USSR UDC 621.391.81

KASHKIN, V. B., VLADIMIROV, V. M.

"On a Nonlinear Filtering Method"

V sb. Tonkiye magnitn. plenki, vychisl. tekhn. i radiotekhn. T. 1 (Thin Magnetic Films, Computer Technology and Radio Engineering--collection of works. Vol 1), Krasnoyarsk, 1971, pp 46-53 (from RZh-Radiotekhnika, No 12, Dec 71, Abstract No 12A60)

Translation: A linear adaptive filter used for isolating a signal with known correlation function from interference of arbitrary type is an extremely complex system. It is suggested that the structure of the filter can be appreciably simplified by substituting nonlinear inertialess elements with fixed parameters for the linear circuits of the adaptive filter, and by eliminating modules designed for adaptation and learning (in this case the filter will no longer be optimum). The authors consider passage of a signal of the telegraph point type, white noise in the Gaussian band, and sinusoidal interference through a frequency-selective clipper. It is found that for the same signal-to-noise ratio at the input, the signal-to-noise ratio at the output decreases with an increase in the number of

USSR

KASHKIN, V. B., VLADIMIROV, V. M., Tonkiye magnitn. plenki, vychisl. tekhn. i radiotekhn. Krasnoyarsk, 1971, pp 46-53

channels (in the absence of sinusoidal interference). It is shown that the frequency-selective clipper is most effective in suppressing lumped interference. When studying the rms error in filtration as a function of the ratio of signal power to noise, it is found that a reduction in the clipping level leads to a reduction in the effect of interference on the total signal power combined with interference and noise at the output of the frequency-selective clipper. This is particularly evident in the case of a variable threshold. Ye. L.

2/2

USSR

UDC 621.396

KASHKIN, V. B.

"Some Characteristics of the Ionosphere Scattering Channel in Unilateral and Multilateral Reception"

Moscow, Elektrosvyaz', No. 7, 1971, pp 52-61

Abstract: The information supplied in this article is designed to fill the want of literature on the distribution laws of the envelope for ionosphere scatter signals. Specifically, the purpose of the article is theoretically to find the form of this envelope in single and multiple reception. It is assumed that the signal, at the reception point, is the sum of the signals resulting from two propagation mechanisms: scattering in the nonuniform ionosphere layers; dispersion and reflection from the ionized tracks of meteors. It is assumed also that the scattered signal component is the sum of a large number of independent random signals mutually radiated by the ionosphere layer nonuniformities, and that the phase of the signal is uniformly distributed in the zero to 2π interval. The author expresses his gratitude to Zh. N. Vetshev, V. N. Kessenikh (deceased), V. V. Poddubnyy, and F. P. Tarasenko for their comments, and to T. F. Somova and O. B. Sidonskiy for the calculations they made on the M-20 electronic digital computer.

USSR

UDC 582.28.095.14.3

MIRCHINK, T. G., KASHKINA, G. B., and ABATUROV, Yu. D., Chair of Soil Biology, Faculty of Soil Biology, Moscow State University imeni M. V. Lomonosov, Moscow

"The Resistance of Fungi Containing Various Pigments to Gamma-Irradiation"

Moscow, Mikrobiologiya, Vol 41, No 1, Jan/Feb 72, pp 83-86

Abstract: Twenty-one strains of fungi lacking pigment or containing various pigments were tested for their resistance to gamma-irradiation under a cobalt lamp. The pigmentless strain Cephalosporium acremonium and Penicillium luteum containing yellow-orange pigment of noncarotenoid type were killed by 80 to 100 curie. Their LD_{50} dose was 10 to 25 curie. The red-violet fungi of Fusarium sp. had a similar LD_{50} (10 to 25 curie), but they were killed by doses over 100 curie, and some strains of this species were killed by doses exceeding 250 curie. Stemphylium botryosum containing black pigment was very resistant: 1.2 percent to 1.7 percent survived irradiation by 625 curie. The strains isolated from high mountain soil samples had LD_{50} around 180 curie, those from lowland plain soil around 140 curie. Alternaria tennis had a similar resistance of its strains isolated from mountain soil, but it was more sensitive in lowland soil (LD_{50} = 60 to 80 curie). However, fungi of the genus Cladosporium were less resistant, being killed by 625 curie and having LD_{50}

1/2

USSR

MIRCHINK, T. G., et al., Mikrobiologiya, Vol 41, No 1, Jan/Feb 72, pp 83-86

at only 10 to 15 curie, in spite of their dark pigmentation. The presence of pigment usually increased the resistance to gamma-irradiation. The resistance of the strains within one species varied with the location from which the particular strains were isolated.

2/2

USSR

UDC 642.43.011:533;621.5:533

GERTSENSHTEYN, S. YA. and KASHKO, A. V.

"The Stability of an Axial-Symmetrical, Compressible, Nonviscous Wake"

Moscow, Nauch. tr. In-t mekh. Mosk. un-ta (Scientific Transactions of the Institute of Mechanics of Moscow University), No 19, 1972, pp 142-150 (from Referativnyy Zhurnal -- Mekhanika, No 4, 1973, Abstract No 4B395 by L. V. Nosachev)

Translation: The results of calculating the stability of flow in the wake behind a body flying with a supersonic velocity are presented. The wave number, velocity distribution and coefficient of amplification, characteristic for the oscillation in the wake were obtained. The dependence of these values on the Mach number and on the temperature drop on the wake axis and on the periphery were considered. As an example the flow in the wake behind a body in the range of Mach numbers from 10 to 30 was considered. It follows from the calculation presented that with an increase in the Mach number of the extremal wave number, the corresponding maximum coefficient of amplification decreased, while the phase velocity remained almost unchanged.

A comparison of the results obtained with well known results on the stability of planar jets was conducted. The comparison shows that the coefficients

1/2

USSR

GERISENSHTEYN, S. YA. and KASHKO, A. V., Nauch. tr. In-t mekh. Mosk. un-ta, No 19, 1972, pp 142-150

of amplification for planar jets are approximately four times higher than for axial-symmetrical jets.

2/2

USSR UDC 669.71.472

MIKHAYLOV, P. M., KULAKOV, A. I., KASHKO, Yu. G., FORSBLOM, G. V.

"Basic Conditions of Modeling of Gas Hydrodamics in Aluminum Electrolyzers"

Tr. Vses. N-i. i Proyektn. In-ta. Alyumin., Magn. i Elektrodn. Prom-sti [Works of All-Union Scientific Research and Planning Institute of the Aluminum, Magnesium and Electrode Industry], 1970, No. 71, pp. 94-110. (Translated from Referativnyy Zhurnal Metallurgiya, No. 5., 1971, Abstract No. 5 G157 by the authors).

