USSR

UDC 621.378.9:539.293:535

LISITSA, M.P., SIDORKO, P.I., MOZOL', P.YE., VITRIKHOVSKIY, N.I.

"Two-Photon Absorption In CdS_xSe_{1-x} Single Crystals"

Kvantovaya elektronika (Quantum Electronics), Moscow, No 5(11), 1972, pp 53-57

Abstract: The effect of component composition of two-photon absorption in CdS_xSe_{1-x} single crystals is investigated over a wide range of concentrations of sulfur and selenium. The experimental equipment used in the work employs a ruby laser which generates single pulses with a 20 Mw power and a duration of 20 nanosec. The anisotropy is determined of two-photon absorption and the restriction of intensity of the radiation passing through the specimen. The dependence is obtained of the coefficient of two-photon absorption on the width of the forbidden band of the crystals. The experimental data agree qualitatively with theory. It is shown that a superlinear increase of the two-photon absorption with a decrease in the width of the forbidden band leads to an increase in efficiency of the optical pumping of a semiconductor laser. 6 fig. 7 ref.
Received by editors, 21 June 1971; after revision, 27 Sept 1971.

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APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202120011-0"

UNCLASSIFIED PROCESSING DATE--04DEC70

1/2 022

TITLE--PHYSICAL PROPERTIES OF THE XSB SUB2 S SUB3, 1,X,SB SUB2 SE SUB3 SEMICONDUCTOR SYSTEM -U-

AUTHOR-(02)-SKUBENKO, A.F., MOZOL, P.YE.

COUNTRY OF INFO--USSR

SOURCE--UKR. FIZ. ZH. (RUSS. ED.) 1970, 15(4), 687-9

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--ANTIMONY SULFIDE, SELENIDE, SEMICONDUCTOR MATERIAL, TEMPERATURE DEPENDENCE, SPECTRAL DISTRIBUTION, SOLID SOLUTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/1136 STEP NO--UR/0185/70/015/004/0687/0689

CIRC ACCESSION NO--AP0136556
UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--04DEC70

2/2 022

CIRC ACCESSION NO--AP0136556

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SPECTRAL DISTRIBUTION OF PHOTOCURRENT AND THE TEMP. DEPENDENCE OF DARK RESISTIVITY WERE MEASURED IN TERNARY SEMICONDUCTING SOLID SOLNS. OF SB SUB2 S SUB3 AND SB SUB2 SE SUB3 WITH VARIOUS AMTS. OF THE 2 COMPONENTS. THE COND. WAS ALWAYS P TYPE. THE BAND GAP FROM SPECTRAL DISTRIBUTION MEASUREMENTS WAS ALWAYS LESS THAN THE BAND GAP FROM TEMP. DEPENDENCE OF RESISTIVITY MEASUREMENTS, BUT THE DIFFERENCE WAS NOT THE SAME FOR ALL SPECIMENS. IT MAY BE DUE TO THE POSSIBLE DEPENDENCE OF THE TEMP. COEFF. OF THE BAND GAP ON THE COMPN. OF THE SOLID SOLNS.

FACILITY: CHERNIGOV. PEDINST. IM. SHEVCHENKO, CHERNIGOV, USSR.

UNCLASSIFIED

1/2 018 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--USE OF CATALYSTS FOR LOWERING THE DRYING TEMPERATURE OF ALKYD MELAMINE ENAMELS -U-

AUTHOR-(04)-CHUPEYEV, M.A., IVANOV, V.A., BORISOVA, L.D., MOZOLEV, V.P.

COUNTRY OF INFO--USSR

SOURCE--LAKOKRASOCH. MATER. IKH PRIMEN. 1970, (2), 35-6

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ACID CATALYSIS, ALKYD RESIN, MELAMINE RESIN, ENAMEL, PIGMENT, HARDNESS, COLOR

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/1071 STEP NO--UR/0303/70/000/002/0035/0036

CIRC ACCESSION NO--AP0134760

UNCLASSIFIED

2/2 018 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0134760

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF ACID CATALYSTS AND THEIR CONCNS. ON THE HARDNESS AND COLOR OF ALKYD MELAMINE ENAMEL (A) COATINGS DRIED 30 MIN AT 100DEGREES OR AN 130DEGREES WAS STUDIED. (BUO) SUB2 P(O)OH (I), A 1:1 MIXT. OF I AND MALANINE-HCHO RESIN (II) K,423,02 (IIA), BUOP(O)(OH) SUB2 (III), P,MEC SUB6 H SUB4 SO SUB3 H (IV), AND PHTHALIC ANHYDRIDE WERE ADDED TO A WHITE PIGMENTED A CONTG. 25PERCENT II (IIA OR K,421,02(IIB)) AND ALKYD RESINS MODIFIED BY CASTOR OIL AND SYNTHETIC FATTY ACID, 21.7PERCENT AND 28.83PERCENT, RESP. WITHOUT CATALYST, A CONTG. IIA DRIED AT 100DEGREES FOR 30 MIN AND 90DEGREES FOR 20 MIN HAD HARDNESSES 0.57 AND 0.34, RESP.; AND A CONTG. IIB, A BUTYLATED II, DRIED SIMILARLY HAD HARDNESSES 0.60 AND 0.14, RESP. ADDING 2-3PERCENT I OR III TO A CONTG. IIA DRIED AT 100DEGREES GAVE HARDNESSES 0.5-0.63. ADDING 4PERCENT I OR III TO A CONTG. IIB. DRIED AT 130DEGREES GAVE HARDNESSES 0.38-0.42. ADDING 3PERCENT III OR IV CAUSED SIGNIFICANT COLOR CHANGES TO WHITE PIGMENTED A DRIED AT 100DEGREES.

UNCLASSIFIED

USSR

MOZOLYUK, Yu.; CHEPULIS, G. S.; MAL'S, O. A.

"Device for Photographing Precipitation Reactions in Agar"

Moscow, Voprosy Mediko-Biologicheskikh Issledovaniy. Materialy Konferentsii Molodykh Nauchnykh Rabotnikov Mediko-Biologicheskogo Fakul'teta (Aspects of Biomedical Research. Materials of a Conference of Young Scientific Workers of the Biomedical Faculty), Ministerstvo Zdravookhraneniya SSSR, 1970, pp 15-17

Abstract: A device for photographing precipitation bands in agar is described. The device is simple in design, easy to use, and produces photos clearer than the original object. Basically it is a hollow cylinder made of tin plate two millimeters thick. Suspended within the cylinder is a movable holder with a light globe, and a metal lamina which forms a dark background for the object to be photographed. An upper cover made of glass serves as a table for the object. It is covered by nontransparent framework with a frame adjustable to the size of the object. The suspended holder within the cylinder can be moved with respect to the object. Best results are obtained with a 150

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USSR

MOZOLYUK, Yu., et al, Voprosy Mediko-Biologicheskikh Issledovaniy. Materialy Konferentsii Molodykh Nauchnykh Rabotnikov Mediko-Biologicheskogo Fakul'teta, 1970, pp 15-17

watt globe. Exposure time is 3-4 sec. Photo camera FMN-3 is used for photographing the object.

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Acc. Nr: AP0053767 Abstracting Service: CHEMICAL ABST. 5-70 Ref. Code: UR0366

110364d Isomeric transformations of substituted methylenecyclohexadienes. Mozulenko, L. M.; Koptyug, V. A. (Novosibirsk. Inst. Org. Khim., Novosibirsk, USSR). *Zh. Org. Khim.* 1970, 6(2), 313-16 (Russ). In CCl_4 soln. 4-hydroxy-4-phenyl-1,1,2,3,5,6-hexamethylcyclohexa-2,5-diene (V. A. Koptyug, *et al.*, 1970) loses H_2O and in 2 hr at room temp. it is converted into 6-methylene-4-phenyl-1,1,2,3,5-pentamethylcyclohexa-2,4-diene (I). Addn. of 0.66% CF_3CO_2H to the soln. causes isomerization of I to 6:2:2 4-methylene-3-phenyl-1,1,2,5,6-pentamethylcyclohexa-2,5-diene-4-methylene-2-phenyl-1,1,3,5,6-pentamethylcyclohexa-2,5-diene-4-methylene-1-phenyl-1,2,3,-5,6-pentamethylcyclohexa-2,5-diene mixt. The isomerization proceeds through "phenylhexamethylbenzenonium ion."
CPJR

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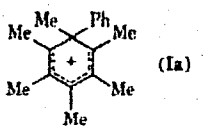
REEL/FRAME
19830830

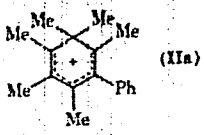
7

Acc. Nr: AP0041860 Abstracting Service: CHEMICAL ABST. 7/70 Ref. Code: 4R0366

89594d Isomeric phenylhexamethylbenzenonium ions and their intermediates. Koptyug, V. A.; Mozulenko, L. M. (Novosibirsk. Inst. Org. Khim., Novosibirsk, USSR). *Zh. Org. Khim.* 1970, 6(1), 102–7 (Russ). The Grignard reaction of 1-phenyl-1,2,3,5,6-pentamethylcyclohexa-2,5-dien-4-one with MeMgI gave 4-methylene-1-phenyl-1,2,3,5,6-pentamethylcyclohexa-2,5-diene (I). Similarly, 4-methylene-3-phenyl-1,1,2,5,6-pentamethylcyclohexa-2,5-diene (II) was prepd. NMR spectroscopy showed that in BF_3-HF mixt. at −90 to −80°, I, II, or 4-phenyl-1,1,2,3,5,6-hexamethylcyclohexa-2,5-dien-4-one (III) give, resp., 1-, 3-, or 4-phenylhexamethylbenzenonium ions. The temp. increase of I soln. in BF_3-HF mixt. from −90 to −10° causes the formation of 3-phenyl-1,1,2,4,5,6-hexamethyl-



(Ia)



(IIa)

benzenonium ion (IIa) besides 1-phenyl-1,2,3,4,5,6-hexamethylbenzenonium ion (Ia). At 0° the mixt. contains 2:8 Ia-IIa mixt. Heating I-III in concd. HCl gave 2,3,4,5,6-pentamethylbiphenyl.

CPJR

REEL/FRAME
19751741

AA0051797

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent, 1/70

242266 STABILISED STATIC CONVERTER to convert single-phase voltage into three-phase, of smaller dimensions and simpler design than most converters and in which the supply windings 4 and 5 are switched in opposite series with each other and connected to a single-phase circuit; the third compensation winding 7 and the third operating winding 10 are mounted on the ferrite core 1 of the phase-shifting unit. 10.5.67, as 1155024/24-7. V.V.GUBANOV et al. (9.9.69.) Bul.15/25.4.69. Class 21d^2. Int.Cl. H02n, H02l.

AUTHORS: Gubanov, V. V.; Ledin, A. A.; Mozzhukhin, A. D.

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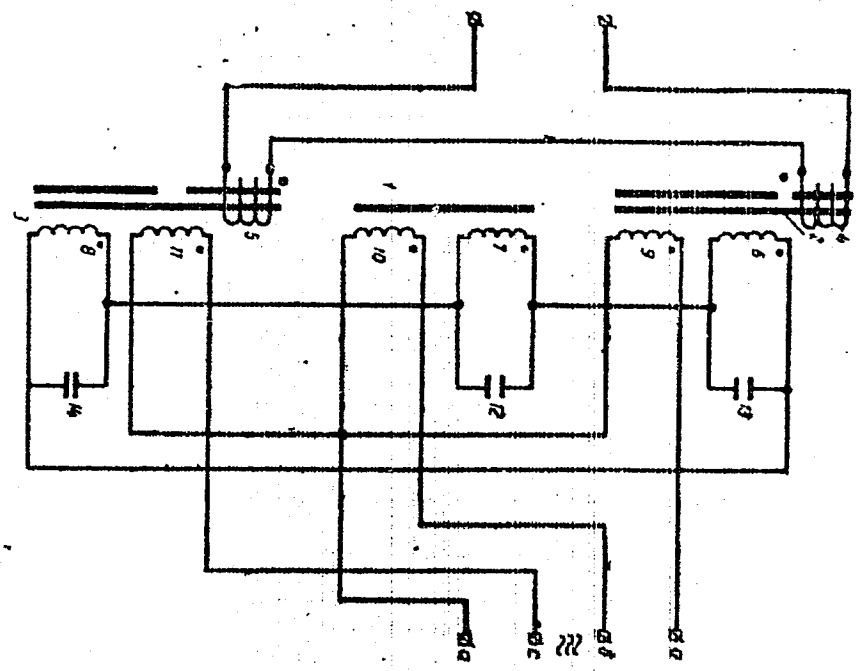
19820173

AA0051797



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19820174

USSR

UDC 612.115+797.57

GVOZDEV, P. I., LYTKIN, M. I., and [redacted], Military Medical Academy imeni S. M. Kirov

"Changes in the Coagulating and Anticoagulating Systems After Parachute Jumps"

Leningrad, Fiziologicheskiy Zhurnal SSSR, No 10, 1971, pp 1,526-1,530

Abstract: Preparation for and completion of a parachute jump increases the heparin concentration, intensifies fibrinolysis, reduces the prothrombin concentration, and lengthens the recalcification time, i.e., parachute jumping induces hypocoagulability. These blood changes, which persist for more than 24 hours, are ascribed to conditioned reflex mechanisms that control anticoagulative activity. Under the influence of the stress of parachute jumping, heparin is released into the blood when the threshold concentration of thrombin is reached. Heparin then forms a complex compound with epinephrine which helps to decrease coagulation and prevent clotting. The more jumps an individual makes, the more pronounced the changes noted above. Training has the same effect on cardiovascular reactions of parachutists in the form of changes in arterial pressure and cardiac rate.

