112539

UNCLASSIFIED

APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7"

"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

UNCLASSIFIED PROCESSING DATE--02OCT70

2/2 008

CIRC ACCESSION NO--AP0112539

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REACTION OF PHCH:CH-CH:CHCH:CH SUB2 WITH CL SUB2 WITH CL SUB2 C: (PREPD. FROM NAOME WITH CL SUB3-CCO SUB2 ET) GAVE APPROX. 13:1 MIXT. OF 1,1,DICHLORO,2,(4,PHENYL, TRANS,BUTA,1,3,DIEN,1,YL)CYCLOPROPANE AND 1,1CICHLORO,2, (BUTA,1,3,DIEN,1,YL),3,PHENYLCYCLOPROPANE. HYDROGENATION OF THESE GAVE, RESP., 1,1,DICHLORO,2,(4,PHENYLBUTYL)CYCLOPROPANE AND 1,1,DICHLORO,2,BUTYL,3,PHENYLCYCLOPROPANE (I). THE REACTION OF CL SUB2 C: WITH PHCH:CH(CH SUB2) SUB2 NE ALSO GAVE I. CL SUB2 C: ALSO REACTED WITH PHCH SUB2 CH SUB2 CH:CHET TO GIVE 1,1,DICHLORO,2,ETHYL, E,(BETA,PHENYLETHYL)CYCLOPEOPANE.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

Acc. Nr. AP0053768 Abstracting Service: CHEMICAL ABST. Ref. Code UR0366

110857d Equivalence of carbon atoms of the three-membered ring of the triphenylcyclopropenylium cation. D'yakonov, I. A.; Kostikov, R. R.; Molchanov, A. P. (Leningrad. Gos. Univ. im. Zhdanova, Leningrad, USSR). Zh. Org. Khim. 1970, 6(2), 316–21 (Russ). The action of *tert*-BuOK on $Ph^{14}CHCl_2$ gave the carbene $Ph^{14}CCl$, which condensed with PhC:CPh to give triphenylcyclopropenylium chloride (I). Treatment of I with *tert*-BuOH, H_2O, and HBr gave triphenylcyclopropenylium bromide (II). The opening of the II ring with KOH at 80° gave equal amts. PhCH:CPh^{14}COPh (III), PhCH:^{14}CPhBz (IIIa), and Ph^{14}CH:CPhBz (IIIb). The positions of the labeled C atoms in III–IIIb were detd. by degrading them to labeled BzOH and Ph_2CHCO_2H (H_2O_2 oxidn. to epoxides, epoxide ring opening with $BF_3.Et_2O$, and oxidn. with H_2O_2) or to labeled BzH and Bz_2 (by ozonolysis of III–IIIb). CPJR

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19830831

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

UR 0482

AA0038809

Soviet Inventions Illustrated, Section I Chemical, Derwent, 3/70

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238051 ELECTROSLAG WELDING uses ring electrode 1 which is vertically movable and coaxial to the two components 2,3, which are to be welded and to solidifying mould 4 which ensures an annular weld pool. Pocket 5 is used to initiate the electroslag process. 17.1.58. as 590039/25-27. M.M TIMOFEEV, E.P.MOLCHANOV. (10.7.69.) Bul.9/20.2.69. Class 21h. Int.Cl. B23k.

AUTHORS: M. M. Timofeyev and E. P. Molchanov

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19740018

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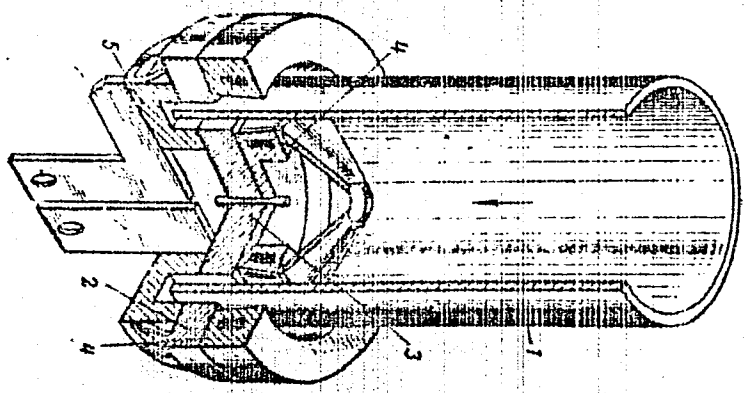

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19740019

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AMPLIFIER

MOLCHANOV G. G.