Translation: Based on the theory of similarity, gas hydrodynamics similarity criteria in aluminum electrolyzers are developed considering the mechanism of gas formation on the anode. The provision of similarity conditions on models of decreased size is practically impossible. However, the problem is simplified when limiting modes of typical bubble or film flow of anode gases are studied. Furthermore, investigations can be performed using models of individual aspects of gas hydrodynamics, for example, studies of the flow of anode gases and melt in the central areas of the electrolyzer, the circulation of melt between anode and bath side, etc. 6 biblio refs.

1/1

1/2 011 UNCLASSIFIED PROCESSING DATE--020CT70
TITLE--NEW MACHINE FOR PRODUCING RUBBER CEMENT -U-

AUTHOR-(05)-KURINNYI, A.YE., KANANIN, B.G., KASHKOVSKIY, S.S., BAGRINTSEV, I.I., BELTYUKOV, A.V.
COUNTRY OF INFO--USSR

SOURCE--KHIM. NEFT. MASHINOSTR. 1970, (2) 42-3

DATE PUBLISHED-------70

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

TOPIC TAGS--RUBBER ADHESIVE, RUBBER WORKING MACHINERY, MATERIAL MIXING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1992/1505 STEP NO--UR/0314/70/000/002/0042/0043

CIRC ACCESSION NO--AP0112499
UNCLASSIFIED

2/2 011 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0112499

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A NOVEL MIXING APP. WAS DEVELOPED FOR THE PREPN. OF RUBBER CEMENT FROM RUBBER MIXT. NO 109 DISSOLVED IN GASOLINE. A CROSS SECTIONAL DIAGRAM OF THE APP. AND ITS MODE OF OPERATION ARE PRESENTED. THE NEW APP. REDUCED THE PREPN. TIME FROM 3-6 HR TO 40-60 MIN.

UNCLASSIFIED

1/2 018 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--THERMAL EFFECTS DURING THE HEATING OF SYNTHETIC QUARTZ CRYSTALS -U-

AUTHOR-(04)-GAVRILKO, V.M., KASHKUROV, K.F., KLESHCHEV, G.V., SAFRONOV, G.M.
COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(3), 421-4

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--QUARTZ, CRYSTAL, NONMETALLIC INCLUSIONS, ENDOTHERMIC EFFECT, THERMAL ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/0832 STEP NO--UR/0363/70/006/003/0421/0424

CIRC ACCESSION NO--AP0118008
UNCLASSIFIED

2/2 018 UNCLASSIFIED PROCESSING DATE--16OCT70
CIRC ACCESSION NO--AP0118008
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SYNTHETIC QUARTZ CRYSTALS WERE INVESTIGATED BY DTA. THE HEATING CURVES OF SYNTHETIC QUARTZ SAMPLES STUDIED SHOWED THE FOLLOWING THERMAL EFFECTS: ENDOTHERMAL EFFECT AT 530-570DEGREES, ASSOCD. WITH POLYMORPHIC TRANSFORMATION IN QUARTZ; ENDOTHERMAL EFFECT AT 100-190DEGREES, OBSD. FOR SAMPLES THAT CONTAIN INCLUSIONS OF THE COLLOIDAL PHASE; ENDOTHERMAL EFFECT AT 140-240DEGREES, ASSOCD. WITH MICROSCOPIC INCLUSIONS OF THE ORIGINAL SOLN. IN THE CRYSTAL; EXOTHERMAL EFFECT AT 200-410DEGREES, FOR WHICH THE MICROGLASSY INCLUSIONS IN THE CRYSTALS ARE PROBABLY RESPONSIBLE. FACILITY: INST. OBSHCH. NEORG. KHIM. IM. KURNAKOVA, MOSCOW, USSR.

UNCLASSIFIED

1/2 018 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--SPIN PROBE METHOD FOR STUDYING ORIENTED POLYMERS -U-

AUTHOR--(05)-STRYUKOV, V.B., ROZANTSEV, E.G., KASHLINSKIY, A.I., MALTSEVA, N.G., TIBANOV, I.F.
COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(4), 895-7

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, CHEMISTRY, PHYSICS

TOPIC TAGS--AMORPHOUS POLYMER, POLYETHYLENE TEREPHTHALATE, CAPRONE, CAPROLACTAM, POLYPROPYLENE FIBER, ORGANIC OXYGEN COMPOUND, ROTATION SPECTRUM, ELECTRON PROBE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1992/2009 STEP NO--UR/0020/70/190/004/0895/0897

CIRC ACCESSION NO--AT0112964
UNCLASSIFIED

2/2 018 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AT0112964

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CHANGES OCCURRING IN THE AMORPHOUS REGIONS OF POLY(ETHYLENE TEREPHTHALATE) (LAVSAN) (I), POLYCAPROLACTAM (KAPRON) (II), AND POLYPROPYLENE (III) UPON ELONGATION OF I, II, AND III FIBERS WERE STUDIED BY USING 2,2,6,6TETRAMETHYL,4,OXOPIPERIDINOOXY RADICAL (IV) AS A PROBE AT SIMILAR TO 9300 MHZ. THE ROTATION OF IV WAS GREATLY INHIBITED IN I OWING TO THE HIGH RIGIDITY OF ITS AMORPHOUS REGIONS; ON THE OTHER HAND, IN STRETCHED AND ORIENTED I OR II YARN, IV MOVED RATHER FREELY IN CERTAIN REGIONS OF THE POLYMER, SUGGESTING THE FORMATION OF MICROCAVITIES IN THE AMORPHOUS REGION OF THE POLYMER. THE ROTATION OF IV IN III FIBERS WAS GREATLY INHIBITED (THE ROTATIONAL DIFFUSION COEFF. DECLINED BY A FACTOR OF 10), INDICATING THAT THE RIGIDITY OF AMORPHOUS REGIONS OF III MARKEDLY INCREASED DURING THE FORMATION OF ORIENTED FIBERS. FACILITY: INST. KHIM. FIZ., MOSCOW, USSR.