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USSR

UDC 612.825.4+612.11/12

LANDORENKO, L. T., KUZ'MICH, N. S., and MOZZHUKHIN, A. S., Department of Normal Physiology, Academy of Military Medicine imeni S. M. Kirov, Leningrad

"Hematological Characteristics of Emotional Stress in Parachute Jumping"

Leningrad, Fiziologicheskiy Zhurnal USSR, No 8, 1971, pp 1,140-1,144

Abstract: The quantity of red and white blood cells was determined in 130 males before and after parachute jumps. Some of the men made a parachute jump for the first time while others had previously made as many as 790 jumps. In those with little or no experience in jumping, the RBC count increased slightly before and after a jump whereas the number of eosinophils, lymphocytes, and monocytes decreased, especially before a jump. These hematological changes were much less pronounced in the veteran parachutists. The decrease in leukocytes is ascribed to excitation of the hypophyseal-adrenal system resulting from emotional stress.

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1/2 038 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--EFFECT OF THE PROPHYLACTIC ADMINISTRATION OF CYSTAMINE ON THE BIOELECTRIC ACTIVITY OF SOME BRAIN SECTIONS -U-

AUTHOR-(02)-DINER, L.D., MOZZHUKHIN, A.S.

COUNTRY OF INFO--USSR

SOURCE--RADIOBIOLOGIYA 1970, 10(2), 289-93

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PROPHYLAXIS, BRAIN, BIOELECTRIC PHENOMENON, ELECTROENCEPHALOGRAPHY, CAT, CYSTAMINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO-----FD70/605004/C01 STEP NO--UR/0205/70/010/002/0289/0293

CIRC ACCESSION NO--AP0139611

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--04DEC70

2/2 038

CIRC ACCESSION NO--AP0139611

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CYSTAMINE (100 MG-KG) WAS INJECTED I.M. IN CATS AND THE ANIMALS WERE IRRADIATED WITH 600 R. ELECTROENCEPHALOGRAPHIC EXAMN. SHOWED A SUBSTANTIAL NORMALIZATION OF THE BRAIN BIOELEC. ACTIVITY WHEN COMPARED WITH IRRADIATED UNTREATED ANIMALS.

FACILITY: VOENNO-MED. AKAD. IM. KIROVA, LENINGRAD, USSR.

UNCLASSIFIED

1/2 016 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--DECAY OF GERMANIUM 66 -U-

AUTHOR-(04)-DZHELEPOV, B.S., MOZZHUKHIN, A.V., POPOVA, T.I., PRIKHODTSEVA, V.P.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. FIZ. 1970, 34(1), 29-41

DATE PUBLISHED-------70

SUBJECT AREAS--NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--RADIOACTIVE DECAY SCHEME, GERMANIUM ISOTOPE, GAMMA SPECTRUM, GAMMA SPECTROMETER, FORBIDDEN TRANSITION, BETA RADIATION, IRON ISOTOPE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1988/0229 STEP NO--UR/0048/70/034/001/0029/0041

CIRC ACCESSION NO--AP0105305

UNCLASSIFIED

2/2 016 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0105305

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE GAMMA SPECTRUM OF GE IRRADIATED BY P AND PURIFIED BY THE DISTN. OF GECL SUB4 WAS MEASURED BY GE(LI) DETECTORS AND A 4096 CHANNEL ANALYZER. SINCE INTENSE GAMMA RAYS FROM PRIME69 GA, PRIME75 GA, AND PRIME67 GA, AND HIGH COMPTON BACKGROUND INTERFERED WITH INDENTIFICATION OF WEAK GAMMA LINES OF PRIME66 GA, THE PRIME56 FE(PRIME12 C, 2N) PRIME66 GE REACTION WAS ALSO USED. IN TOTAL, 44 GAMMA LINES WERE OBSERVED OVER THE 40-2000 KEV RANGE. THE PRIME66 GE DECAY SCHEME IS PRESENTED. QUANTUM CHARACTERISTICS OF THE PRIME66 GA LEVELS ARE DISCUSSED AS WELL AS THE PRIME66 GE(0 PLUS) YIELDS PRIME66 GA(0 PLUS) BETA TRANSITION. ALTHOUGH THE LATTER IS FORBIDDEN ACCORDING TO ISOBARIC SPIN, A RELATIVELY LOW LOG FT (5.7) WAS FOUND.

UNCLASSIFIED

USSR

DZHELEPOV, B. S., MOZZHUKHIN, A. V., POPOVA, T. I., and PRIKHODTSEVA, V. P.

"Ge^{66} Decay"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, Vol. 34, No. 1, Jan 70, pp 29-41

Abstract: The γ-spectrum of Ge^{66} was measured with a Ge(Li) detector with sensing volumes of 5 and 9 cm^3 and a 4096-channel analyzer. All lines observed by Ricci, et al were observed except the γ-line 405 kev. In all, 44 lines were observed, of which 26 were definitely established as belonging to Ge^{66}. The intensities of Ge^{66} γ-rays were determined on the basis of the ratio of the intensities γ 381 (Ge^{66})/ /γ 1039 (Ge^{66}) as measured in given time intervals and the known intensity of γ1039 in % decays. A level diagram was constructed for Ga^{66}. The quantum characteristics of Ga^{66} levels are discussed.

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1/2 021 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--THERMAL DECOMPOSITION OF METHYL NITRITE IN SHOCK WAVES. I. INITIAL STAGE OF THE DECOMPOSITION AND MECHANISM OF H SUB 2 CO* CHEMILUMINESCENCE.

AUTHOR--ZASLONKO, I. S., KOGARKO, S. M., MOZZHUKHIN, E. V., PETROV, YU. P., BORISOV, A. A

COUNTRY OF INFO--USSR

SOURCE--KINET. KATAL. 1970, VOL 11, NR 2, PP 296-304

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--THERMAL DECOMPOSITION, NITRITE, CHEMILUMINESCENCE, ORGANIC NITROGEN COMPOUND, SPECTROPHOTOMETRIC ANALYSIS, FORMALDEHYDE, METHANOL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3005/0096 STEP NO--UR/0195/70/011/002/0296/0304

CIRC ACCESSION NO--AP0132389
UNCLASSIFIED

2/2 021 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0132389

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DECOMPN. OF MEONO IN SHOCK WAVES (T8C-10000DEGRESSK AND 35-1.6 ATM) WAS STUDIED SPECTROPHOTOMETRICALLY ALONG WITH DETN. OF ABS. INTENSITY OF EMISSION BY EXCITED H SUB2 CO SEXTILE AND HNO SEXTILE MOLS. THE EXPT. REVEALS THAT ENERGYWISE, MEONO DECOMPN. PROCEEDS IN 2 STAGES: 1) THERMALLY NEUTRAL STAGE WHEN H SUB2 CO, NO, AND MEOH ARE FORMED; AND 2) THE BASIC STAGE OF ENERGY EMISSION TAKING PLACE DURING OXIDN. OF H SUB2 CO AND MEOH. RATE CONST. OF THE PRIMARY CLEAVAGE OF N-O BOND IS K SUB1 EQUALS 10PRIME12.9 EXP (MINUS 34,COO-RT) SEC PRIME NEGATIVE1. THE EXCITED H SUB2 CO SEXTILE FORMS BY DISPROPORTIONATION OF 2 MEO RADICALS. H SUB2 CO SEXTILE FORMS IMMEDIATELY AFTER INITIATION OF MEONO DECOMPN., ITS CONCN. REACHES A MAX. AND THEN DECREASES PRACTICALLY TO ZERO. THE EMISSION BY H SUB2 CO SEXTILE HAS CHEMILUMINESCENT AND NOT A THERMAL NATURE. CONCN. OF HNO SEXTILE INCREASED UNTIL THE END OF OBSERVATIONS. FACILITY: INST. KHIN. FIZ., MOSCOW, USSR.

UNCLASSIFIED

1/2 049 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--VIBRATIONAL EXCITATION IN BRANCHED CHAIN REACTIONS -U-

AUTHOR-(03)-ZASLONKO, I.S., KOGARKO, S.M., MOZZHUKHIN, E.V.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (1), 157-9

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--HYDROGEN, OXYGEN, SHOCK TUBE, EXCITED STATE, CHEMICAL REACTION MECHANISM, VIBRATION EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1984/1656 STEP NO--UR/0062/70/000/001/0157/0159

CIRC ACCESSION NO--AP0100260

UNCLASSIFIED

2/2 049 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0100260

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FROM DATA ON THE REACTION OF H SUB2 WITH O SUB2 IN SHOCK TUBE EXPTS. (Z., ET AL., 1970) THE MAGNITUDE OF VIBRATIONAL TEMP. DURING THE INDUCTION PERIOD OF THE REACTION WAS DEDUCED; THIS CONTRIBUTION OF O VIBRATIONAL EXCITATION ON THE BRANCHING PROCESS OF THE REACTION PROVIDES EXCITED HO SUB2 PARTICLES WITH A RESERVE VIBRATIONAL ENERGY OF LARGER THAN OR EQUAL TO 65 KCAL-MOLE, ARISING FROM EXCITED O MOLES. CONTG. VIBRATIONAL ENERGY OF MORE THAN 17 KCAL-MOLE.

UNCLASSIFIED

USSR UDC: 681.34

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AVROV, O. M., GOLENDBERG, N. A., KUTSITSKIY, V. G., MIRZOYEV, G. A., MOZZHUKHIN, M. S., POKROVSKIY, V. S., SHAKHPAZOV, S. Kh.

"A Device for Combining the Readings of a Multichannel Angle-Phase-Code Converter"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 4, Feb 71, Author's Certificate No 292182, Division G, filed 11 Aug 69, published 6 Jan 71, p 137

Translation: This Author's Certificate introduces a device for combining the readings of a multichannel angle-phase-code converter which contains charging elements, series-connected switches, combining circuits and flip-flops. As a distinguishing feature of the patent, conversion time is reduced by connecting the output of the coarse reading channel of the converter to the input of the chief readout switch, the second input of this switch being connected to the output of the chief readout flip-flop. The switch output is connected to the input of the first delay element and to the second input of the control flip-flop. The output of the channel for the least significant reading of the converter is connected to the second input of the chief readout flip-flop. The first input of this flip-flop is connected to the first input of the control flip-flop and to the output of the control switch, and the second input of the control switch is connected to the output of the control flip-flop.

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USSR UDC: 669.71.018.95:621.785.3

SMIRNOV, P. B., YELYUTIN, V. P., MOZZHUKHIN, Ye. I., Moscow

"Electrothermal Treatment of SAP Materials"

Izvestiya Akademii Nauk SSSR, Metally, No 4, Jul-Aug 73, pp 205-208.

Abstract: In this work, an attempt was made to introduce oxygen to the aluminum matrix of SAP by electrothermal treatment with direct current. The treatment of the SAP caused the introduction of point defects to the aluminum matrix, which increased the stability of the dislocation structure. The point defects have significant thermal stability.

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USSR UDC 529.67

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

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

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

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

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

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USSR

UDC 539.67

MOZZHUKHIN, Ye. I., and BELYAKOV, A. A.

"Internal Friction Recovery in Highly Deformed Molybdenum"

Sb. "Vnutrenneye treniye v metallicheskikh materialakh" (Internal Friction in Metallic Materials), Moscow, Izd-vo "Nauka," 1970, pp 79-82

Abstract: The results obtained in the study of recovery of molybdenum wire samples made of MCh, MK, and ML brands are presented. A mechanism explaining the regularity of internal friction reduction in the process of high-temperature annealing with an appreciable variation of dislocation density is presented. The kinetics of internal friction recovery in highly deformed molybdenum wires during low-temperature annealing attest to a high degree of dislocation locking by point defects. 1 table, 2 figures, 4 references.