UNCLASSIFIED

ALL-FLUIDIC OPERATION AMPLIFIER

[G. G. Molchanov, A. I. Popov, E. K. Shchepin: "Chisto-Struynyy Gidravlicheskiy Operatsionnyy Usilitel'"; Institute of Control Problems, Moscow, Russian, pp 99-108]

The development of hydraulic automation indicates the continuous increase and demands for significant improvement of the reliability of the developed systems. The actual path of satisfaction of these requirements is improvement of the system's reliability by significant simplification and improvement of the reliability of individual elements and modules of the regulation and control system. For this purpose the Control Problems Institute has developed a fluidic operation amplifier in which moving parts and elastic elements have been completely excluded.

In order to build the fluidic operation amplifier it is necessary to have an element which will ensure one of the basic requirements imposed on the operation amplifiers: $R_{inp} >> R_{out}$, that is, that would have high input impedance. Low output impedance is one of its advantages, and it increases the accuracy of performing the operations.

As a result of experimental studies, it has been established that in solving the stated problem the given conditions are most completely met by the fluidic amplifying element with a concentric control nozzle 1. The input stage of the operation amplifier constructed from this element by the known principle of intrastage stabilization 2 has quite high input impedance and an inverse characteristic $\Delta P_{out} = f(\Delta P_{inp})$ in Fig 1 which permits the operation amplifier to be encompassed by negative feedback.

In Fig 2 we have the schematic of a fluidic operation amplifier 3. The amplifier contains the input stage I and one or several amplifying stages II, III.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

USSR UDC 62-525:621.375

DVORETSKIY, V. M., MOLCHANOV, G. G., POPOV, A. I., SHCHEPIN, E. K.

"A Fluidics Element"

USSR Author's Certificate No 295910, Filed 21/11/69, Published 9/04/71, (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 11, 1971, Abstract No 11 A131 P).

Translation: A fluidics element is suggested, containing two counter connected supply nozzles, a drain chamber, and an output chamber with a non-moving dividing barrier between them. In order to increase the accuracy, a control chamber with a membrane, on which is fastened a moving barrier which intersects the power stream, is connected to the output chamber of the element.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

UDC: 681.2.087.92-932

USSR

MOLCHANOV, G. G.

"Electrohydraulic Converters for General-Purpose Hydraulic Regulation System"

Probl. Gidroavtomatika [Problems of Hydraulic Automation -- Collection of Works], Moscow, Nauka Press, 1969, pp 159-168 (Translation from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 7, 1970, Abstract No 7A119, by V. D.)

Translation: Circuits are analyzed and a brief analysis is presented of the functional specifics of a device for conversion of an electrical signal (current or voltage) to a hydraulic signal (pressure). 1. The electrohydraulic converter (EHP), operating on the principle of force compensation, consists of an electromechanical converter, a membrane adding unit, and a membrane-choke amplifier element. The force of the electromagnet is compared with the output pressure acts on the membranes (M) of the adder; the displacement of the membrane unit is controlled by the pressure in the chamber between chokes of the amplifier elements; this pressure acts on the M of a ball valve and controls the pressure at the output of the device. 2. A single-stage EHP circuit uses the displacement of the membrane unit directly for control

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

USSR

MOLCHANOV, G. G., Probl. Gidroavtomatika [Problems of Hydraulic Automation -- Collection of Works], Moscow, Nauka Press, 1969, pp 159-168 (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 7, 1970, Abstract No 7A119, by V. D.)

of the output. 3. A lever system is placed between the electromagnet and membrane adder in order to increase the gain of the output signal. 4. The M in the adding unit is replaced by balls placed in cylindrical bushings to improve the dynamic characteristics with this same purpose in mind. 5. The two-stage EHP is given electrical feedback including an electrical (inductive) pressure sensor and an electronic amplifier in order to increase the static conversion accuracy. Nine illustrations; two biblio. refs.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

Med

MOLCHANOV, I.G.