UNCLASSIFIED

1/2 020 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--MAGNETIC ANISOTROPY OF NICKEL COPPER FERRITE AND THE CONTRIBUTION OF NI PRIME2 POSITIVE IONS IN THE TETRAHEDRAL SUBLATTICE TO THIS

AUTHOR-(03)-MIRYASOV, N.Z., IVANNIKOV, V.L., KASHLINSKIY, A.I.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TVERD. TELA 1970, 12(4), 1256-9

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, MATERIALS

TOPIC TAGS--MAGNETIC ANISOTROPY, FERRITE, NICKEL COMPOUND, COPPER COMPOUND, MAGNETIZATION, FERROMAGNETIC RESONANCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/0374 STEP NO--UR/0181/70/012/004/1256/1259

CIRC ACCESSION NO--AP0126129

UNCLASSIFIED

2/2 020 UNCLASSIFIED PROCESSING DATE--20NOV70
CIRC ACCESSION NO--AP0126129
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FROM MEASUREMENTS OF THE PARAMETERS OF FERROMAGNETIC RESONANCE, DETN. WAS MADE OF THE CONTRIBUTION TO THE ANISOTROPY CONST. OF NI PRIME2 POSITIVE IN THE TETRAHEDRAL SUBLATTICE. A SINGLE CRYSTAL WAS INVESTIGATED OF THE COMPN. NI SUBOTIMES72 CU SUBOTIMES1 FE SUB2TIMES18 O SUB4 AT 20-200DEGREES BY THE METHOD OF FERROMAGNETIC RESONANCE AT 9270 MNZ. SP. SATN. MAGNETIZATION, SIGMA SUBS, WAS MEASURED AT NEGATIVE 196 TO POSITIVE 300DEGREES, WHICH ALLOWED ONE TO EXTRAPOLATE THE TEMP. DEPENDENCE TO ODEGREESK AND CALC. THE MAGNETIC MOMENT PER MOL. OF THE FERRITE. A CHARACTERISTIC PECULIARITY OF THE RESONANCE DATA IS THE PRESENCE OF 2 SHARPLY SEPD. ABSORPTION LINES: 1 AT LOW FIELDS AND THE OTHER AT HIGH FIELDS WITH A DISTORTED SHAPE FROM THE SIDE OF STRONG FIELDS. THE 1ST LINE IS APPARENTLY RELATED TO RESONANCE DOMAIN BOUNDARIES. CATIONIC DISTRIBUTION AND THE ANISOTROPY CONSTS. WERE CALCD. FACILITY: MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

USSR UDC 621.387

KASHNIKOV, N.G., POKRYVAYLO, A.B., TYUREMNOV, G.N., NIKOL'SKIY, V.M.

"Dual Mechanotron"

USSR Author's Certificate No 217656, filed 18 Feb 66, published 16 Jun 70 (from RZh--Elektronika i yeye primeneniye, No 11, November 1970, Abstract No 11A148P)

Translation: A dual longitudinal control mechanotron is proposed, which differs in the fact that with the object of increasing the sensitivity and precision, the mechanotron container is filled with gas, the anode is made in the form of wire rings, and the cathode in the form of a plate, in order to assure formation of a corona discharge.

1/1

AA0038812

UR 0482

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

238676 SURFACE PURIFICATION of mounts of electric vacuum devices by ion bombardment can be improved bu exhausting the devices, depending on size, at a rate of 0.001-500 l/sec. and by applying a voltage of 100-3000 V to the electrodes while the pressure drops from 100 to 0.1 Torr. An oxidation of the electrodes can be avoided in the volatilisation of the fatty and salty impurities by a suitable selection of the voltage. 15.7.67. as 1172683/26-25. A E.GRODSHTEIN et alia. (14.7.69.) Bul.10/10.3.69. Class 21g. Int.Cl H01j

AUTHORS: Grodshteyn. A. Ye.; Kashnikov. N. G.; Kirsanov, N. D.; and Yuvenskaya, G. A.

19740022

USSR

UDC 629.78.05/062+629.78.072/077

KASHONOV, B. YE.

"Aerodynamic Compensation of Perturbing Moments Acting on a Spacecraft"

V sb. Mat. metody modelir. v kosmich. issled. (Mathematical Methods of Modeling in Space Research -- Collection of Works), Moscow, "Nauka", 1971, pp 120-145 (from RZh-62. Issledovaniye kosmicheskogo prostranstva, No. 4, Apr 72, Abstract No. 4.62.342)

Translation: Perturbations effecting the orientation stabilization of artificial earth satellites are investigated. The problem of the application of aerodynamic compensators for aerodynamic and gravitational perturbing moments is considered. Relationships are derived for selecting the parameters of compensators and for analyzing the feasibility of their installation on an artificial earth satellite moving in a circular orbit and stabilized along the velocity vector using jet engines. The sequence of the analysis for aerodynamic compensators of various types is given. 10 ref. Resume.

1/1

USSR UDC 547.859.7'785.5:543.4.6

POZHARSKIY, A. F., KASHPAROV, I. S., ANDREICHIKOV, YU. P., BURYAK, A. I., KONSTANTINCHENKO, A. A., and SIMONOV, A. M., Rostov-on-Don State University

"Heterocyclic Analogs of Pleiadiene. VII. Tautomerism of 2-Amino-derivatives of Perimidine, Aceperimidine, and Their Imidazole Analogs"

Riga, Khimiya Geterotsiklicheskikh Soyedineniy, No 6, Jun 71, pp 807-813

Abstract: Analysis of the ionization constants, infrared and ultraviolet spectral data and of quantum mechanical calculations showed that 2-aminoperimidines and 2-aminoaceperimidines show a greater tendency toward a tautomeric equilibrium shift in the direction of the imino form than the 2-aminoderivatives of 4,5-diphenylimidazole, benzimidazole, and angular or linear naphtimidazoles. This tendency is believed to be connected with their π-electron structure.

1/1

1/2 009 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--HETEROCYCLIC ANALOGS OF PLEIADIENE. III. REACTIVITY OF THE NITROGEN ATOMS OF PERIMIDINE AND ACEPERIMIDINE -U-
AUTHOR--POZHARSKIY, A.F., KASHPAROV, I.S.