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Powder Metallurgy

USSR UDC 669.24

YELYUTIN, V. P., MOZHUKHIN, YE. I., REZNIKOV, YU. A., and KUL'GA, G. YA.,
Moscow Institute of Steel and Alloys

"Properties of Nickel Powder Containing Inclusions of Calcium Oxide"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy, Chernaya Metallurgiya,
No 11, 1971, pp 132-135

Abstract: A study was made of the effect of the recovery temperature of mixtures of NiO and CaO powders and the content of CaO additive in the mixture on the dimension of coherent dispersion domains and micro-distortion of Ni in powders, reduced in a hydrogen current. With rising recovery temperature, micro-distortions of the crystalline lattice of Ni decrease, but the dimension of coherent dispersion domains changes nonmonotonously. The rising recovery temperature goes with an increase of the mean size of Ni-powder particles. The effect of the recovery temperature and inclusions of calcium oxide on the compressibility of bricks by pressing and caking was investigated. The compression degree of bricks by caking decreases with increasing dimension of coherent dispersion domains of Ni. Four illustrations, four bibliographic references.

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USSR

UDC 546.3-19'821'78

TUMANOV, V. I., MOZZHUKHIN, YE. I., and YELMANOVA, S. M.

"Effect of Temperature on the Physical Properites of Two-Phase and Three-Phase Titanium-Tungsten Solid Alloys"

Moscow, Neorganicheskiye Materialy, Vol 6, No 1, Jan 70, pp 15-19

Abstract: Expansion of the regions of application of solid alloys gives rise to the necessity for investigating their physical properties at various temperatures. The relations obtained in doing this are useful in studying problems connected with the structural peculiarities of solid alloys. Heretofore, with the exception of data on the Young's modulus, there have been no published data on the physical properties of titanium-tungsten alloys at increased temperatures. This article contains an investigation of the temperature dependence of thermal expansion, electrical resistance, and young's modulus of two-phase and three-phase titanium-tungsten solid alloys in the 20-800°C temperature range. It was found that the variation of the physical properties as a function of Co content is not additive. The composition-property curves have extremal values which correspond to 6 volumetric percent Co for two-phase alloys and 12 volumetric percent Co for three-phase alloys.

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USSR

TUMANOV, V. I., et al, Neorganicheskiye Materialy, Vol 6, No 1, Jan 70, pp 15-19

Investigation of the theoretical relationship between the coercive force and volumetric content (to the 2/3 power) of nonmagnetic inclusions (the carbide component) also demonstrated the presence of an inflection point for a concentration of the binding phase of 6 and 11 volumetric percent, respectively, for two-phase and three-phase alloys. Alloys with a high Co content (more than 6 volumetric percent in two-phase alloys and more than 12 volumetric percent in three-phase alloys) have structures in the form of a cobalt matrix with included isolated carbide grains. In alloys with a lower Co content the binding phase has a continuous structure -- individual sections of the cobalt solid solution are isolated by the carbide phase. Graphs are presented illustrating these various relations.

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1/2 042 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--EFFECT OF TEMPERATURE ON THE PHYSICAL PROPERTIES OF TWO AND THREE PHASE TITANIUM AND TUNGSTEN SOLID ALLOYS -U-

AUTHOR-(03)-TUMANOV, V.I., MOZZHUKHIN, YE.I., YELMANOVA, S.M.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(1), 15-19

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--TITANIUM ALLOY, TUNGSTEN ALLOY, COBALT CONTAINING ALLOY, CARBIDE, THERMAL EFFECT, PHYSICAL PROPERTY, ELASTIC MODULUS, NONMETALLIC INCLUSION, ELECTRIC RESISTIVITY, MAGNETIC COERCIVE FORCE, TERNARY ALLOY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1984/0152 STEP NO--UR/0363/70/006/001/0015/0019

CIRC ACCESSION NO--AP0054948

UNCLASSIFIED

2/2 042 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0054948

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TEMP. DEPENDENCE OF THERMAL EXPANSION, ELEC. RESISTIVITY, AND ELASTICITY MODULUS OF 2 AND 3 PHASE TI W SOLID ALLOYS IN THE TEMP. RANGE 20-800DEGREES WAS INVESTIGATED. THE CHANGE IN THE PHYS. PROPERTIES AS DEPENDENT ON THE CO CONTENT DOES NOT TURN OUT TO BE ADDITIVE. THE COMPN. PROPERTY CURVES HAVE EXTREME VALUES, WHICH CORRESPOND TO 6 VOL. PERCENT CO FOR ALLOYS OF THE 2 PHASE COMPN. AND TO EQUIVALENT TO SIMILAR TO 12 VOL. PERCENT CO FOR 3 PHASE ALLOYS. EXAMN. OF THE THEORETICAL DEPENDENCE BETWEEN THE COERCIVE FORCE AND THE TWO THIRDS POWER OF THE VOL. CONTENT OF NONMAGNETIC INCLUSIONS (CARBIDE COMPONENT) ALSO SHOWED THE PRESENCE OF AN INFLECTION AT THE CONCN. OF THE BINDING PHASE OF 6 AND 11 VOL. PERCENT, RESP., FOR THE 2 AND THE 3 PHASE ALLOYS. ALLOYS WITH A HIGH CO CONTENT (GREATER THAN 6 VOL. PERCENT IN 2 PHASE ALLOYS AND GREATER THAN 12 VOL. PERCENT IN 3 PHASE ALLOYS) HAVE A STRUCTURE IN THE FORM OF A CO MATRIX CONTG. INCLUSIONS IN THE FORM OF ISOLATED CARBIDE GRAINS.

UNCLASSIFIED

APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202120011-0"

UDC: 541.124.13

USSR

ZASLONKO, I.S., KOGARKO, S.M., MOZZHUKHIN, YE.V., PETROV, YU.P., and BORISOV, A.A., Institute of Chemical Physics, Moscow, Academy of Sciences USSR

"Thermal DEcomposition of Methyl Nitrite in Shock Waves. I. The Initial Stage of Decomposition and the Mechanism of Chemiluminescence of H_2CO and HNO "

Moscow, Kinetika i Kataliz, Vol 11, No 2, Mar-Apr 70, pp 296-304

Abstract: The decomposition of MeONO in shock waves at temperatures of 780-1000°K and pressures of 0.35-1.6 atm was studied on mixtures of MeONO (0.7-1.5%) with Ar by carrying out spectoscopic measurements. The velocities of decomposition of MeONO and the intensities of emission by the electronically excited molecules H_2CO and HNO that formed in its decomposition were determined. The velocity constant of the primary process of cleavage of the O-N bond was $k_1 = 10^{12,9} \exp(-3400/RT)$ sec-1. It was established that the excitation of H_2CO took place as a result of its formation by the reaction $2\ MeO \rightarrow H_2CO + MeOH$. The probability of excitation was very low and corresponded to a ratio of ~10-10. The excitation of HNO in the early stage of decomposition was most likely due to the reaction $H + NO + Me \rightarrow HNO + Me$. Addition of NO to the mixture initially increased the rate of decomposition of MeONO to some extent because of the reaction $MeONO + NO \rightarrow$ (MeO, H_2CO, MeOH) and then reduced it because of the reaction $MeO + NO \rightarrow MeONO$. From the energy

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ZASLONKO, I.S., et al, Kinetika i Kataliz, Vol 11, No 2, Mar-Apr 70, pp 296-304

standpoint, the decomposition of MeONO consisted of two stages. In the first, in which energy was practically neither evolved nor consumed, formation of H_2CO, MeOH, and NO took place after cleavage of the O-N bond, while in the second, in which the principal amount of energy was evolved, oxidation of H_2CO and MeOH occured.

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1/2 047 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--ELECTRONIC AND VIBRATIONAL EXCITATIONS IN REACTIONS OF HYDROGEN WITH OXYGEN AT HIGH TEMPERATURES -U-

AUTHOR-(03)-KOGARKO, S.M., MOZZHUKIN, E.V., ZASLONKO, I.S.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER KHIM. 1970, (1) 31-6

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--HYDROGEN, OXYGEN, HIGH TEMPERATURE, SHOCK WAVE, VIBRATION EFFECT, ELECTRONIC SIMULATION, CHEMICAL REACTION, EXCITATION ENERGY, PHOTOMETRY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1984/0180 STEP NO--UR/0060/70/000/001/0031/0036

CIRC ACCESSION NO--AP0054976

UNCLASSIFIED

2/2 047 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0054976

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A SHOCK WAVE STUDY OF THE O SUB2NEGATIVE H SUB2 REACTION WAS REPORTED IN AN AR ATM. AT 1190-1390DEGREES K AND 1-35 ATM. TOTAL PRESSURE. IN THE EARLY PAHSES OF THE REACTION, A CONSIDERABLE SUPEREQUIL. EXCITATION OF HO RADICALS TAKES PLACE AS WELL AS IN H SUB2 O MOLS.; THE ELECTRONIC EXCITATION WAS OBSD. IN HO RADICALS AND NA ATOMS ON THE BASIS OF EMISSION PHOTOMETRY OF THE SYSTEM. DURING THE INDUCTION PERIOD, THE ELECTRONIC EXCITATION OF HO IS CAUSED MAINLY BY THE REACTION H PLUS H SUB2 PLUS O SUB2 YIELDS OH PLUS H SUB2 O WHILE AT HIGH PRESSURES IT IS ALSO PROMOTED BY A RECOMBINATION OF H AND O. THE VIBRATIONAL EXCITATION OF H SUB2 O MOLS. PROBABLY IS THE RESULT OF THE REACTIONS: HO SUB2 PLUS H SUB2 YIELDS H SUB2 O PLUS OH AND HO PLUS H SUB2 YIELDS H SUB2 O PLUS H. THE SUPEREQUIL. ELECTRONIC EXCITATION OF NA ATOMS PROBABLY IS THE RESULT OF COLLISION WITH OH AND H SUB2 O THAT HAVE SUFFICIENT EXCESS VIBRATIONAL ENERGY.

UNCLASSIFIED

UDC 621.762:669.018.5

USSR

MINAYEV, YE. M., and MRYAKINA, T. L.

"Production of a P/M Alloy Containing 21% Fe and 79% Ni From Alloyed Powder"

Elektron. tekhnika. Nauchno-tekhn. sb. Radiokomponenty (Electronics Engineering: Collection of Scientific and Technical Works on Radio Components), 1970, vyp. 4, pp 126-130 (from RZh-Metallurgiya, No 3, Mar 71, Abstract No 3G449 by authors)

Translation: The article presents results of an experimental investigation of the process of producing a P/M alloy containing 21% Fe and 79% Ni from alloyed powder. Permalloy with quite high magnetic properties in permanent and variable magnetic fields can be made by pressing, sintering, and subsequent heat treatment.

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AA0046990 - Mshanetskiy, V.U.

UR 0482

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

244025 SYNCHRONOUS COUPLING comprises two hinged parallelograms connected to the driven and driving shafts with an intermediate link. To provide transmission with the shafts at different angles, the coupling's intermediate link is in the form of a trapezium with two sides at right-angles and with the centre of its base linked to the two parallelograms by springs. The joints 6,7,8 and 9 provide synchronous rotation of the shafts. Joint 6 makes it possible to alter the angle between the plane perpendicular to the input shaft axis and the plane of the first parallelogram; joint 7 - the angle between the planes of the first parallelogram and the intermediate link; joint 8 - the angle between the planes of the intermediate

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AA0046990

link and the second parallelogram; and joint 9- the angle between the planes of the second parallelogram and that perpendicular to the axis of the output shaft. If one of the shafts is fixed, the intermediate joint can move along a certain trajectory in space because of the joints without the other shaft rotating, and springs are used to fix the intermediate link in the operating sector of its trajectory. 11.7.66. as 1089579/25-27. V V.MSHANETSKII (26.9.69.) Bul.17/14.5.69. Class 47c. Int.Cl. F06d.