AN AEROSOL METHOD FOR THE USE O CHLOROPHOS SOLUTIONS (p. 76)

By Captain Medical Service I. G. Molchanov

he wet method in the use of chlorophos for purposes of disinsection in widely applied. It yields positive results in the systematic processing of nidal and breeding centers of household insects (bedbugs, cockroaches, etc.). Results are even better in applying a two-five percent solution of chlorophos with a compressed air pistol with a three-six atmospheres pressure. The aerosol thus produced penetrates the inaccessible areas of ship premises. Furthermore, this method requires a lesser use of chlorophos. Thus 30-40 ml chlorophos solution is required per one square meter of processed surface, compared with 100-150 ml applied through other means.

The processing of ships moored at piers equipped with compressed air systems presents no difficulty. Compressed air may be used with special air compressors available at ships and vessels, some types of trucks and 150 atm compressed air bottles.

The equipment used for the application of the aerosol method is simple. In addition to the compressed air gun, it has a rubber hose 20-100 meters long able to withstand the corresponding pressure. In processing large areas, with the help of the hose, a container with a solution of the compound maintained under 1-2 atm is used instead of a barrel with the disinfectant.

Prior to the disinsection, the following work is done aboard ship: food, kitchen and mess utensils are removed from the galley and the messhall; the tables are covered with thick fabric or paper; the clothing is removed from the crew's quarters; the personnel leaves its quarters; portholes and hatches are battened. Chrome and nickle-plated objects are covered with a thin film of lubricant to avoid their tarnishing.

The treatment is done with a gas mask and protective clothing. Following the processing, the premises are thoroughly aired for 4-6 hours and ventilated, if possible. After work the protective clothing is hosed. With the exception of the galley and the messhall, the wet equipment is brought in two days after processing. The entire operation is under the supervision of the physician or an experienced feldsher.

Our observations (1968-1969) revealed that the aerosol method in using chlorophos in inaccessible

Military Medical Journal #8
Aug 71

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

USSR UDC 615-099+614.449.57

MOLCHANOV, I. G., Cap Med Service

"The Aerosol Method of Using Chlorophos Solutions"

Moscow, Voyenno-Meditsinskiy Zhurnal, No 2, 1971, p 76

Abstract: The use of a spray gun with compressed air (pressure of 3 to 6 atm) is strongly recommended for disinfecting ships with their many inaccessible places. Besides being more effective than the familiar hand sprayers and similiar devices for applying chlorophos (Dipterex), the suggested aerosol method is quicker and more sparing in its consumption of the insecticide. For example, 1 m^2 of surface to be treated requires 30 to 40 ml of chlorophos solution instead of the 100 to 150 ml when a hand sprayer is used. The procedure for disinfecting a ship is outlined.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

UDC 518:517.9.539.3

USSR

MOLCHANOV, I. M., Institute of Cybernetics, Academy of Sciences Ukrainian SSR

"On Explicit Methods for Solving a Static Problem in Elasticity Theory"

Kiev, Dopovidi Akademii Nauk Ukrains'koi RSR. Seriya A -- Fizyko-Tekhnichni ta Matematychni Nauky, No 10, Oct 72, pp 890-894

Abstract: In the rectangle $D_2 = \{0 < x_\alpha < l_\alpha, \alpha = 1, 2$ with the boundary Γ in all internal nodes of the net $\bar{\omega}_h = \{x = (x_{i_1}, x_{i_2}), x_{i_\alpha} = i_\alpha h_\alpha, i_\alpha = 0, 1, \ldots, N_\alpha, h_\alpha = \frac{l_\alpha}{N_\alpha}, \alpha = 1, 2\}$, i.e. on the net $\bar{\omega}_h = \{x = (x_{i_1}, x_{i_2}), x_{i_\alpha} = i_\alpha h_\alpha, i_\alpha = 1, 2, \ldots, N_\alpha - 1, h_\alpha = \frac{l_\alpha}{N_\alpha}, \alpha = 1, 2\}$ the following difference equation is considered:

$$-\sum_{\alpha,\beta=1}^{2} \sum_{j=1}^{2} \Lambda_{\alpha\beta}^{ij} y^{(j)} = f^{(i)}, \; i = 1, 2, \; x \in \omega_h.$$