COUNTRY OF INFO--USSR

SOURCE--KHIM. GETEROTSIKL. SOEDIN. 1970, (1), 111-15

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--HETEROCYCLIC NITROGEN COMPOUND, POLYNUCLEAR HYDROCARBON, OXIDATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1987/1693 STEP NO--UR/0409/70/000/001/0111/0115

CIRC ACCESSION NO--AP0104905
UNCLASSIFIED

2/2 009 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0104905

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PERIMIDINE (I) AND ACEPERIMIDINE (II) UNDERGO OXIDN. WHEN TREATED WITH KOH OR ETOK UNDER AIR, FORMING REPRODUCIBLE YET UNKNOWN PRODUCTS. A SOLN. OF 0.01 MOLE KOH AND 0.01 MOLE RX IN 10 ML ETOH ADDED TO 0.01 MOLE I OR II IN 30 ML ETOH UNDER N AND THE MIXT. BOILED UNDER N 3 HR GAVE THE CORRESPONDING N ALKYLPERIMIDINE (III) OR N ALKYLACEPERIMIDINE (IV). THE FOLLOWING III AND IV WERE THUS PREPD. (X, COMPD., R, M.P. (SOLVENT), PERCENT YIELD, AND PK SUBA IN 10PERCENT AQ. ETOH AT 25 PLUS OR MINUS 1DEGREES GIVEN): I, III, ME, 120-1DEGREES (HEPTANE), 67, 5.86; BR, III, ET, 115-16DEGREES (HEPTANE), 63, 5.93; I, III, PR, 72-3DEGREES (AQ. ETOH), 64, 5.87; I, III, ISO PR, 67-8DEGREES (AQ. ETOH), 35, 5.99; CL, III, PHCH SUB2, 135-6DEGREES (OCTANE), 47, MINUS; I, IV, ME, 201-2DEGREES (AQ. ETOH), 66, 6.16; BR, IV, ET, IV, 120-1DEGREES (AQ. ETOH), 60, 6.14; BR, IV, PR, 60-2DEGREES (HEXANE), 57, MINUS. A MIXT. OF 2 G I, 30 ML MEOH, AND 3 ML 40PERCENT CH SUB2 O KEPT OVERNIGHT GAVE 98PERCENT III (R EQUALS CH SUB2 OH), M. 202-3DEGREES (H SUB2 O). A MIXT. OF 3.36 G I, 50 ML C SUB6 H SUB6, AND 0.8 G MEOCH SUB2 CL BOILED 1 HR GAVE 1.33 G III (R EQUALS CH SUB2 OME), M. 65-6DEGREES (C SUB6 H SUB6).

UNCLASSIFIED

USSR

POPOV, Ye. I., KASHPOROV, L. Ya., MAL'TSEV, V. M., and BREYTER, A. L.

UDC: 662.612

"Combustion Mechanism of Aluminum-Magnesium Alloy Particles"

Novosibirsk, Fizika goreniya i vzryva, No 2, 1973, pp 240-246

Abstract: An investigation is conducted of the combustion process of single aluminum-magnesium alloy particles under atmospheric pressure. The particles under test contained 5, 10, 20, 50, 70, 90, and 95% magnesium, and were made in spherical form of 100-600 μ in diameter. The method of the experiment was to place the particle to be tested on a sharp tungsten needle and roast it in air or in the flames of mixtures of ammonium perchlorate and in urotropin at temperatures of 2500, 2700, and 3100° K, with the combustion process observed through the cinema camera "Konvas" and the SKS-1. Photographs from the film strips are reproduced, and curves are plotted of the ratio of the particle glow zone radius to the radius of the original particle as a function of time, and of the relative duration of the first combustion stage as a function of the alloy composition. It is found that the combustion proceeds in two stages, with the magnesium burning out chiefly in the first stage and the aluminum in the second.

1/1

USSR UDC 620.172.173.174

KASHPERSKIY, V. S., SKVORTSOVA, N. V., and ZHURAVEL', A. Ye., Kiev

"Mechanical Properties of Sitall in Flexure, Extension, and Compression"

Kiev, Problemy Prochnosti, No 4, Apr 71, pp 80-83

Abstract: A method and results are presented of experimental investigation of the elasticity characteristics (Young, Modulus, Poisson, coefficient in extension, compression, and flexure) and the ultimate strength of cast sitall of composition number 23 in extension and compression. Measurement of deformation was performed using tensoresistors. A brief description is presented of the characteristic forms of rupture with various types of loading.

1/1

USSR

UDC 536.46+669.715

BREYTER, A. L., KASHEOROV, L. Ya., MAL'TSEV, V. M., POKHIL, P. F., POPOV, Ye. I., PEPEKIN, V. I., and STASENKO, A. G., Moscow

"Burning of Single Particles of Aluminum-Magnesium Alloys in the Flame of Oxidizer-Fuel Mixture"

Novosibirsk, Fizika Goreniya i Vzryva, Vol 7, No 2, Jun 71, pp 222—227

Abstract : The burning of single particles of aluminum-magnesium alloys in the tongue of the flame of a mixture of ammonium perchlorate and urotropine of stoichiometric composition (88 % ammonium perchlorate and 12 % urotropine) was experimentally investigated. The investigation results are discussed by reference to photographs of typical tracks of burning particles and diagrams showing the dependences of the inflammation time lag and the particle fraction subjected to explosive burning on particle composition. From the viewpoint of complete burning by modified fuel on aluminum base, alloys with 30—45 % aluminum and 55—70 %

1/2

USSR

BREYTER, A. L., KASHPOROV, L. Ya.,el al., Fizika Goreniya i Vzryva, Vol 7, No 2, Jun 71, pp 222-227

magnesium are considered to be effective. The characteristics of burning of the metal component are determined by the nature of included metals: the permeability of its oxidic layers, reaction capability, surface activity, volatility, fusing temperature, density change by fusing, and the burning temperature. Five illustr., one table, 16 biblio. refs.

2/2

USSR

KASHPROVSKIY, VADIM YEVMENIYEVICH, and KUZUBOV, FELIKS ALEKSANDROVICH

"Ground Wave Propagation of Medium Radio Waves "(Rasprostraneniye Srednikh Radiovoln Zemnym Luchom), Moscow, Izd-vo "Svyaz'," 1970, 4,000 copies, 220 pages

Abstract: The book is devoted to practical problems of ground wave propagation of medium-frequency radio waves. The effect of the electrical properties of the earth surface, its relief, geological composition, forests on the propagation of medium and long waves is examined. The relation of types of soil and their electrical conductivity is analyzed and various methods for its determination are described. Methods for calculating the voltage field of ground waves over flat and spherical surfaces of the earth are presented.

The book is intended for engineers, scientific workers, and students of senior radio engineering courses and radio physics specialties.

The book contains 26 tables, 111 illustrations, and 64 citations in the bibliography.