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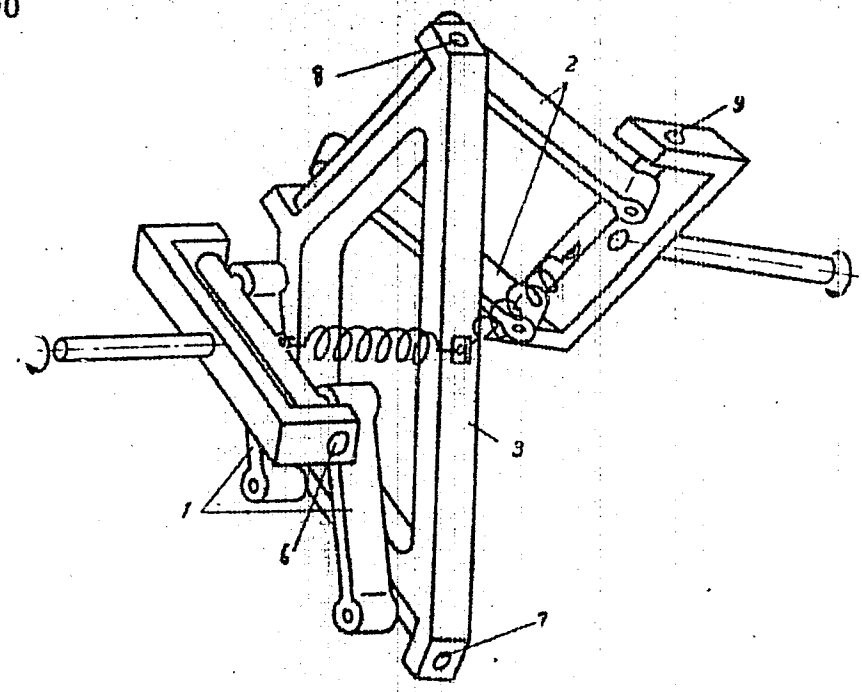

19790400

USSR UDC 621.791.052.004.12:562.012.7

VOLCHENKO, V. N., Candidate of Technical Sciences, MSLOV, B. G., Engineer (Moscow Higher Technical School imeni N. E. Bauman), and VOLKOV, A. S., Candidate of Technical Sciences (Podol'sk Machine Building Plant imeni S. Ordzhonikidze)

"Use of Statistical Method in Testing Its Welding Quality"

Moscow, Svarochnoye Proizvodstvo, No 11, Nov 70, pp 35-37

Abstract: A transition must be made from passive rejection of unsuitable products to active control of production quality. One means of organizing this transition is statistical testing of products. It allows rejects to be prevented and helps to increase the culture of production systematically. The system and indicators used to consider the defect rate of welded seams by types of defects and corrections for them as a function of the parameters influencing welding quality can be used with production testing of products both by destructive and by nondestructive methods. Its use requires the development of special types of test documentation considering both the results of testing and the principal parameters of welding

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VOLCHENKO, V. N., et al., Svarochnoye Proizyvodstvo, No 11, Nov 70, pp 35-37

technology. This allows the causes of rejects to be determined and measures to be developed to prevent them. Methods of mathematical statistics are described allowing the stable (mean) level of rejection of welded products to be determined for each type of production condition.

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1/2 032 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--EFFECT OF IONIZING RADIATION ON PRESYNAPTIC TERMINALS -U-

AUTHOR--~~MISKHVETADZE~~ MTSKHVETADZE, A.V.

M

COUNTRY OF INFO--USSR

SOURCE--RADIOBIOLOGIYA 1970, 10(1), 130-2

DATE PUBLISHED----------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--GAMMA RADIATION, STRONTIUM ISOTOPE, RADIATION BIOLOGIC EFFECT, DOSE RATE, NERVOUS SYSTEM, ACETYLCHOLINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/1851 STEP NO--UR/0205/70/010/001/0130/0132

CIRC ACCESSION NO--AP0127261

UNCLASSIFIED

2/2 032 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0127261

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IRRADN. OF THE TOP JUGULAR GANGLION OF NARCOTIZED CATS (800 OR 2500 R) WAS DONE LOCALLY WITH A GAMMA APPLICATOR (PRIME90 SR) AT 31 R-MIN. THE PERFUSATE WAS COLLECTED BEFORE, DURING AND AFTER ELEC. IRRITATION, AND BEFORE AND 1 HR AFTER IRRADN. ELEC. IRRITATION OF THE PREGANGLION FIBER INCREASED THE AMT. OF ACETYLCHOLINE IN BOTH CONTROL AND IRRADIATED ANIMALS. THUS, NO BLOCKAGE OCCURRED IN THE PRESYNAPTIC TERMINALS DUE TO THE IRRADN.

FACILITY: TSENT. NAUCH.-ISSLED. RENTGENO-RADIOL. INST., LENINGRAD, USSR.

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APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202120011-0"

USSR M UDC 612.89

MTSKHVETADZE, A. V., Central Roentgenology and Radiology Institute, Ministry of Health USSR

"Changes in the Interneuron Relationships of Sympathetic Ganglion Immediately After Exposure to Irradiation"

Tbilisi, Soobshcheniya Akademii Nauk Gruzinskoy SSR, Vol 57, No 1, 1970, pp 193-196

Abstract: The effect of radiation on stimulating postsynoptic potential (SPSP), the peak and the membrane potential of the upper neck sympathetic ganglion (UNSG) of cats was studied. It was shown that neurons of UNSG have a rest potential of 62+7 mV. The threshold dose for the appearance of the amplitude of peak potential SPSP is 13 mV, and that of the peak itself -- 70 mV. A 40% increase of the SPSP amplitude is observed in the irradiation range 400-900 rad, and in the range 650-900 rad even the peak potential is increased by 10-12%. In the range 900-1100 rad, SPSP amplitude was diminished, while the peak amplitude remained slightly elevated. Even higher doses resulted in synchronous drop of SPSP and peak potential. No statistically significant differences were noted in the membrane potential in the dose range studied.

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1/2 008 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--SULFUR CONTAINING 1,3,INDANDIONES AND PHTHALIDES. II. HYDROLYSIS OF BENZYLIDENE THIOPHTHALIDE IN AN ALKALINE MEDIUM -U-

AUTHOR-(02)-MUCENIECE, D.KH., OSKAYA, V.P.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(3) 595-9

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--KETONE, BENZENE DERIVATIVE, ORGANIC SULFUR COMPOUND, HYDROLYSIS, HETEROCYCLIC OXYGEN COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1992/1529 STEP NO--UR/0366/70/006/003/0595/0599

CIRC ACCESSION NO--AP0112523
UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--02OCT70

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CIRC ACCESSION NO--AP0112523

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HYDROLYSIS OF BENZYLIDENETHIOPHTHALIDE (I) IN STRONGLY ALK. SOLNS. GAVE O-PHCH:C(SH)C SUB6 H SUB4 CO SUB2 H (II). THE REACTION OF I WITH H SUB2 NOH.HCL GIVES FIRST II, WHICH THEN IS CONVERTED INTO 4,BENZYL, 1H,2,3,BENZOXAZIN,1,ONE. SIMILARLY, METHYLATION OF I WITH ME SUB2-SO SUB4 GIVES O-PHCH:C(SME)C SUB6 H SUB4 CO SUB2 H (III). REFLUXING III IN MEOH-H SUB2 SO SUB4 GAVE O-PHCH SUB2 COC SUB6 H SUB4 CO SUB2 ME. REFLUXING III IN MEOH CONTG. TRACES OF H SUB2 SO SUB4 GAVE O-PHCH SUB2 CSC SUB6 H SUB4 CO SUB2 ME, ALSO PREPD. DIRECTLY FROM II.

UNCLASSIFIED

1/2 016 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--A VERY LOW FREQUENCY DIGITAL PHASE METER -U-

AUTHOR--MUCHIAURI, A.A.

M

COUNTRY OF INFO--USSR

SOURCE--PATENT NO 263744
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI, NO 9, 10
DATE PUBLISHED-------70

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

TOPIC TAGS--PATENT, PHASE METER, PHASE MEASUREMENT, DIGITAL SYSTEM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1992/1097 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0112219
ZZZZZZZZZZZZ UNCLASSIFIED

2/2 016 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AA0112219

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIS AUTHOR'S CERTIFICATE INTRODUCES A VERY LOW FREQUENCY DIGITAL PHASE METER WHICH CONTAINS A DEVICE FOR DETERMINING THE PHASE DISPLACEMENT TIME INTERVAL AND A DIVIDER. THE METER DIFFERS BECAUSE TO MAKE THE PHASE MEASUREMENT TIME INDEPENDENT OF THE OF THE PERIOD OF THE SIGNALS BEING STUDIED, IT IS EQUIPPED WITH AN ANALOG CODE CONVERTER AND A COMPUTER WHOSE OUTPUT IS CONNECTED TO THE DIVIDER WHILE THE INPUT IS CONNECTED TO THE ANALOG CODE CONVERTER, WHICH IN TURN IS CONNECTED TO ONE OF THE INPUTS OF THE DEVICE FOR DETERMING THE TIME INTERVAL.

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USSR M

UDC 621.317.77

MUCHIAURI, A. A., Tbilisi Affiliate of the All-Union Scientific Research Institute of Metrology imeni D. I. Mendeleyev

"A Very Low Frequency Digital Phase Meter"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 8, 10 Feb 70, p 56, Patent No 263744, Filed 17 Dec 68

Translation: This Author's Certificate introduces a very low frequency digital phase meter which contains a device for determining the phase displacement time interval and a divider. The meter differs because to make the phase measurement time independent of the period of the signals being studied, it is equipped with an analog-code converter and a computer whose output is connected to the divider while the input is connected to the analog-code converter, which in turn is connected to one of the inputs of the device for determining the time interval.

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

MUCHICHKA, I. I., SAVCHENKO, N. D., DOVGOSHEY, N. I., TURYANITSA, I. D., CHEPUR, D. V., SLIVKA, V. YU.

"Effect of Temperature on Certain Electrophysical and Optical Properties of $AsS_xSe_{1-x}I$ and $As_xSb_{1-x}SI$ Samples"

V sb. Nekotor. vopr. khimii i fiz. poluprovodnikov slozhn. sostava (Certain Problems in the Chemistry and Physics of Semiconductors of Complex Compositions -- Collection of Works), Uzhgorod, 1970, pp 228-233 (from RZh Fizika, No 12, Dec 71, Abstract No 12Ye1399)

Translation: Compounds of $AsS_xSe_{1-x}I$ were obtained in the vitreous state by a direct synthesis method, and single crystals of $As_xSb_{1-x}SI$ were obtained from the gas phase. The current-voltage characteristics were studied at various temperatures in the range 100-380°K; the photocurrent was determined as a function of wavelength, illumination, and temperature, and the absorption spectra of the samples were measured at different temperatures. Conclusions were drawn on the basis of the data concerning conductivity mechanisms, recombination mechanisms, defect levels, and the temperature coefficient of the width of the forbidden zone. A. Ya. O.

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AN0012004

UR9054

AUTHOR-- MUCHINITE, R.

TITLE-- NEW MATERIALS ARE BEING DEVELOPED

NEWSPAPER-- KOMSOMOL,SKAYA PRAVDA /LITHUANIAN/, JANUARY 24, 1970, P 3, COLS 3-4

ABSTRACT-- AL,GIS DEKSNIS, STAFF MEMBER OF THE SECTION OF PHYSICS OF THIN LAYERS AT THE INSTITUTE OF SEMICONDUCTOR PHYSICS OF THE LITHUANIAN ACADEMY OF SCIENCES, HAS OBTAINED A NEW MATERIAL THAT HOLDS HIGH HOPES AS A MATERIAL FOR SOLAR BATTERIES.

THE PROJECT HAS BEEN DIRECTED BY CANDIDATE OF TECHNICAL SCIENCES VITAUTAS TOLUTIS, HEAD OF THE SECTION.

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UDC: 621.315.592

KARAMAN, M.I. and MUCHINSKIY, V.P.

"Electroluminescence of Layered GaS_xSe_{1-x} and $GaSe_xTe_{1-x}$ Crystals"

Leningrad, Fizika i Tekhnika Poluprovodnikov, Vol 4, No 4, 1970, pp 783-785

Abstract: An attempt is made in this communication to obtain preliminary information concerning the electroluminescent qualities of specially undoped crystals of GaS_xSe_{1-x} and $GaSe_xTe_{1-x}$. For this purpose, large uniform crystals were obtained from which plates measuring 20 by 8 by 0.1 mm were split off. The electrodes were applied by sputtering in a vacuum of 10^{-5} mm Hg from Cu, Zn, In, Ag, and Au. The investigations were done in a cryostat at a temperature of 77° K for a constant electric field as well as in an electric field varying from 20 to 10^3 Hz. The radiation was focused by special condensers on the input slot of a ZMR monochromator with a glass prism. The output from the monochromator was recorded by photoelectric multipliers FEU-17 and FEU-22 with a detection system. A bright glow in the GaS_xSe_{1-x} crystals was detected at 10^2 to 10^3 volts per centimeter; the radiation spectra of these crystals are given. With a transition from GaSe to GaS, a smooth shift of the radiation curves toward the short wavelengths was observed. The position of electroluminescent exciton band maxima for crystals similar in composition to GaS is in good agreement with the photoluminescent data for these crystals.

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USSR

UDC 51.621.391

MUCHNIK, A. A.

[redacted]

"General Linear Automata"

Probl. Kibernetiki [Problems of Cybernetics -- Collection of Works], No. 23, Moscow, Nauka Press, 1970, pp 171-208 (Translated from Referativnyy Zhurnal Kibernetika, No. 4, April, 1971, Abstract No. 4 V459 by the author).