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

USSR

KOLCHANOV, I. M., Dopovidi Akademiyi Nauk Ukrayins'koyi RSR, Seriya A -- Fizyko-Tekhnichni ta Matematychni Nauky, No 10, Oct 72, pp 890-894

whose solution on the boundary $\gamma_h - \overline{\omega}_h - \omega_h$ satisfies certain boundary conditions. The problem is equivalent to the problem which approximates in the rectangle a system of equations of body elastic equilibrium in displacements with stresses preset on the boundary of the region. The problem on net $\overline{\omega}_h$ can be written as follows:

$$Ay = f. \tag{1}$$

The approximation z_ε to the generalized solution u of incompatible system (1) can be obtained by solving the compatible system of linear algebraic equations

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

USSR

MOLCHANOV, I. M., Dopovidi Akademiyi Nauk Ukrayins'koyi RSR, Seriya A -- Fizyko-Tekhnichni ta Matematychni Nauky, No 10, Oct 72, pp 890-894

$$A_\zeta z_\zeta = (\Lambda + \zeta E) z_\zeta = f, \quad \zeta > 0 \qquad (2)$$

with the additional relation $A_\zeta = \Lambda + \zeta E$. In (2) E is a unit operator. Explicit iteration methods can be used to solve equation (2).

3/3

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

Acc. Nr: AP0045097 Abstracting Service: 5170 INTERNAT. AEROSPACE ABST. Ref. Code: UR0441

M

A70-23384 On explicit methods for solving equations of the theory of elasticity (Pro iavni metodi rozv'iazuvannia rivnian' teorii pruzhnosti). L. M. Minchanov (Akademiia Nauk Ukrains'koi RSR, Institut Kibernetiki, Kiev, Ukrainian SSR). *Akademiia Nauk Ukrains'koi RSR, Dopovidi, Seriia A—Fiziko-Tekhnichni i Matematichni Nauki*, vol. 32, Jan. 1970, p. 23-26. 5 refs. In Ukrainian.

Quickly convergent iteration methods of numerical solution of three-dimensional equation of elastic body equilibrium in displacements are considered, when on the domain boundary the displacements are given or when on the part of the boundary the forces are given and on the other part—the displacements. The convergence of the plotted iteration processes is proved, and the estimation of convergence rate is given. (Author)

A25

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REEL/FRAME
19772010

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

Acc. Nr. AP0045066 Abstracting Service: 5/70 Ref. Code:
INTERNAT. AEROSPACE ABST. UR3663

M

A70-22467 # Certain iterative methods for solving the second boundary problem for displacement equations in elasticity theory. I, II (O nekotorykh iteratsionnykh metodakh resheniia vtoroi kraevoi zadachi dlia uravnenii teorii uprugosti v peremeshcheniiakh. I, II). I. N. Molchanov (Akademiia Nauk Ukrainskoi SSR, Institut Kibernetiki, Kiev, Ukrainian SSR). *Problemy Prochnosti*, vol. 2, Jan. 1970, p. 69-79. 10 refs. In Russian.

Outline of several fast converging, iterative methods for solving the finite-difference equations in elasticity theory. The second boundary problem for displacement equilibrium equations of an elastic body is examined. The convergence of the solution of the difference equation to the solution of a differential problem is demonstrated. A description is given of the methods which make it possible to solve the plane problems in the elasticity theory by means of a digital computer. Z.W.

ACS

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REEL/FRAME
19771979

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

USSR UDC 669.2:621.746

MOLCHANOV, M. D., BONDAREV, B. I., IVANOV, V. S., KALYAPIN, A. S., PONOMARENKO, A. M., and ANDRONOV, A. N.

"Development and Industrial Application of FL10 Flux"

Tsvetnyye Metally, No 3, Mar 71, pp 70-71

Abstract: FL10 flux contains no compounds which react with such alloying elements as zirconium and the rate earth elements, and therefore can be recommended for processing of all magnesium alloys without limitation. The cost of FL10 is 16 rubles less than the cost of FL5 flux.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

UDC 669.721.018.9.4

USSR

SHAROV, M. V., and MOLCHANOV, M. D.