1/2

USSR

KASHPROVSKIY, VADIM YEVMENIYEVICH, and KUZUBOV, FELIKS ALEKSANDROVICH, "Ground Wave Propagation of Medium Radio Waves" (Rasprostraneniye Srednikh Radiovoln Zemnym Luchom), Moscow, Izd-vo "Svyaz'," 1970, 4,000 copies, 220 pages

The chapter headings are as follows:

2/2

USSR

UDC 539.434

MATOKHNYUK, L. Ye., KASHTALYAN, Yu. A., and SAMGIN, V. A.,
Kiyev, Institute of the Problems of Strength of the Academy of Sciences of the Ukrainian Soviet Socialist Republic

"Endurance Investigation of the Alloy D16AM0 by Acoustic Loading"

Kiyev, Problemy Prochnosti, No 9, Sep 71, pp 116-120

Abstract : Investigation results are presented of the endurance of 0.8 mm-thick specimens of the alloy D16AM0 by harmonic loading on an electrodynamic vibration stand and on a special unit where the specimens were subjected to the effect of narrow-band and broad-band high-intensity noise of a siren. The highest value of the endurance limit was found by harmonic loading, the lowest by broad-band acoustic loading. The longevity was calculated by the methods of linear and spectral summations of fatigue damages by all loading conditions. A satisfactory coincidence was found between the experimentally determined and the calculated longevities by the two methods. Twelve formulas, six illustr., five biblio. refs.

1/1

USSR

UDC 539.32:620.179.163

KASHTALYAN, YU. A.

Kharakteristiki uprugosti materialov pri vysokikh temperaturakh (Elasticity Characteristics of Materials at High Temperatures), Kiev, "Naukova Dumka" Press, 1970, 112 pp

Translation of Annotation: The book contains a description of experimental methodology for determining the elasticity characteristics (Young's modulus, transverse modulus, Poisson coefficient) of materials at high temperatures.

The design and operating principles of equipment for measuring these characteristics at up to 3000°K are considered. New data are presented on the elasticity characteristics of refractory metals (W, Mo, Ya, Nb), their alloys, various refractory fusions, and on pyroceramics and ferro-glass materials at room and high temperatures.

The book is intended for scientific and engineering-technical personnel, teachers, graduate students, and students at institutions of higher education.

1/3

USSR

KASHTALYAN, YU. A., Kharakteristiki uprugosti materialov pri vysokikh temperaturakh, Kiev, "Naukova Dumka" Press, 1970, 112 pp

TABLE OF CONTENTS:

2/3

USSR

KASHTALYAN, YU. A., Kharakteristiki uprugosti materialov pri vysokikh temperaturakh, Kiev, "Naukova Dumka" Press, 1970, 112 pp

3/3

Materials

USSR

KASHTALYAN, Yu. A.

UDC 539.32:620.179.163

"Elasticity Characteristics of Materials at High Temperatures" (Kharakteristiki uprugosti materialov pri vysokikh temperaturakh) Kiev, 1970, Acad Sci Ukrainian SSR, Institute of Problems of Strength; 112 pp, illus, 91-item biblio, 2,500 copies printed

Abstract: The book describes experimental methods of determining the characteristics of elasticity (Young's modulus, shear modulus, Poisson coefficient) of materials at high temperatures. The design and operating principles are considered for equipment that will provide measurement of these characteristics up to temperatures of 3,000°K. New data are given on refractory metals (W, Mo, Nb, Ta), their alloys, various refractory compounds, sitalls, and ferrosilicon materials under normal and elevated temperatures. The book is intended as a text for scientific and engineering workers, aspirants and VUZ students.

USSR

KASHTALYAN, Yu. A., Elasticity Characteristics of Materials at High Temperatures, Kiev, 1970, Acad Sci Ukrainian SSR, Institute of Problems of Strength; 112 pp, illus, 91-item biblio, 2,500 copies printed

2/2

Transformation and Structure

USSR

UDC 669.14.018.252.3:620.17

KASHTANEK, O., Casting Institute, Koshitse

"Effect of Titanium and Vanadium on the Structure and Properties of High-Speed Cast Steel with 9% W"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 3, 1971, pp 22-23

Abstract: The possibility of improving the cast structure of high-speed cast steel by introduction of strong carbide-forming elements -- titanium and vanadium -- was studied. The experimental procedure and test results are presented. Replacement of vanadium by titanium in cast steel promotes refining of the structure and prevents the formation of dendrites and the separation of primary carbides along the boundaries. As a result, the ductility increases appreciably. The amount of carbide deposits in quenched and tempered steel is higher than in R9 steel. Phase analysis demonstrated that titanium does not convert to a solid solution and that only traces of titanium are detected in it. The cutting properties of steel with titanium added are

USSR

KASHTANEK, O., et al., Metallovdeniye i Termicheskaya Obrabotka Metallov, No 3, 1971, pp 22-23

higher than those of standard R9 steel. The results of investigating the characteristic features of the conversions and structure of steel with titanium and ordinary R9 steel are also presented. The structure of samples of W-Mo-V-Ti steel was found to consist of δ-ferrite with carbide inclusions with HV3005. The microhardness of the basic mass H316-353 (340) corresponds to the microhardness of the δ-ferrite.

2/2

Transformation and Structure

USSR

UDC 669.14.018.252.3:620.17

KASHTANEK, O., Casting Institute, Koshitse

"Effect of Titanium and Vanadium on the Structure and Properties of High-Speed Cast Steel with 9% W"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 3, 1971, pp 22-23

Abstract: The possibility of improving the cast structure of high-speed cast steel by introduction of strong carbide-forming elements -- titanium and vanadium -- was studied. The experimental procedure and test results are presented. Replacement of vanadium by titanium in cast steel promotes refining of the structure and prevents the formation of dendrites and the separation of primary carbides along the boundaries. As a result, the ductility increases appreciably. The amount of carbide deposits in quenched and tempered steel is higher than in R9 steel. Phase analysis demonstrated that titanium does not convert to a solid solution and that only traces of titanium are detected in it. The cutting properties of steel with titanium added are

1/2

USSR

KASHTANEK, O., et al., Metallovdeniye i Termicheskaya Obrabotka Metallov, No 3, 1971, PP 22-23

higher than those of standard R9 steel. The results of investigating the characteristic features of the conversions and structure of steel with titanium and ordinary R9 steel are also presented. The structure of samples of W-Mo-V-Ti steel was found to consist of δ-ferrite with carbide inclusions with HV3005. The microhardness of the basic mass H316-353 (340) corresponds to the microhardness of the δ-ferrite.