Translation: Automata (generally infinite) are studied, the states of which are vectors in an n-dimensional space V over field P with finite input alphabet. The transition functions of these automata are realized by nonlinear conversions of space V. In addition to this, linear space Z of outputs over the same field P is introduced, the output functions of the automaton corresponding to a linear operator mapping V in Z (here, general linear automata of Mill and Mur type are distinguished). General linear automata can be looked upon as a generalization of finite deterministic and probabilistic automata; within the framework of this model, a number of problems on finite automata can be stated and solved. Theorems are proven which are generalizations of the theorems of E. Mur, T. Hibbard and E. Carlisle concerning experiments with automata. An algorithm is given for construction of a simple homogeneous experiment, allowing the structure of general linear automata belonging to the class of strongly coupled reduced general linear automata with V of dimensionality n to be established. 24 biblio refs.

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USSR

UDC 541.138

MUCHNIK, G. F., RUBASHOV, I. B., VLASOV, V. M., GANIN, YE. A., KARICHEV, Z. R., and POSTANOGOV, V. P., Moscow

"Study of the Leakage of Fuel Gases Into Electrolyte Chambers of Fuel Cells"

Moscow, Elektrokhimiya, Vol 8, No 5, May 72, pp 690-694

Abstract: It was shown that the average rate of leakage of a gas into an electrolyte is affected to a great degree by such factors as current charge, temperature of the elements, battery, pressure drop between the gasseous and electrolytic sides of the electrolytes, and the concentration of the electrolyte. The type of the functional curves obtained experimentally agree sufficiently well with those obtained from theoretical calculations of diffusion leakage, however, under experimental conditions this effect is much stronger, especially in case of temperature. The leaking gas consists almost exclusively of hydrogen. It was shown that gas mobility does not affect the rate of leakage if water vapor tension is kept constant. An increased rate of the leakage observed with a higher rate of moisture removal from the surface of the electrolyte is evidently due to a shift in the equilibrium in the pores in presence of secondary meniscuses.

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USSR

UDC 541.136

BARANOV, V. I., VDOVICHENKO, N. V., VLASOV, V. M., IVANOV, A. M., KUCHNIK, G. F., RUBASHOV, I. B., and TABAKMAN, L. S., Moscow

"Fuel Cells With Ion Exchange Membranes. Development and Investigation"

Moscow, Elektrokhimiya, Vol 8, No 5, May 72, pp 694-698

Abstract: Fuel cells are described based on cation exchange resin membranes washed free of unbound acid. The use of solid electrolyte imparts certain specific properties to all physical processes occuring in the fuel cells, such as localization of elementary physical acts responsible for current generation. Current generation on the surface of the membrane could not possibly produce the total generated power, so that the electrode inside the membrane must have been contributing substantially to current generation. Several assumptions are made concerning this problem, and a conclusion is reached that current is generated by a thin layer of a catalyst inside the membrane. [illegible] are used for water removal from [illegible] thermal and hydraulic -- to ensure proper performance [illegible] is more versatile but requires a more

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ARANOV, V. I., et al, Elektrokhimiya, Vol 8, No 5, May 72, pp 694-698

complex equipment. The principal problem in this system concerns uniformity of the removal of water. Both types of current generators are described, pointing out the areas where development is still needed, mainly in synthesis of new materials for membranes.

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1/2 034 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--ENERGETIC ASPECTS OF THE DIRECT CONVERSION OF CHEMICAL ENERGY TO ELECTRICITY -U-

AUTHOR-(03)-LIDORENKO, N.S., MUCHNIK, G.F., DMITRENKO, V.I.

COUNTRY OF INFO--USSR, UNITED STATES

SOURCE--4TH ANNUAL INTERSOCIETY ENERGY CONVERSION ENGINEERING CONFERENCE WASHINGTON, U.S.A.

DATE PUBLISHED-------70

SUBJECT AREAS--BEHAVIORAL AND SOCIAL SCIENCES, ELECTRONICS AND ELECTRICAL ENGR., ENERGY CONVERSION (NON-PROPULSIVE)

TOPIC TAGS--ELECTRIC ENGINEERING CONFERENCE, CHEMICAL ENERGY CONVERSION, DIRECT ENERGY CONVERSION, FUEL CELL, ELECTRONIC COMMUTATOR

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1664 STEP NO--US/0000/70/000/000/0000/0000

CIRC ACCESSION NO--AT0135272

UNCLASSIFIED

2/2 034 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AT0135272

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE MAIN ENERGETIC ASPECTS OF THE PROBLEM USING AS AN EXAMPLE FUEL CELLS ARE ANALYZED. ENERGETIC INTERPRETATION OF ENERGY GENERATION IN FUEL CELLS IS GIVEN. ACCORDING TO THE ACCEPTED ENERGETIC ASPECT THE CHEMICAL REACTION BETWEEN OXIDANT AND FUEL IS CONSIDERED AS ELECTRONIC PROCESS. AS A RESULT OF THE CHEMICAL REACTION ELECTRON TRANSFER IN MOLECULAR STRUCTURES FROM HIGH ENERGY STORAGE LEVELS TO LEVELS WITH LESS ENERGY STORAGE IS OBSERVED. THE TASK IS TO ASSURE PROCESS UNIFORMITY DURING SUCH INTERMEDIATE REACTIONS (FOR EXAMPLE, PRELIMINARY IONIZATION, HETEROGENEOUS CATALYSIS AND ETC). WHICH COULD LEAD TO MINIMUM ENERGY LOSSES WHEN COMMUTATING ELECTRONS IN THE FUEL CELL DESIGN BEFORE THEIR REJECTION INTO AN EXTERNAL ELECTRIC CIRCUIT.

UNCLASSIFIED

1/2 030 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--SOME PROBLEMS OF THE FUEL CELL THERMODYNAMICS -U-

AUTHOR-(04)-LIDORENKO, N.S., MUCHNIK, G.F., NOVIKOV, I.I., RUBASHOV, I.B.

COUNTRY OF INFO--USSR, UNITED STATES

SOURCE--4TH ANNUAL INTERSOCIETY ENERGY CONVERSION ENGINEERING CONFERENCE WASHINGTON, U.S.A.

DATE PUBLISHED--------70

SUBJECT AREAS--BEHAVIORAL AND SOCIAL SCIENCES, ENERGY CONVERSION (NON-PROPULSIVE), PHYSICS

TOPIC TAGS--ELECTRIC ENGINEERING CONFERENCE, FUEL CELL, ELECTROMOTIVE FORCE, ION EXCHANGE MEMBRANE, DIFFERENTIAL EQUATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1701 STEP NO--US/0000/70/000/000/0000/0000

CIRC ACCESSION NO--AT0135297

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--27NOV70

2/2 030

CIRC ACCESSION NO--AT0135297

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DESCRIPTION OF THE FUEL CELL OPERATION IS GIVEN IN THE LIGHT OF THE THERMODYNAMICS OF EQUILIBRIUM AND NONEQUILIBRIUM PROCESSES. AS A RESULT OF USING THE PRINCIPLE OF EQUILIBRIUM PROCESS THERMODYNAMICS, THE ATLAS (OF E.M.F AND EFFICIENCY DEPENDENCE ON TEMPERATURE) FOR THE MAIN WORK REAGENTS CAPABLE OF APPLICATION IN THE FUEL CELL CIRCUITS HAS BEEN MADE. THE CONCEPT OF THE OPTIMAL WORKING PARAMETERS IS INTRODUCED AND THE POSSIBILITY OF THEIR REALIZATION IS DISCUSSED. IN THE SECOND PART, THE MAIN SYSTEM OF THE TRANSFER PROCESS DIFFERENTIAL EQUATIONS IS FORMULATED WITH THE METHODS OF NONEQUILIBRIUM PROCESS THERMODYNAMICS (ON THE EXAMPLE OF A FUEL CELL WITH ION EXCHANGE MEMBRANE, IEM).

UNCLASSIFIED

UDC 681.326.06

USSR

MUCHNIK, I. B., Moscow

"Modeling the Process of Shaping a Language for Describing and Analyzing the Image Form"

Moscow, Avtomatika i Telemekhanika, No 8, Aug 71, pp 61-70

Abstract: The author examines the simplest version of a learning machine shaping a language whose dictionary consists of only two types of words: that is, the words of the first type serve to denote the "form" of certain fragments that are characteristic of the image, and the second-type words serve to denote the place where the fragments are found on the image. Since the process of shaping the dictionary of "forms" was discussed in reference [1], here the author simply describes the algorithms for shaping the dictionary for "places" and algorithms for constructing tables of "form - place"; he also cites the results of an experimental proof of the efficiency of the suggested language as a whole.

The author gives a rather detailed description of the processes involved in his research. He devotes his initial attention to the overall plan for

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3/6 050 UNCLASSIFIED PROCESSING DATE--090CT70

CIRC ACCESSION NO--AP0103361

ABSTRACT/EXTRACT--REPORTS BY E. M. BRAVERMAN AND L. I. ROZONOER, V. N. VAPNIK AND A. YA. CHERVONENKIS WERE DEVOTED PRIMARILY TO INVESTIGATION OF THE RELATION OF MATHEMATICAL PROBLEMS OF PATTERN RECOGNITION TO CLASSICAL PROBLEMS OF THE THEORY OF RANDOM PROCESSES AND MATHEMATICAL STATISTICS. ON THE OTHER HAND, PATTERN RECOGNITION PROBLEMS CONNECTED WITH THE DEVELOPMENT OF AUTOMATIC CLASSIFICATION ALGORITHMS, GROUPING OF PARAMETERS AND THE DEVELOPMENT OF SPECIAL LANGUAGES FOR AUTOMATIC DESCRIPTION OF COMPLEX OBJECTS WERE DISCUSSED IN MORE DETAIL. A GREAT DEAL OF TIME WAS GIVEN TO HEURISTIC PROGRAMMING (REPORTS BY G. M. ADEL'SON-VEL'SKIY, DZH. MAKKARTI (J. MCCARTY?), AND M. YA. SHIKHTER) AND ALSO MODELS OF COLLECTIVE BEHAVIOR OF AUTOMATA AND APPLICATION OF THESE MODELS TO PROBLEMS IN MATHEMATICAL ECONOMICS. A NUMBER OF REPORTS AT THE SEMINAR WERE DEVOTED TO THE PROBLEMS OF STUDYING AND SIMULATING CONTROL PROCESSES IN BIOLOGICAL SYSTEMS. THESE REPORTS ATTRACTED A GREAT DEAL OF ATTENTION ON THE PART OF THE AUDITORS. IT IS EXPECTED THAT THE DISCUSSION OF THESE PROBLEMS WILL BE CONTINUED IN THE FUTURE. THE NEW PROBLEMATICS OF THE SEMINAR ARE CONNECTED WITH THE REPORTS DEVOTED TO THE STUDY OF COMPLEX SYSTEMS. HERE, SPECIAL ATTENTION WAS GIVEN TO THE PROBLEMS OF DEVELOPING METHODS OF STUDYING SUCH SYSTEMS (REPORTS BY D. YA. AVERBUKH AND L. I. ROZONOER, S. M. MEYERKOV, S. M. MEYERKOV AND YU. D. TENISBERG). IN THE FUTURE THIS PROBLEMATIC WILL PROBABLY PLAY A BASIC ROLE IN THE SEMINAR.

UNCLASSIFIED

APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202120011-0"

4/6 050 UNCLASSIFIED PROCESSING DATE--090CT70

CIRC ACCESSION NO--AP0103361

ABSTRACT/EXTRACT--PAPERS WILL BE PRESENTED ON THE STUDY OF SPECIFIC COMPLEX SYSTEMS SUCH AS SOCIAL SYSTEMS, MASS INFORMATION FLOW SYSTEMS, NATURAL LANGUAGES, AND SO ON. THE SEMINAR IS HELD ON THE FIRST, THIRD AND FIFTH (IF THERE IS ONE) WEDNESDAY OF EACH MONTH AT 1430 HOURS IN THE CONFERENCE HALL OF THE IAT (TK) (INSTITUTE OF AUTOMATION AND TELEMECHANICS (ENGINEERING CYBERNETICS)) WITH THE FOLLOWING ADDRESS: PROFSOYUZNAYA UL., 81. ADMISSION TO THE SEMINAR IS FREE. INFORMATION ABOUT THE WORK OF THE SEMINAR CAN BE OBTAINED BY TELEPHONE 128-38-86. THE SEMINAR DIRECTORS INVITE ALL THOSE WISHING TO GIVE REPORTS ON THEIR WORK. LIST OF REPORTS HEARD AT THE SEMINAR. 1. L. A. GUSEV, I. M. SMIRNOVA, (MOSCOW), "LANGUAGES, GRAMMAR AND ABSTRACT AUTOMATIC MODELS" (SURVEY). 2. B. M. LITVAKOV, (MOSCOW), "INVESTIGATION OF RECURRENT PATTERN RECOGNITION ALGORITHMS". 3. N. V. ZAVALISHIN, N. G. PROSKURYAKOVA, (MOSCOW), "EYE MOVEMENTS DURING THE PROCESSES OF VISUAL PERCEPTION AND EYE MOTOR REGULATION" (SURVEY). 4. N. V. ZAVALISHIN, (MOSCOW), "MODEL OF ANALYSIS OF AN IMAGE BY THE HUMAN EYE". 5. A. V. MALISHEVSKIY, (MOSCOW), "EXTREMAL PROBLEMS IN CHAIN SYSTEMS. APPLICATION TO RELIABILITY THEORY AND ECONOMIC MODELS". 6. D. YA. AVERBUKH, L. I. ROZONOER, (MOSCOW), "RANDOM LOGICAL NETWORKS". 7. S. M. MEYERKOV, (MOSCOW), "ASYMPTOTIC METHODS OF INVESTIGATING AUTOMATIC OPTIMIZATION SYSTEMS SUBJECT TO INFERENCE EFFECTS". 8. S. M. MEYERKOV, YU. D. TENISBERG, (MOSCOW), "AVERAGING METHODS IN DESCRIBING A MODEL OF IMPULSE NEURONS". 9. V. L. BRAILOVSKIY, A. L. LUNTS, YU. S. NATKOVICH, (MOSCOW), "MULTISTEP PROCEDURE FOR PREDICTING A COMPLEX TECHNOLOGICAL PROCESS". 10.