"Filtration of Magnesium Alloys"

Tr. Mosk. aviats. tekhnol. in-ta (Works of Moscow Aviation Technological Institute), 1970, vyp. 71, pp 93-106 (from RZh-Metallurgiya, No 12, Dec 70, Abstract No 12 G254 by authors)

Translation: The authors suggest an improved technological melt treatment process permitting a rise in metal purity, corrosion resistance, and modification effect, which is achieved by the use of combined filters. The process is distinguished by its simplicity and eases the labor of foundry workers. Six illustrations. Five tables.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

1/2 006 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--FATE OF ESCHERICHIA COLI DONOR DNA IN ESCHERICHIA COLI SPHEROPLASTS -U-

AUTHOR-(02)-RUDOCHENKO, O.N., MOLCHANOV, M.I.

COUNTRY OF INFO--USSR

SOURCE--GENETIKA 1970, 6(2), 97-102

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ESCHERICHIA COLI, BACTERIAL DEOXYRIBONUCLEIC ACID

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/0596 STEP NO--UR/0473/70/006/002/0097/0102

CIRC ACCESSION NO--AP0122717

UNCLASSIFIED

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

2/2 006 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0122717

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT E. COLI SPHEROPLASTS READILY INCORPORATE BOTH NATIVE AND DENATURATED E. COLI DONOR DNA. SOME OF THE NATIVE DNA BECOMES SINGLE STRANDED UPON INCORPORATION AND THEN IS QUICKLY CHANGED TO THE NATIVE STATE. THE REST REMAINS IN THE DOUBLE STRANDED FORM. DENATURED DNA REMAINS SINGLE STRANDED UPON INCORPORATION IF CHLORAMPHENICOL IS PRESENT; OTHERWISE, SOME OF IT BECOMES NATIVE.

FACILITY: N. F. GAMALEYA INST. EPIDEMIOL, MICROBIOL., MOSCOW, USSR.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

1/2 009 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--CONNECTION BETWEEN THE DONOR DNA OF ESCHERICHIA COLI AND MEMBRANOUS RECIPIENT SPHEROPLAST -U-

AUTHOR-(02)-RUDCHENKO, O.N., MOLCHANOV, M.I.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(1), 205-8

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ESCHERICHIA COLI, RNA, CARBON ISOTOPE, CHEMICAL LABELLING, CELL PHYSIOLOGY, BACTERIAL DEOXYRIBONUCLEIC ACID

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1528 STEP NO--UR/0020/70/190/001/0205/0208

CIRC ACCESSION NO--AT0128923

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APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7"

"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

2/2 009 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AT0128923

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DONOR DNA IN THE FORM OF PRIME14 C TAGGED MATERIAL FROM E. COLI, IN THE NATURAL OR DENATURED STATE, WAS TRACED AFTER PENETRATION INTO RECIPIENT SPHEROPLASTS AND SPECIFICALLY INTO THE CELL MEMBRANE MATERIAL OF E. COLI. THE PARTICULAR FRACTION OF THE MEMBRANE DNA WITH WHICH THIS MATERIAL BECAME ASSOCD. WAS THE HIGH MOL. WT. DNA. MUCH OF THE TAGGED MATERIAL BECOMES CONCD. IN THE MEMBRANE RIBOSOME FRACTION OF THE SPHEROPLASTS. FACILITY: INST. EPIDEMOL. MIKROBIOL. IM. GAMALEI, MOSCOW, USSR.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

USSR M UDC 575.8.093

RUDCHENKO, O. N., and MOLCHANOV, M. I., Institute of Epidemiology and Microbiology imeni N. F. Gamaleya, Moscow and the Institute of Biochemistry imeni A. N. Bakh, Academy of Sciences USSR, Moscow

"On the Link Between Donor DNA of Escherichia coli and the Membrane Fraction of Recipient Spheroplasts"

Moscow, Doklady Akademii Nauk SSSR, Vol 190, No 1, Jan-Feb 1970, pp 205-208

Abstract: The absorption rate and localization of donor DNA from E. coli was determined after its penetration into recipient spheroplasts and their membrane subfraction. Natural and denatured DNA labelled with C^{14} was used as the donor, with the spheroplasts of E. coli 15 TUH as recipients. Donor C^{14}-DNA was obtained from E. coli Hfr Hayes, centrifugted, washed several times with a tris-hydrochloric acid buffer (pH 8.0), and purified. Donor DNA was then incubabated with the spheroplasts at 37° C. After incubation, DNA-ase was added to the incubation mixture. It was found that both native and denatured C^{14}-DNA are intensely absorbed by recipient spheroplasts. Within one minute after the beginning of the incubation, a considerable quantity