2/2

AGRICULTURE

So: JPRS 54279

19 OCT 71

BETTER TECHNIQUES NEEDED FOR SIBERIAN INCLINE FARMING

[Article by [redacted] Kashtanov, Altay Agricultural Scientific Research Institute Director: "The Technology of the Field", Moscow, Pravda, Russian, 3 August 1971, p 2]

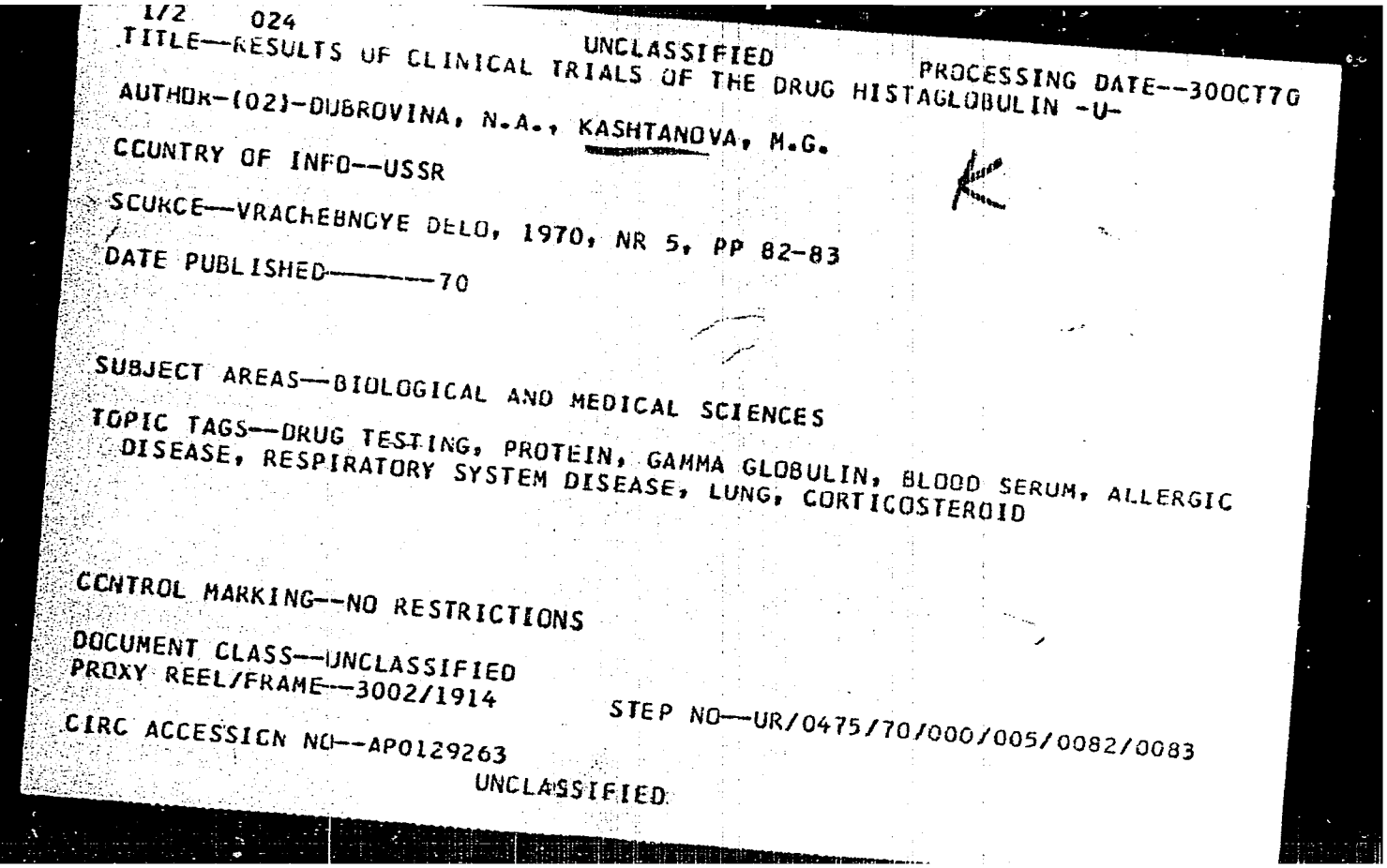
When talk turns to the peculiarities of Siberian farming, people usually say: "The winter there is long and cold, the summer is short, hot, and very rainy, and the frosts arrive early." All this is so. But yet another fact which sometimes even experienced agronomists forget about — the relief of the locality — must not be left out of the reckoning. It determines the fertility of the soil, its water, nutrient, and temperature regime, and its resistance to wind and water erosion to a great extent.

More than half the arable land in Altay is located in arid steppes with a level relief. About 3.5 million hectares are in forest-steppe and foothill zones on slopes with an incline of 1-5 and more degrees. Here there are ravines and steep-sided gills, river valleys, and valleys with a network of gullies. The slopes are frequently subjected both to water and wind erosion.

Until recently the view was current not only among practical workers but also among certain scientists that there lands were suitable, they said, for cultivating all crops with a conventional crop rotation and with moldboard or, as it is sometimes called here, classic, tilling. And when they performed the land organization, they cut out the fields along the slopes with long straight runs which enable the greatest possible output to be "squeezed" from each tractor. Plow, sow, harvest, and plow again — Siberian farming was built up according to a simple pattern like this.

But now the slopes have begun losing their raven-black color. They have grown brown, and in some places they have become completely yellow. The gully has crept unnoticed up to the field and has started eating it away.

- 1 -



1/2 024 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--RESULTS OF CLINICAL TRIALS OF THE DRUG HISTAGLOBULIN -U-

AUTHOR-(02)-DUBROVINA, N.A., KASHTANOVA, M.G.