UNCLASSIFIED

5/6 050 UNCLASSIFIED PROCESSING DATE--090CT70

CIRC ACCESSION NO--AP0103361

ABSTRACT/EXTRACT--M. YA. SHILTERE, (RIGA), "MACHINE PROOF OF SOME ARITHMETIC THEOREMS". 11. M. B. BERKINBLIT, V. L. DUNIN-BARKOVSKIY, (MOSCOW), "PULSE PROPAGATION AND BLOCKING IN A UNIFORM MEDIUM". 12. V. I. KRINSKIY, A. V. KHOLOPOV, (MOSCOW), "MODEL OF FIBRILLATION OF A TWO DIMENSIONAL EXCITABLE MEDIUM (THE HEART)". 13. N. V. ZAVALISHIN, I. B. MUCHNIK, (MOSCOW), "AUTOMATIC ANALYSIS OF IMAGES AND PATTERN RECOGNITION" (SURVEY). 14. A. A. DOROFEYUK, (MOSCOW), "AUTOMATIC CLASSIFICATION OF OBJECTS" (SURVEY). 15. M. M. BONGARD, V. V. MAKSIMOV, (MOSCOW), "PROGRAM FOR STUDYING CLASSIFICATIONS OF GEOMETRIC PATTERNS". 16. G. M. ADEL'SON-VEL'SKIY, (MOSCOW), "PROGRAMS WHICH PLAY CHESS". 17. B. G. PITTEL', (LENINGRAD), "SOME PROBABILITY MODELS OF COLLECTIVE BEHAVIOR". 18. V. G. GRISHIN, (MOSCOW), "UTILIZATION OF DYNAMIC SPECTROGRAPHY FOR OPERATIVE CONTROL". 19. A. V. MALISHEVSKIY, YU. O. TENISBERG, (MOSCOW), "SOME TYPES OF GAMES CONNECTED WITH MODELS OF COLLECTIVE BEHAVIOR IN ECONOMIC AND OTHER SITUATIONS". 20. V. A. YAKUBOVICH, (LENINGRAD), "LEARNING OPTIMAL BEHAVIOR". 21. P. P. PARKHOMENKO, (MOSCOW), "QUESTIONNAIRE THEORY". 22. J. MCCARTY, (USA), "SOME GENERAL PROBLEMS OF ARTIFICIAL INTELLECT". 23. E. M. BRAVERMAN, L. I. ROZONOER, (MOSCOW), "CONVERGENCE OF RANDOM PROCESSES IN LEARNING MACHINE THEORY". 24. E. M. BRAVERMAN, V. YA. LUMEL'SKIY, I. B. MUCHNIK, (MOSCOW), "FACTOR ANALYSIS AND PROBLEMS OF GROUPING PARAMETERS". 25. V. N. VAPNIK, A. YA. CHERVONENKIS, (MOSCOW), "MINIMIZATION OF EMPIRICAL RISK AND PROBLEMS OF CONVERGENCE OF TRAINING ALGORITHMS". 26.

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--09OCT70

6/6 050

CIRC ACCESSION NO--AP0103361

ABSTRACT/EXTRACT--A. A. DOROFEYUK, I. M. ZHITKIKH, A. D. KASAVIN, I. SH. TORGOVITSKIY, (MOSCOW), "USE OF THE AUTOMATIC CLASSIFICATION METHOD IN SOLVING TECHNICAL PROBLEMS". 27. A. A. MALISHEVSKIY, (MOSCOW), "THE CONCEPT OF STATE OF A DYNAMIC SYSTEM". 28. M. A. AYZERMAN, (MOSCOW), "CYCLE OF LECTURES ON WORK IN THE FIELD OF MUSCLE CONTROL". 29. YU. P. VORONOV, (NOVOSIBIRSK), "MATHEMATICAL MODELS OF SOCIOLOGY AND THEIR INTERPRETATION IN SPECIFIC RESEARCH". 30. B. G. MIRKIN, (NOVOSIBIRSK), "SOME FORMAL PROBLEMS OF AGGREGATION AND CLASSIFICATION". 31. A. I. PROPOY, A. I. KAPLINSKIY, (MOSCOW), "STOCHASTIC APPROACH TO THE PROBLEM OF MATHEMATICAL PROGRAMMING". 32. V. I. VARSHAVSKIY, (LENINGRAD), "ORGANIZATION OF INTERACTION IN COLLECTIVE AUTOMATA".

UNCLASSIFIED

1/2 036 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--CONCERNING THE STUDIES OF INFECTIOUS ALLERGIC PSYCHOSIS -U-

AUTHOR--MUCHNIK, L.S.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL NEVROPATOLOGII I PSIKHIATRII IMENI S. S. KORSAKOVA, 1970, VOL 70, NR 4, PP 570-576
DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PSYCHOSIS, ALLERGIC DISEASE, BLOOD CHEMISTRY, INFECTIVITY, LEUKOCYTE, ERYTHROCYTE, PROTEIN, IMMUNOLOGY, HEREDITY, SEDIMENTATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1988/1672 STEP NO--UR/0246/70/070/004/0570/0576

CIRC ACCESSION NO--AP0106418

UNCLASSIFIED

2/2 036 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0106418

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN STUDYING INFECTIOUS PSYCHOSES, AND PARTICULARLY IN ESTABLISHING THE CAUSAL EFFECTIVE RELATIONS BETWEEN THE INFECTIOUS PROCESS AND PSYCHOSIS, IT IS IMPORTANT TO INVESTIGATE THE PATIENTS IN THE DEVELOPMENT OF THE DISEASE (CLINICALLY AND BIOLOGICALLY). THE AUTHOR REPORTS OF HIS EXPERIENCE IN THE STUDY OF 150 PATIENTS, WHERE PSYCHOSIS DEVELOPED IN RELATION TO AN EXACERBATION OF THE CHRONIC INFECTIOUS PROCESS. DURING THE DIFFERENT STAGES OF THE DISEASE THE AUTHOR STUDIED NOT ONLY THE MENTAL STATE, BUT DETERMINED THE BLOOD CHANGES (LEUKOCYTESIS, VELOCITY OF SEDIMENTATION OF ERYTHROCYTES, ETC.), THE BLOOD CONTENT OF C REACTIVE PROTEIN, PROTEIN FRACTIONS, BACTERIOLOGICAL BLOOD STUDIES AND THE INDICES OF IMMUNOLOGICAL REACTIVITY. IT WAS ESTABLISHED THAT THERE IS A CERTAIN CORRELATION BETWEEN THE DYNAMICS OF THE PSYCHOSIS AND THE INDICES OF THE ACTIVITY OF THE INFECTIOUS PROCESS. IT IS ASSUMED THAT IN PROTRACTED INFECTIONS THE APPEARING PSYCHOSES ARE OF AN ALLERGIC NATURE, WHERE CEREBRAL ORGANIC INSUFFICIENCY MAY PLAY A CERTAIN ROLE (IN SOME CASES HEREDITARILY CONDITIONED).

UNCLASSIFIED

APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202120011-0"

USSR

UDC 8.74

PETKYAVICHUS, I. YU., MUDENAS, V. K., and VINOGRADNIY, V. S., Institute of Physics and Mathematics, Academy of Sciences Lithuanian SSR

"Increasing the External Memory of BESM-4 Computer to Eight Magnetic Drums"

Uvelichenive vneshney pamyati mashiny BESM-4 do 8 magnitnykh barabanov (cf. English above), Vil'nyus, 1970, 46 pp, ill., bibliography with four titles (No 3493-71 Dep.) (from RZh-Matematika, No 5, May 72, Abstract No 5V482DEP from authors' abstract)

Translation: A description is given of one of the variants for enlarging the external magnetic-drum memory of the BESM-4 computer. The authors consider the eight-drum variant which operates on computer No 39 and present a diagnostic test which they have compiled for the external magnetic-drum memory, a block diagram of its program, as well as the program itself.

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UDC: 8.74

USSR

PETKYAVICHUS, I. Yu., MUDENAS, V. K., VINOGRADNIY, V. S.

"Enlargement of the External Memory of the BESM-4 Computer to Eight Magnetic Drums"

Uvelicheniye vneshney pamyati mashiny BESM-4 do 8 magnitnykh barabanov. In-t fiz. i mat. AN LitSSR (cf. English above. Institute of Physics and Mathematics, Academy of Sciences of the Lithuanian SSR), Vil'nyus, 1970, 46 pp, ill., bibliogr. 4 titles (No 3493-71 Dep.) (from RZh-Kibernetika, No 5, May 72, Abstract No 5V482 DEP)

Translation: The paper gives a description of one modification of an expansion of the external magnetic-drum memory of the MESM-4 computer. An operating version for eight drums on computer No 39 is considered. A diagnostic test developed by the authors for an external magnetic-drum memory is presented as well as a flowchart of the program, and the program itself. Authors' abstract.

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USSR

UDC 616.28-001.34-091

PRONIN, L. S., MUDRETSOV, N. I., YAKIMETS, I. M., MOROZOV, V. N., Candidates of Medical Sciences, BUGROV, V. V., and NEVEROVA, G. M., Candidates of Technical Sciences

"Pathomorphology of Trauma of the Auditory Analysor After Single Exposure to Pulsed Noise"

Moscow, Vestnik Otorinolaringologii, No 1, Jan/Feb 72, pp 37-43

Abstract: After a single 1-second exposure to high intensity (155-173 db) sound impulses of a sinusoidal form and a frequency of 10-2000 hz, guinea pigs suffer partial or complete loss of hearing due to mechanical destruction or necrosis of the organ of Corti. Pathological processes terminate within 3 days. Twelve days after exposure to the less traumatic low-frequency waves, the organ of Corti recovers, with vacuolization. Medium frequency sounds cause some damage to the spiral ganglion, and high frequency sounds induce severe, irreversible destruction of the organ of Corti. Middle ear injury is insignificant, and cortical centers of hearing remain intact.

USSR UDC 681.523.3

MUDRETSOV, V. M.

"Analysis of Device for Recording Level for High-Speed Analog-Digital Converters"

Tr. NII Radio [Works of the Scientific Research Institute for Radio], No. 2, 1970, pp 67-72 (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No. 4, 1971, Abstract No. 4B572 by OR).

Translation: The optimal parameters of a device for recording a level are determined for fixed values of the maximum frequency of the signal to be converted and number of positions in the code of the analog-digital converter used.