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

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RUDCHENKO, O. N., et al., Moscow, Doklady Akademii Nauk SSSR, Vol 190, No 1, Jan-Feb 1970, pp 205-208

of C^{14}-DNA becomes resistant to the action of the DNA-ase. Further study of the fate of donor DNA after penetration into spheroplasts revealed the membrane - ribosome character of the spheroplast sub-fraction isolated after incubation of the latter with donor DNA.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

USSR UDC 616.13-004.6-084

MOLCHANOV, N. S., UDALOV, Yu. F., and GARASHOV, B. N.

"A Special Vitamin Complex to Prevent Atherosclerosis in Fliers"

Moscow, Voyenno-Meditsinskiy Zhurnal, No 7, 1972, pp 75-77

Abstract: Examination of a group of fliers showed a disturbance of lipid metabolism in 42.8% and the presence of atherosclerosis in 34.7%; 34.7% were normal in both respects. Administration of Aerovitan [a complex of 11 vitamins consisting of A, B_1, and B_2 (2 mg each), B_6 and pantothenic acid (10 mg each), PP (15 mg), E (20 mg), P (50 mg), C (100 mg), folic acid (0.5 mg), and B_{12} (25 μg)] for 30 days (dosage not given) to both the healthy fliers and to those with atherosclerosis markedly lowered the cholesterol and β-lipoprotein levels. In those with atherosclerosis, the cholesterol level dropped from 272±8 to 237±8 mg% and the β-lipoprotein level from 79.3±0.8 to 74.0±0.7%. The lecithin content increased in the healthy fliers, while in those with impaired lipid metabolism or with atherosclerosis it remained high. Rough calculations showed that the systematic prophylactic administration of Aerovitan reduces the probability of atherosclerosis developing by a factor of 2.7 in all persons examined, 1.2 in those with normal lipid metabolism, and 2.8 in those with disturbed lipid metabolism.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

1/3 025 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--THE CLINICAL PICTURE AND PATHOGENESIS OF PATHOLOGICAL CHANGES IN INTERNAL ORGANS IN BURNS -U-

AUTHOR--MOLCHANOV, N.S.

COUNTRY OF INFO--USSR

SOURCE--KLINICHESKAYA MEDITSINA, 1970, VOL 48, NR 5, PP 16-22

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--THERMAL BURN, CARDIOVASCULAR SYSTEM, HYPERTENSION, DIGESTIVE SYSTEM, KIDNEY FUNCTION, ADRENAL CORTEX, BONE MARROW, ERYTHROPOIESIS, SYNDROME

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/0238 STEP NO--UR/0497/70/048/005/0016/0022

CIRC ACCESSION NO--AP0130981

UNCLASSIFIED

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

2/3 025 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0130981

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DURING THE LAST YEARS SUBJECT TO DETAILED STUDIES WERE THE CHANGES OCCURING IN INTERNAL ORGANS IN BURNS. THE AUTHOR DEMONSTRATES DIFFERENT CHANGES IN THE CARDIOVASCULAR SYSTEM AT INDIVIDUAL STAGES OF THE DISEASE, IN PARTICULAR, DISTURBANCES OF THE CORONARY CIRCULATION AND EVEN MYOCARDIAL INFARCTION IN THE FIRST PERIOD, DYSTROPHIA AND ATROPHIA OF THE MYOCARDIUM IN THE SUBSEQUENT STAGES, ARTERIAL HYPERTENSION. THE FOLLOWING ARE THE MOST SEVERE VISCERAL LESIONS: ACUTE RENAL INSUFFICIENCY DURING THE FIRST DAYS AFTER BURN, REDUCTION OF INDICES OF GLOMERULAR FILTRATION AND RENAL PLASMA CIRCULATION WITH A DISTINCTLY REDUCE TUBULAR REABSORPTION IN THE SUBSEQUENT STAGES. THE MOST SEVERE COMPLICATION OF THE STOMACH ARE ACUTE ULCERS, FREQUENT FUNCTIONAL DISTURBANCES, MANIFESTED BY AN INTENSIFICATION OF THE ACID FORMING FUNCTION (DETERMINED BY MEANS OF RADIOTELEMETRY) AND GASTRIC MOTORICITY; DISTURBED TROPHICS OF THE GASTRIC MUCOSA. MARKED FUNCTIONAL DISORDERS OF THE LIVER WERE ATTENDED BY STRUCTURAL CHANGES, MANIFESTED BY DYSTROPHIA. DIRECTLY AFTER BURN THERE OCCURS AN INCREASED ACTIVITY OF THE HYPOPHYSIS ADRENAL CORTEX SYSTEM; FROM THE 6TH-10TH DAY AN INHIBITION OF THE FUNCTIONAL ACTIVITY OF THE ADRENAL CORTEX SETS IN, WHICH ATTAINS ITS MAXIMUM DURING THE DEVELOPMENT OF BURN CACHEXIA. INHIBITION OF THE THYROID FUNCTION RUNS A PARALLEL COURSE. IN THE FIRST PERIOD THERE ARE SEEN MARKED CHANGES IN THE BLOOD, ALONG WITH HEMOCONCENTRATION HEMOLYSIS OF ERYTHROCYTES OCCURS WITH THE SUBSEQUENT DEVELOPMENT OF ANEMIA.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