CCUNTRY OF INFO--USSR

SCURCE--VRACHEBNOYE DELO, 1970, NR 5, PP 82-83

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DRUG TESTING, PROTEIN, GAMMA GLOBULIN, BLOOD SERUM, ALLERGIC DISEASE, RESPIRATORY SYSTEM DISEASE, LUNG, CORTICOSTEROID

CCNTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1914 STEP NO--UR/0475/70/000/005/0082/0083

CIRC ACCESSICN NO--AP0129263

UNCLASSIFIED

2/2 024 UNCLASSIFIED

CIRC ACCESSION NO--AP0129263 PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SOVIET PREPARATION HISTAGLOBULIN IS A HISTAMINE FIXED ON THE PROTEIN GAMMA GLOBULIN FRACTION. INTRODUCED INTO THE ORGANISM IT FAVORS AN INCREASE OF THE PROTECTIVE PROPERTIES OF THE BLOOD SERUM OF PATIENTS SUFFERING OF ALLERGIC DISEASES. CLINICAL TRIAL IN 60 PATIENTS PROVED THE EFFICIENCY OF HISTAGLOBULIN IN ALLERGIC FORMS OF BRONCHIAL ASTHAMA. IN PATIENTS WITH BRONCHIAL ASTHMA AT THE BACKGROUND OF PULMONARY PATHOLOGY, HISTAGLOBULIN MAY BE USED IN COMPLEX WITH OTHER DRUGS. HISTAGLOBULIN WAS INEFFICIENT IN ASSOCIATION WITH CORTICOSTEROIDS. THE DRUG IS WELL TOLERATED AND CAUSES NO SIDE EFFECTS. FACILITY: GEMOTERAPEVTICHESKAYA KLINIKA I EKSPERIMENTAL'NO-PROIZVODSTVENNAYA LABORATORIYA, LENINA INSTITUTA GEMATOLOGII I PERELIVANIYA KROVI.

UNCLASSIFIED

USSR

UDC: 547.241

NURTDINOV, S. Kh., TSIVUNIN, V. S., KHAYRULLIN, R. S., KASHTANOVA, V. G., and KAMAY, G. Kh., Kazan' Institute of Chemical Technology

"Reaction of Ethyl- and Phenyldichlorophosphine with Acetone"

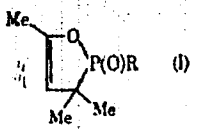
Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 1, Jan 70, pp 36-40

Abstract: Liquid heterocyclic compounds, 2-keto-2-ethyl-(or phenyl-)-3,3,5-trimethyl-1-oxa-2,4-phospholenes (I), were obtained in 67-70% yields by heating for 10-20 hours in a sealed tube mixtures of ethyl- or phenyldichlorophosphine with acetone at 75-80° or 100°, respectively. Physical constants of I are given. The structure of I was determined from IR and NMR spectra. Heating I with methanol at 70-150° in a sealed tube gave ethyl- or phenyl 1,1-dimethyl-3-ketobutylphosphinites (II) in 49-73% yields. All II compounds but one are liquids. Similarly heating I at 110° with water slightly acidified with hydrochloric acid gave 52-54% yields of ethyl- or phenyl-1,1-dimethyl-3-ketobutylphosphinic acids, crystalline solids with melting point 112-13° and 121°, respectively. The structures of the phenylketobutylphosphinic acid, I and II were determined from IR spectra.

1/1

Acc. Nr: AP0053349 Abstracting Service: CHEMICAL ABST. 1970 Ref. Code: UR0079

111569y Reaction of ethyl- and phenyldichlorophosphine with acetone. Nurtdinov, S. Kh.; Tsivunin, V. S.; Khairullin, R. S.; Kashtangova, V. G.; Kamai, G. (Kazan. Khim.-Tekhnol. Inst., Kazan, USSR). *Zh. Obshch. Khim.* 1970, 40(1), 36–40



(I)

(Russ). Heating in a sealed tube 22 g $EtPCl_2$ and 19.2 g Me_2CO 10 hr at 75–80° gave 67% I (R = Et) $b_{0.1}$ 80–2°, d^{20} 1.0630, n_D^{20} 1.4768. $PhPCl_2$ similarly gave in 20 hr at 100° 70% I (R = Ph), $b_{0.02}$ 136°, 1.0310, 1.5415. Heating I with R^1OH in a sealed tube at 100–50° several hr gave $RP(OR^1)CMe_2CH_2Ac$ (R and R^1 shown): Et, Me, 73%, b_3 112–13°, 1.0670, 1.4645; Ph, Me, 50%, $b_{0.3}$ 149–52°, 1.1260, 1.5255; Et, Et, 63%, b_6 128–30°, 1.0400, 1.4610; Et, Pr, 57%, b_5 131–3°, 1.0300, 1.4640; Et, iso-Pr, 52%, m. 82–4°; Et, Bu, 49%, $b_{0.01}$ 96–8°, 1.0250, 1.4631; Et, C_6H_{11}, 51%, $b_{0.02}$ 122–4°, 0.9837, 1.4502; Ph, Et, 67%, $b_{0.1}$ 154–6°, 1.1250, 1.5235 (2,4-dinitrophenylhydrazone

1/2

REEL/FRAME
19830371

7

AP0053349

m. 213°); Ph, Pr, 70.8%, $b_{0.2}$ 141–3°, 1.0870, 1.5137 (2,4-dinitrophenylhydrazone m. 203°); Ph, iso-Pr, 56.9%, $b_{0.1}$ 131–3°, 1.0968, 1.5150; Ph, Bu, 67.5%, $b_{0.15}$ 146–8°, 1.0697, 1.5110; Ph, iso-Bu, 52.3%, $b_{0.25}$ 158–60°, 1.0741, 1.5115; Ph, C_5H_{11}, 69%, $b_{0.8}$ 166–70°, 1.0613, 1.5068; Ph, iso-C_5H_{11}, 71%, $b_{0.05}$ 138–40°, 1.0630, 1.5075. Heating I with H_2O slightly acidified with HCl 8 hr at 110° gave 52–4% $AcCH_2CMe_2P(O)(OH)R$: Et, m. 112–13°; Ph, m. 121° (aniline salt, m. 124°).

G. M. Kosolapoff

7/7

19830372

USSR

PASECHNIK, M. V., KORZH, I. A., KASHUBA, I. Ye., MISHCHENKO, V. A., PRAVDIVYY, N. M., and SANZHUR, I. Ye., Institute of Physics of the Academy of Sciences Ukrainian SSR

"Study of the Elastic Scattering of Neutrons in the 0.3-4.1 Mev Energy Region by Ti and Cr Nuclei Using the Optical Model of the Nucleus"

Moscow, Yadernaya Fizika, Vol 11, No 5, May 70, pp 958-966

Abstract: The angular distributions of neutrons elastically scattered by Ti and Cr nuclei were measured over the angles 20-145° for neutron energies 2, 2.5, and 3 Mev, and data are given on the polarizing capacity of these nuclei for neutron energies of 1.5 and 2.0 Mev. The data are compared with the angular distributions of elastically scattered neutrons and with polarization occurring under elastic scattering as calculated on the basis of the six-parameter optical model of the nucleus. The purpose of this comparison was to make a systematic study of the variation with energy of the parameters of the optical potential, which function describes the interaction between the neutron and the nucleus. The values of the optimal parameters V_c and W_c were obtained by a least-squares fitting of data on the angular distributions of elastically scattered neutrons.
1/2

USSR

PASECHNIK, M. V., et al, Yadernaya Fizika, Vol 11, No 5, May 70, pp 958-966

A comparison of calculated and experimental total cross sections showed satisfactory agreement between the two. The values of the optimal parameters of the optical model were calculated by a three-parameter analysis; the forms of the angular distributions calculated by the three-parameter variation method did not greatly differ from the angular distributions calculated with a two-parameter variation. This is said to indicate that the parameters of the optical potential most sensitive to the magnitude and form of the angular distributions are the values of the real and imaginary parts of the central potential.