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USSR

UDC 616.083.98:616-099

SEMENOV, I. A., PALAMARCHUK, Ye. S., MUDRITSKIY, V. D., and YAROSHCHUK, G. S., Clinical Hospital imeni October Revolution, Kiev Medical Institute, Kiev

"Emergency Treatment in Acute Poisoning with Organophosphorus Compounds"

Kiev, Vrachebnoye Delo, No 10, Oct 72, pp 131-134

Abstract: Experience acquired in emergency treatment during the past 9 years of 112 persons poisoned with organophosphorus compounds (principally chlorophos) is reviewed. Thirty-nine persons inhaled the poison, while 73 swallowed it. In cases in which the poison was swallowed, the stomach was washed out with water or a 2% Na_2CO_3 solution, whereupon an absorbent (activated carbon or a 25% solution of Na_2SO_4) was administered. In cases of unconsciousness, endotracheal intubation was carried out and the stomach pumped out. In every instance, an 0.1% atropine solution was injected immediately either subcutaneously, intramuscularly, or intravenously (1-2, 2-4, and 3-5 ml in cases of light, medium severe, and acute poisoning, respectively). A 15% solution of dipyroxime was administered in an amount of 1-2 ml in 8 cases of acute poisoning accompanied by deep unconsciousness. In severe cases, an intravenous injection of a 5% glucose solution (250-800 ml) together with vitamin C (100-200 mg), B_1 (60 mg), B_6 (60 mg), PP (30-40 mg), and B_{12} (600-800 gamma) was

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USSR

SEMENOV, I. A., et al., Vrachebnoye Delo, No 10, Oct 72, pp 131-134

carried out at the site of the accident. If the condition of the patients did not improve, 250-800 ml physiological NaCl solution or 200-400 ml of a 2-4% $NaHCO_3$ solution were injected in addition to that. The majority of patients were given subcutaneous injections of cordiamine, mezaton, and caffeine and also intramuscular injections of $MgSO_4$ to stimulate cardiac activity. On hospitalization washing out of the stomach was repeated and atropine was administered as required, in the absence of harmful effects produced by it, until improvement of the condition of the patients set in. The total amount of atropine administered was 2-12, 10-20, and > 20 mg in cases of light, medium, and acute poisoning, respectively. Because atropine is dangerous in cases of pronounced hypoxia, patients in this state were given oxygen to inhale. If indicated by the condition of the patients, the following methods of treatment were applied: intramuscular injection of a 25% $MgSO_4$ solution in pronounced mental disturbances; bloodletting and intravenous injection of a 40% glucose solution and a 10% $CaCl_2$ solution in pulmonary edema; intravenous injection of an 0.05% strophanthine solution together with a 40% glucose solution in cases of collapse. Poliglucine, hydrocortisone, ephedrine, and other drugs were also administered. As a part of the detoxification therapy vitamins of the B complex (B_1, B_6, PP, etc) and ascorbic acid were administered together with glucose and plasma substitutes. As resuscitation measures artificial respiration (upon

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USSR

SEMENOV, I. A., et al., Vrachebnoye Delo, No 10, Oct 72, pp 131-134

endotracheal intubation), infusion of poliglucine and other blood extenders, indirect massage of the heart, and defibrillation were applied. Complete recovery following the treatment resulted in 88 cases. Side effects that accompanied recovery comprised pneumonia, acute psychosis, and polyneuritis in 9, 8, and 2 cases, respectively. Five patients died.

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USSR UDC 541.123.2:546.824-31'654.3-31+548.824-31'41- 1

KISEL', N. G., LIMAN'T. F., MUDROLYUBOVA, L. F., and CHEREDNICHENKO, I. F.

"$CaTiO_3$-La_2TiO_5 System"

Moscow, Izvestiya Akademii Nauk SSSR, Neorganicheskiye Materialy, Vol 10, No 3, Mar 74, pp 465-468

Abstract: Samples for studying the $CaTiO_3$-La_2TiO_5 system were produced by reacting an ammonia solution of ammonium carbonate with the chlorates of calcium, lanthanum, and titanium. After washing and drying, the residues were analyzed after heating for 6-12 hours at different temperatures (100-1300° C). Results of x-ray and chemical phase analysis showed that 6-8 hours is sufficient for establishing equilibrium. From the constructed phase diagram it was found that a region of $CaTiO_3$-base solid solutions with a perovskite structure is formed. A new phase appears above 1100° C which could not be separated for identification but it was ascertained that this phase is a new compound with a composition close to that of $Ca_2La_2Ti_3O_{11}$. One figure, one table, 13 bibliographic references.
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Materials

USSR UDC: 621.396.69:621.319.4

AKSENOVA, L. A., MUDROLYUBOVA, L. P., TAVGENA, V. V.

"Effect of Some Technological Factors on the Quality of Stock for Monolithic Capacitors Made From a Ceramic Material Based on a $CaTiO_3$-$LaAlO_3$ Solid Solution"

Elektron. tekhnika. Nauchno-tekhn. sb. Radiodetali (Electronic Technology. Scientific and Technical Collection. Radio Components), 1970, vyp. 2 (19) (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1V286)

Translation: The paper deals with the conditions which ensure high quality of a pouring slip of ceramic material based on a $CaTiO_3$-$LaAlO_3$ solid solution produced by the method of coprecipitation. An investigation is made into the effect which the degree of compaction during strip rolling and the pressure of tablet molding have on the quality of stock for monolithic capacitors made from this material. Authors' abstract.

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USSR UDC 621.314.263.072.6 (088.8)

GALOCHKIN, N.A., BAZHENOV, I.A., SMIRNOV, S.L., MUDROV, L.P. [Ivanov. energ.in-t --Ivanov Power Institute]

"Device For Control Of Ferromagnetic Frequency Multiplier"

USSR Author's Certificate No 272424, filed 19 July 68, published 11 Sept 70 (from RZh--Elektronika i yeye primeneniye, No 4, April 1971, Abstract No 4B657P)

Translation: A device is proposed for control of a ferromagnetic frequency multiplier which is equipped with a choke coil with a magnetization winding connected in parallel to the input; the device contains a magnetic amplifier with operating and control windings located in its magnetic circuit, and diodes and a voltage data unit [datchik] at the output of the multiplier. In order to simplify the multiplier and to improve its characteristics, it is supplied with a data unit for the load current, the output of which is connected to the control winding of the magnetic amplifier situated at the center bar [sterzhen'] of the magnetic circuit. The latter is fulfilled by 5 bars; the operating windings are located at the outside bars, connected into the arms of an auxiliary rectifier which is fed from the winding of the voltage data unit and connected from the output side with the magnetization winding of the choke coil.

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USSR

MUDROV, V. P.

"Some Problems of the Construction of a Maintenance System Using Information on the Condition of the Objects"

Inform. Metody v Sistemakh Upr. Izmereniy i Kontrolya. T. 1 [Information Methods in Measurement and Testing Control Systems. Volume 1 -- Collection of Works], Vladivostok, 1973, pp 321-327 (Translated from Referativnyy Zhurnal Kibernetika, No 10, 1973, Abstract No 10V261)

Translation: A mathematical model of the servicing of a finite number of objects subject to failures is described in general points, considering various factors, including the paths of motion of the objects between the servicing points. I, Kovalenko

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USSR

MUDROV, V. P.

"The Problem of Selection of a Strategy for Preventive Maintenance"

Tr. Mosk. Energ. In-ta [Works of Moscow Institute of Power Engineering], 1973, No 158, pp 94-102 (Translated from Referativnyy Zhurnal Kibernetika, No 6, 1973, Abstract No 6V263, by I. Kovalenko).

Translation: Three strategies of preventive maintenance of an element are studied. In particular, a strategy is studied, based on prediction of the moment of failure. All computations are based on the assumption that the parameter defining the quality of functioning of the element changes with time as a fan-shaped random process with truncated normal distribution of the derivative.

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USSR

UDC 547.944/945

TKESHELASHVILI, E. G., ISKANDAROV, S., MUDZHIRI, K. S., and YUNUSOV, S. YU., Institute of Pharmacolofy imeni I. G. Kutateladze, Georgian Academy of Sciences, and Red Banner of Labor Institute of Plant Chemistry, Georgian Academy of Sciences

"Alkaloids of Leontuce Smirnovii"

Tashkent, Khimiya Prirodnykh Soyedineniy, No 4, 1971, pp 539-540

Abstract: Leontuca Smirnovii (Berberidaceae family), widely distributed in the Georgian SSR, is a very rich source of alkaloids, chloroform extraction of the root mass yielding 4%. Paper and thin-layer chromatography have revealed the presence of eight different alkaloids in this plant.

The authors were able to separate chemically three of these alkaloids from the oots of L. S., belonging to the diphenyl, pavine and quinolizidine groups. Treating a chloroform extract with 5% sulfuric acid produced grayish sulfate crystals, which charred above 360°C; direct comparison of the melting points of mixed samples and infrared spectra of the base with those of taspine, established the identity of the two.

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USSR

UDC: 547.947.1

VACHNADZE, V. Yu., MALTSKOV, V. M., IL'YASOVA, Kh. T., MUDZHIRI, K. S., YUNISOV, S. Yu. "Order of the Red Banner of Labor" Institute of the Chemistry of Plant Materials, Uzbek SSSR Academy of Sciences; Institute of Pharmacochemistry imeni I. G. Kutateladze, Georgian SSR Academy of Sciences

"Qualitative Characteristics of Alkaloids of Some Species of the Genus Vinca"

Tashkent, Khimiya Prirodnykh Soyedineniy, No 1, 1973, pp 72 76

Abstract: A comparative study is made of qualitative color reactions of 38 indole alkaloids with the reagents ceric ammonium sulfate and ferric chloride in thin layer analysis on silicagel G and silufol to determine the relation between chemical structure and the type of alkaloid coloring. The alkaloid color observed after 24 hours of contact with the reagents was the criterion. The results of the study show the feasibility of predetermining the principal chromophore of the alkaloids (α-methylenindoline, indoline, indole or hydroxyindole) according to color reactions with ceric ammonium sulfate and ferric chloride.

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1/2 009 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--CHEMICAL STRUCTURE OF THE ALKALOID HERBAVINE ISOLATED FROM THE PERIWINKLE, VINCA HERBACEA, GROWING IN THE GEORGIAN SSR -U-

AUTHOR-(02)-DZHAKELI, E.Z., MUDZHIRI, K.S.

COUNTRY OF INFO--USSR

SOURCE--SOOBSHCH. AKAD. NAUK GRUZ. SSR 1970, 57(2), 353-6

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ALKALOID, MOLECULAR STRUCTURE, PROCESSED PLANT PRODUCT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
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CIRC ACCESSION NO--AP0123679

UNCLASSIFIED

2/2 009 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0123679

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IR, NMR, AND MASS SPECTRA OF HERBAVINE, AN ALKALOID FROM V. HERBACEA, SHOWED IT TO BE I (R EQUALS ME; R PRIME1 EQUALS H) OR I (R EQUALS H, R PRIME1 EQUALS ME).

FACILITY: INST. FARMAKOKHIN. IM. KUTATELADZE, TBILISI, USSR.

UNCLASSIFIED

USSR

UDC 619:616.981.42-078:636.22/.28

MUFTEYEV, F. G., and KONOVALOV, I. F., Bashkir Scientific and Practical Veterinary Laboratory, ASHATKIN, A. F., YUREYCHUK, V. P., and GUS'KOV, V. V., Primorskiy Kray

"Allergic Diagnosis of Brucellosis"

Moscow, Veterinariya, No 11, 1972, pp 59-61

Abstract: The use of brucellin resulted in the detection of disesed cattle that did not react serologically to brucellosis. In herds where the course of the disease was acute, 7.8 to 24% more animals reacted positively to the preparation than in the agglutination and complement-fixation tests. Antibodies were found in almost half of the positive within 15 to 30 days. Brucellin was injected subcutaneously into the lower lid of one of the animal's eyes. A positive reaction in a sick animal was manifested within 48 hours by pronounced edema at the injection site, readily evaluated by inspection or palpation.

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1/2 028 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--TIGHTNESS OF PLUGGING MATERIALS AND OF THEIR CONTACT WITH WELL CASING SURFACES -U-

AUTHOR-(05)-SEIDRZA, M.K., SHERSTNEV, N.M., AGAYEV, M.KH., MUGALINSKAYA, V.V., KHAIROV, KH.KH.

COUNTRY OF INFO--USSR

SOURCE--AZERB. NEFT. KHOZ. 1970, (2), 20-3

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, METHODS AND EQUIPMENT

TOPIC TAGS--PIPELINE TRANSPORTATION SYSTEM, TEST INSTRUMENTATION, NATURAL GAS, SEAL, THERMOPLASTIC MATERIAL, HARDNESS/(U)TSKGS THERMOPLASTIC MATERIAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/2028 STEP NO--UR/0437/70/000/002/0020/0023

CIRC ACCESSION NO--AP0122257

UNCLASSIFIED

2/2 028 PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0122257

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN APP. WAS DEVELOPED FOR TESTING THE TAMPING COMPNS. USED IN SEALING THE GAP BETWEEN THE STANDPIPE OF A GAS WELL AND THE SIDES OF THE BORE HOLE. IT IS A BOMB IN WHICH THE TAMPING MATERIAL IS PACKED UNDER PRESSURE AROUND A CENTRAL CORE MADE OF COMPACTED SOIL TOPPED BY A METAL PIPE. A SYSTEM OF VENTS PERMITS TESTING OF THE PERMEABILITY OF SOIL TAMPERING MATERIAL SYSTEM AT THE TAMPING MATERIAL PIPE BOUNDARY UNDER 2-15 KG,CM PRIME2 AIR PRESSURE. THE BEST RESULTS WERE OBTAINED WHEN THE EXPANDING CEMENT TOPPED BY A RING SEAL OF THERMPOLASTIC RESIN TSKGS SU875-90DEGREES AROUND THE PIPE WAS USED. THIS COMPN. AFTER HARDENING FOR 15 DAYS BECAME IMPERMEABLE TO THE AIR AT 15 KG,CM PRIME2 PRESSURE.

APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202120011-0"

1/2 009 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--REFRACTOMETRIC DETERMINATION OF FURFURAL CONTENT IN RAFFINATE AND EXTRACT SOLUTIONS OF THE SELECTIVE REFINING OF OILS -U-

AUTHOR-(04)-ISMAYLOV, R.G., KHARKOVSKIY, YU.I., MIRZOYEV, S.O., MUGANLINSKIY, F.F.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., NEFT GAZ 1970, 13(2), 57-60

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--FURFURAL, PETROLEUM PRODUCT, CHEMICAL ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/1634 STEP NO--UR/0152/70/013/002/0057/0060

CIRC ACCESSION NO--AT0118613

UNCLASSIFIED

2/2 009 UNCLASSIFIED PROCESSING DATE--16OCT70
CIRC ACCESSION NO--AT0118613
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RAFFINATE AND EXT. WERE EXTD. WITH WATER, ADDING SOME PETROLEUM ETHER TO PREVENT FORMATION OF EMULSION. FURFURAL (I) WAS PRESENT IN THE AQ. EXTS, SMALLER THAN OR EQUAL TO 2 WT. PERCENT. THE DETD. ERRORS WERE SMALLER THAN OR EQUAL IPERCENT ABS. THE DEPENDENCE OF THE CONCN. OF I ON THE REFRACTOMETRIC INDICATIONS IS GRAPHICALLY PRESENTED. FACILITY: AZERB. INST. NEFTI KHIM. IM. AZIZBEKOVA, BAKU, USSR.

UNCLASSIFIED

USSR

UDC 691. 328:539.4

MIRONOV, S.A., Professor, Doctor of Technical Sciences, (Scientific Research Institute of Reinforced Concrete) (NIIZhB), MUGRIL, S.F., Candidate of Technical Sciences, STANISLAVOVA, E.K., Engineer (Construction and Billeting Section of the All-Union Scientific Research Institute for the Construction of Trunk Pipelines) (SKO VNIIST)

"Strengthening of Concrete in Contact With Permafrost Soils"

Moscow, Beton i Zhelezobeton, No 6, June 71, pp 3-5

Abstract: Results are presented of a series of investigations on strengthening of concrete without additions and with chemical additions (small quantities), maintained in permafrost grounds (0 to -3°C), and on the effect of various factors on concrete strengthening. The results show that the rate of strengthening depends substantially on cement activity and that a preliminary maturing of the fresh poured concrete at positive temperatures using electric heating with subsequent thermal curing, ensures the formation of a favorable capillary-porous structure and confers to the concrete a specific strength before freezing. Thanks to this, the strengthening rate in permafrost grounds increases, while the destructive processes due to freezing, decrease. By adding small quantities of salts (calcium chloride) the rate of hardening may be increased. Recommendations are given on consideration of strengthening rate in the foundations and other constructions, erected in permafrost grounds with temperature not lower than -3°C.

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1/2 006 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--DEHYDRATION OF MALEIC ACID. IV. CONTINUOUS DEHYDRATION ON EXPERIMENTAL APPARATUS -U-

AUTHOR-(03)-LIYEPINA, R., MUHILLERS, S., SHIMANSKAYA, M.V.

COUNTRY OF INFO--USSR

GILLER, S.A.

SOURCE--LATV. PSR ZINAT. AKAD. VESTIS, KIM. SER. 1970, (2), 187-90

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--DEHYDRATION, MALEIC ACID, CATALIC OXIDATION, FURFURAL, CHEMICAL REACTOR, CHEMICAL LABORATORY APPARATUS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1864 STEP NO--UR/0464/70/000/002/0187/0190

CIRC ACCESSION NO--AP0123652

UNCLASSIFIED

2/2 006 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0123652

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CONTINUOUS DEHYDRATION OF MALEIC ACID SOLNS. PRODUCED BY CATALYTIC OXIDN. OF FURFURAL IS DESCRIBED. EFFECTS OF SIZE OF REACTION COLUMN, TEMP. GRADIENT COLUMN, AND TEMP. OF SOLN. ENTERING THE COLUMN WERE STUDIED. OPTIMAL CONDITIONS ARE GIVEN. THIS PROCESS AND PERIODIC ARRANGEMENTS ARE COMPARED. FACILITY: INST. ORG. SIN., RIGA, USSR.

UNCLASSIFIED

USSR

UDC 612.8.015:612.58

EMIRBEKOV, E. Z., and MUKAILOV, M. I., Department of Biochemistry, Dagestan State University

"Activity of Glutaminase of the Brain of a Hibernating Animal Under Hypothermia"

Moscow, Biologicheskiye Nauki, No 12, 1971, pp 35-36

Abstract: This article reports the findings of tests conducted on gophers to determine how the activity of glutaminase 1 in brain tissue changes relative to various body temperatures. Readings of glutaminase activity from the cerebral hemispheres, the cerebellum, the mesencephalon, and diencephalon showed a decrease in activity with each drop in body temperature below normal. The largest percent decrease in glutaminase activity occured at the 20°C point, and a small additional decrease was registered at 10°C. Hence, glutaminase is demonstrated to be sensitive to lowering of body temperature. Judging by results of other experiments concerning effects of hypothermia on hibernating and non-hibernating animals, the present findings also reveal that the increase in glutamine content observed in the gopher's brain corresponding to the decrease in glutaminase activity cannot trigger the release of ammonia into brain tissues.
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USSR

UDC: 681.268.9

MUKANOV, D. M., STROYKOVSKIY, A. K., PERSHIN, A. A.

"A Radioisotopic Instrument for Automatically Measuring the Weight of a Sintering Charge"

V sb. Radioizotop. sredstva kontrolya i avtomatiz. tekhnol. protsessov v prom-sti (Radio Isotope Means of Monitoring and Automating Technological Processes in Industry--collection of works), Moscow, Atomizdat, 1972, pp 306-311 (from RZh-Metrologiya i Izmeritel'naya Tekhnika, No 6, Jun 72, Abstract No 6.32.292)

Translation: The described weight meter enables continuous determination of the weight of a material during free fall at transfer points with simultaneous weighing of the components of a sintering charge at 36 points. The measurement method is based on the Compton process of interaction between gamma rays and matter.

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USSR

UDC 595.771-19(470.51)

MUKANOV, S. M., Laboratory of Arachnid Entomology and Protozoology, Kazan' Veterinary Institute

"Blood-Sucking Mosquitoes of the Udmurt ASSR"

Moscow, Meditsinskaya Parazitologiya i Parazitarnyye Bolezni, Vol 39, No 6, 1970, pp 698-700

Abstract: Results are presented of a study of the fauna, phenology, and numbers of blood-sucking mosquitoes in meadow-pasture and forest biotopes of the southern and central areas of the Udmurt ASSR (Eastern USSR) from 1965 to 1966. Twenty-six species were found, including seven of practical importance, i.e., Aedes flavescens, A. excrucians, A. c. cinereus, A. cantans, A. punctor, A. vexans, and A. communis. All seven species are extremely numerous and actively attack human beings and animals. Analysis of the species composition, abundance, and seasonal activity of the most widespread species of blood-sucking mosquitoes in the Udmurt ASSR showed a close analogy to the situation in Perm Oblast (Ural region) and the Tatarskaya ASSR.

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USSR

UDC 591.044.3:591.181

MUKAS, D., Physiology Division, Academy of Sciences, Uzbek SSR

"Electrophysiological Characteristics of Afferent Impulses in the Gastric Branch of the Vagus Nerve After Various Heat Loads"

Tashkent, Uzbekskiy Biologicheskiy Zhurnal, No 4, 1971, pp 25-27

Abstract: Experiments on 10 dogs with chronically implanted electrodes in the gastric branch of the vagus nerve showed that shifts in the parameters of bioelectrical activity in this portion of the nerve are directly related to the intensity of the thermal factor. At 35°C the frequency of impulses of slow and rapid oscillations was little changed, but the voltage of the low-amplitude oscillations decreased sharply. This decrease persisted for 3 hours after exposure to high temperature. At 40°C the voltage of the slow and rapid oscillations increased with little change in their frequency. The voltage of the biopotentials gradually decreased 1 to 2 hours after the heat load and their amplitude was gradually restored. More pronounced shifts in the parameters of bioelectrical activity of the vagus nerve were noted after 2 hours of exposure to temperatures of 45 and 50°C. At these temperatures the afferent impulses were markedly inhibited, as manifested by a decrease in frequency and

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USSR

MUKAS, D., Uzbekskiy Biologicheskiy Zhurnal, No 4, 1971, pp 25-27

a reduction of the voltage of the slow and rapid oscillations. Three hours after the heat load the afferent impulses returned almost to the original level (except the frequency of the low-amplitude oscillation).

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USSR

UDC 536.421/422/423:620./8

GRIBKOV, V. N., ISAYKIN, A. S., SHCHETANOV, B. V., UMANTSEVA, E. L., and MUKASEYEV, A. A., Moscow

"Vapor-Liquid-Solid Mechanism of Filamentary Crystal Growth of High-Melting Metals"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 3, May/Jun 73, pp 62-67

Abstract: Growing SiC whiskers from $SiCl_4$ or $SiHCl_3$ at 1300-1500°C showed that whiskers are produced only in those cases when free silicon is condensed within the growth zone. If changes in temperature or in the composition of mixtures $SiCl_4$:H_2 or $SiHCl_3$:H_2 were such that the condensation of Si was prevented, whiskers were not produced. When temperature decreased below 1430°C (i.e., below the m.p. of Si) the whisker growth was terminated. Metal-like drops were observed at the top of all whiskers when the ratio of F_{Si}-$F'_{Si}/F_C - F'_C$ was sufficiently large (F and F' represent the concentration of atoms of corresponding elements in the gaseous phase and those evaporating from the liquid metal drop, respectively). X-ray diffraction analysis of these drops showed that they consisted of silicon. When the above ratio was optimal, whiskers up to 30 mm long and from 0.1 to 0.3 μm in diameter were grown. In the presence of aluminum, SiC whiskers were grown successfully at 1250-1600°C

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USSR

GRIBKOV, V. N., et al, Moscow, Fizika i Khimiya Obrabotki Materialov, No 3, May/Jun 73, pp 62-67

and were 20-30 mm long and 1-5μm in diameter. Droplets at the end of these whiskers consisted of Al-Si; in many cases the concentration of Al was 95-100%. The addition of Fe and Ni also intensified the growth of SiC whiskers. Droplets at the ends of these whiskers consisted of Fe-Si and Ni-Si. In the presence of these elements, whiskers were grown successfully at temperatures above 1350°C for nickel and 1400-1420°C for iron. In experiments with α-Al_2O_3 whiskers the necessary condition for growth was the presence of Si, SiO_2, or Fe_2O_3 in the reaction zone. Thus, aluminum, iron, and nickel can serve as additives for the growth of SiC whiskers. In the case of α-Al_2O_3 additives can be either silicon or iron.

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1/2 052 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--NORMAL ELASTIC MODULUS OF CERAMIC WHISKERS -U-

AUTHOR-(03)-GRIBKOV, V.N., MUKASEYEV, A.A., SHCHETANOV, B.V.

COUNTRY OF INFO--USSR

SOURCE--PRORSHKOVAYA MET., MAR. 1970, (3), 84-88

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, METHODS AND EQUIPMENT, PHYSICS

TOPIC TAGS--SINGLE CRYSTAL, TEST METHOD, NONDESTRUCTIVE TEST, WHISKER CRYSTAL, CERAMIC, ULTRASONIC VELOCITY, ELASTIC MODULUS/(U)ALN CERAMIC WHISKER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/0625 STEP NO--UR/0226/70/000/003/0084/0088

CIRC ACCESSION NO--AP0134387

UNCLASSIFIED

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2/2 052 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0134387

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A METHOD OF DETERMINING THE NORMAL ELASTIC MODULUS OF CERAMIC WHISKERS (ALN AND OTHER ANALOGOUS MATERIALS) BY REF. TO THE VELOCITY OF LONGITUDINAL ULTRASONIC WAVES IN THEM IS DESCRIBED, AND SOME PRACTICAL EXAMPLES ARE PRESENTED. THE NORMAL ELASTIC MODULUS OF ALN WHISKERS SO DETERMINED EQUALS 30000-33000 KG-MM PRIME2, AS OPPOSED TO 35000 KG-MM PRIME2 IN A MASSIVE SINGLE CRYSTAL, MEASURED IN THE SAME CRYSTALLOGRAPHIC DIRECTION.

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