3/3 025 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0130981

ABSTRACT/EXTRACT--THE LATTER IS ASSOCIATED WITH INHIBITION OF THE ERYTHROPOIETIC FUNCTION OF THE BONE MARROW, A TENDANCY TO HEMOLYSIS (APPEARANCE OF ANTIERYTHROCYTIC AUTOANTIBODIES) AND REPEATED HEMORRHAGES. METABOLIC DISTURBANCES ARE MANIFESTED BY A REDUCED LEVEL OF TOTAL PROTEIN IN THE BLOOD PLASMA, HYPOALBUMINEMIA WITH A SHARP RISE IN THE CONTENT OF GLOBULINS AND C-REACTIVE PROTEIN, HYPERGLYCEMIA DURING SHOCK WITH A SUBSEQUENT TENDENCY TO DECREASE, HYPONATRIEMIA, HYPERKALIEMIA DURING SHOCK WITH A SUBSEQUENT DROP. THE MAJORITY OF CHANGES IN INTERNAL ORGANS SHOULD BE CONSIDERED AS SYMPTOMS OR SYNDROMES OF BURN, WHICH ARE IN PATHOGENETIC RELATION WITH LOCAL CHANGES IN THE BURNT SKIN.

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USSR

UDC 621.371.029.4

MOLCHANOV, O. A. and CHMYREV, V. M.

"Nonlinear Channeling and the Distortion of a Train of Very Low Frequency Waves in the Earth's Magnetosphere"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl. Sekts. 3 (Tenth All-Union Conference on the Propagation of Radio Waves; Report Theses; Section 3--collection of works) "Nauka," 1972 pp 129-133 (from RZh--Radiotekhnika, No 10, 1972, Abstract No 10A373)

Translation: A possible mechanism of channeling of very low frequency signals (whistlers and others) in extraterrestrial space through the magnetosphere is considered. One illustration, bibliography of eight. N. S.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

USSR UDC. 621.371.029.4

MARKEVA, Yu. M. and MOLCHANOV, O. A.

"Analysis of Whistlers Simultaneously Received at a Distance of 700 km"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl. Sekts. 3 (Tenth All-Union Conference on the Propagation of Radio Waves; Report Theses; Section 3--collection of works) "Nauka," 1972 pp 124-128 (from RZh--Radiotekhnika, No 10, 1972, Abstract No 10A372)

Translation: Analysis is made of multicomponent whistlers received simultaneously by two ships drifting in the Indian Ocean at distances of about 700 km from each other. The obtained results may serve as the basis for a quantitative estimate of the effectiveness of wave channeling for ultra-low frequency waves in the magnetosphere. Two illustrations, bibliography of four. N. S.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

USSR UDC 621.371.029.4

LIKHTER, Ya. I., MOLCHANOV, O. A., CHMYREV, V. N., RAPOPORT, V. O., TRAKHTENGERTS, V. Yu., and CHERNOVITSKIY, V. A.

"Propagation of Signals of a Very Low Frequency Transmitter in the Outer Ionosphere"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl. Sekts. 3 (Tenth All-Union Conference on the Propagation of Radio Waves; Report Theses; Section 3--collection of works) "Nauka," 1972 pp 134-136 (from RZh--Radiotekhnika, No 10, 1972, Abstract No 10A374)

Translation: Results are given of experiments investigating the propagation of very low frequency signals in the outer ionosphere. The signals of a transmitter radiating pulses of 400 and 800 msec at a frequency of 15 kHz with a repetition period of three seconds were used. Reception was made at a point magnetically adjacent to the transmitter, using two ship stations, one of which could have left the point for a distance of 3000 km. N. S.

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

USSR UDC 517.521.1

BOROVS'KA, T. T., and MOLCHANOV, O. O., Kiev State University

"Condition for the Convergence of the Periodic Solution of One Type of Differential Equation"

Kiev, Dopovidi Akademiyi Nauk Ukrayins'koyi RSR, Seriya A -- Fizyko-Tekhnichni ta Matematychni Nauky, No 6, Jun 72, pp 489-493

Abstract: The article finds the condition for the existence and convergence of the stationary periodic solution of the equation

$$K_p \frac{d^p q}{dt^p} + K_{p-1} \frac{d^{p-1} q}{dt^{p-1}} + \ldots + K_1 \frac{dq}{dt} + K_0 q + \beta f(q, q') = U_m \sin(\omega t + \varepsilon), \quad (1)$$

$$f(q, q') = q^{2n-1} q'^{2m} \text{ або } f(q, q') = q^{2n} q'^{2m-1},$$

where

$$K_p, K_{p-1}, K_{p-2}, \ldots, K_0 - \text{const.}$$

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"APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202110015-7

USSR

BOROVS'KA, T. T., and MOLCHANOV, O. O., Dopovidi Akademiyi Nauk Ukrayins'koyi RSR, Seriya A -- Fizyko-Tekhnichni ta Matematychni Nauky, No 6, Jun 72, pp 489-493

The solution of equation (1), given $f(q, q') = q^{2n-1} q'^{2n}$, is found in the form of a formal power expansion of parameter β

$$q = q_0 + \beta q_1 + \beta^2 q_2 + \beta^3 q_3 + \ldots \qquad (2)$$

Solution (2) is substituted into equation (1). A criterion is derived which makes it possible to determine the limits of the application of small-parameter methods to study processes in resonance systems described by equations of form (1).

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UDC 53.07/.08+53.001.5

MOROZ, YE. M., MOLCHANOV, S. S., PYSHKIN, B. N., SOLOV'YEV, N. S., Physics Institute imeni P. N. Lebedev

"A Method for the Stabilization of Synchrotron Radiation Intensity"

USSR Author's Certificate No. 256117, Filed 26 Jun 68, published 31 Mar 70 (from RZh-Fizika, No 1, Jan 71, Abstract No 1A453 P)

Translation: Precise (or programmed) switching on of accelerating field voltage is necessary to stabilize and raise the level of beam intensity in a synchrotron. It is proposed that the time of switching on be controlled with the aid of a pulse of a current of particles circulating in orbit at the time of injection in each acceleration cycle. This made it possible to increase intensity by 20% as compared with circuits connecting the switching on to the level of the magnetic field. V. Papadichev.

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ANDRIANOVA, L. V., Candidate of Sciences, MOLCHANOV, V. S.

"Alkali Resistance of Phosphate and Borate Glasses and Alkali Washing of Grass Items"

Leningrad, Optiko-mekhanicheskaya promyshlennost' No 11, Nov 71, pp 38-41

Abstract: The alkali resistance of non-silicate optical phosphate and borate glasses for industrial use are determined. The alkali resistance was characterized by layer thickness δ, dissolved during four hours in 0.5 normal solution of caustic soda (solution volume 0.6 to 0.8 l) at 90°C, calculated by formula $\delta = \Delta P/S \cdot d$ where δ is the layer thickness, ΔP is the weight decrement of a plate, S is the plate surface, and d is the glass density. The latter was determined by the method of hydrostatic weighing. Results are presented in a table containing also data on certain silicate glasses obtained by the same method. It is shown that alkali washing is tolerated only for such glasses, from which a layer not more than 3-4 micrometer thick is scoured during four hours in a 0.5 normal solution of NaOH at 90°C.

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