2/2

USSR UDC: 669'255'295'24:620.17

KARELIN, A. G., KASHUK, V. A.

"Study of Properties of Cast Cobalt with the Addition of Titanium and Nickel"

Sb. Nauch. Tr. Tomsk. Inzh.-Stroit. In-t [Collected Scientific Works of Tomsk Institute of Construction Engineering], 1973, No 21, pp 55-67 (Translated from Referativnyy Zhurnal Metallurgiya, No 8, 1973, Abstract No 81699, by L. Petrova).

Translation: The influence of slight additions of Ti and Ni in quantities of 0.05, 0.1, 0.2, 0.35, 0.5, 0.55, 0.8, 1.0, 1.2, 1.6% on the macro- and microstructure, microhardness and ρ of cast Co (99.98%), produced in a type LPZ-67 high frequency installation under a layer of flux or in Ar was studied. The additives were introduced in the form of Co-Me master alloys. The maximum grain size reduction was observed for 0.35 at. % Ti, while higher concentrations caused an increase in grain size. Ni decreases grain size slightly, and the curve is continuous. Ti and Ni increase microhardness and ρ of Co, Ti acting more strongly than Ni, particularly on ρ. 6 figures, 3 tables, 28 biblio. refs.

1/1

1/2 035 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--POWER PLANT USE OF SULFUR CONTAINING PETROLEUM RESIDUES -U-

AUTHOR-(05)-KOLODIYEVA, YE.V., KUROCHKIN, A.I., ZHAROVA, M.N., KASHURICHEV, A.P., CHUKHANOV, Z.F.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, ENERG. TRANSP. 1970, (1), 85-93

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, PROPULSION AND FUELS, EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--PYROLYSIS, PETROLEUM DEPOSIT, GEOGRAPHIC LOCATION, CHEMICAL COMPOSITION, ECONOMICS, FUEL CONSUMPTION, STEAM BOILER, BENZENE, TOLUENE, NAPHTHALENE, ETHYLENE, COKE, SULFUR, POWER PLANT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/1544 STEP NO--UR/0281/70/000/001/0085/0093

CIRC ACCESSION NO--AP0118527

UNCLASSIFIED

2/2 035 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0118527

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. POWER PLANT PYROLYSIS OF S CONTG. MAZUT (PETROLEUM RESIDUES) FROM ROMANSHKINO AND ARLANSK CRUDE OILS AT RATES OF 1.3-4.7 G-SEC YIELDED ACCORDING TO CALCNS. BASED ON A SINGLE PYROLYSIS CYCLE 57-78 AND 55-78PERCENT GAS AND 31-40 AND 27-38PERCENT LIQ. PRODUCTS, OF WHICH 7-11 AND 9-12PERCENT B. SMALLER THAN OR EQUAL TO 230DEGREES WERE RECOVERED BEFORE RECYCLING. OPTIMAL CONDITIONS FOR MAX. C SUB2 H SUB4 YIELDS (22.8 AND 17.5PERCENT) WERE 0.02 AND 0.08 SEC AT 945 AND 930DEGREES WITH STEAM, MAZUT RATIOS B OF 0.66 AND 0.49 KG-KG, RESP. FOR ARLAN MAZUT-C SUB6 H SUB6, PHME, ME SUB2 C SUB6 H SUB4 PLUS PHET, AND NAPHTHALENE, YIELDS WERE MAX. (6.0, 1.6, 0.2, AND 1.4PERCENT, RESP.) AT AN C SUB2 H SUB4 YIELD OF 13.8PERCENT WHEN THE CONDITIONS WERE 0.24 SEC AT 960DEGREES WITH B EQUALS 0.51, WHEREAS THESE YIELDS WERE 3.5, 2.1, 0.5, AND 0.5PERCENT AT AN CL SUB2 H SUB4 YIELD OF 17.5PERCENT WHEN THE CONDITIONS WERE 0.07-0.09 SEC AT 920-50DEGREES WITH B EQUALS 0.5 AND THE FRACTION OF THE ORIGINAL S LEFT IN THE COKE WAS SIMILAR TO 30PERCENT. THIS FRACTION WAS MIN. (SIMILAR TO 11 ANS 25PERCENT) AND C SUB2 H SUB4 YIELDS WERE HIGH (27.6 AND 17.6PERCENT) WHEN THE RESP. MAZUTS WERE PYROLYZED FOR 0.03 AND 0.06 SEC AT 915 AND 945DEGREES WITH B EQUALS 0.75 AND 1.0, BUT AROMATIC HYDROCARBON YIELDS WERE REDUCED BY SIMILAR TO 33PERCENT AND POWER EFFICIENCY BY SIMILAR TO 3.5-4.0PERCENT. IN COMPARISON WITH SEP. PRODUCTION OF POWER AND PETROLEUM PRODUCTS, POWER PLANT PYROLYSIS UNDER OPTIMAL CONDITIONS REDUCED BOILER FUEL CONSUMPTION BY SIMILAR TO 20PERCENT AND POWER COSTS BY SIMILAR TO 50PERCENT.

UNCLASSIFIED

USSR UDC 551.501.8(124):551.510.52

KHODZHA-AKHMEDOV, Ch. L. and KASHUBKO, M. S.

"Investigating the Relative Delay Time for Signals in Tilted Probing of the Ionosphere"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl. Sekts. 1 (Tenth All-Union Conference on the Propagation of Radio Waves; Report Theses; Section 1--collection of works) "Nauka," 1972 pp 452-455 (from RZh--Radiotekhnika, No 10, 1972, Abstract No 10A344)

Translation: The concept of the coefficient of multibeam reduction, $K_{red} = \sum_i \Delta f_i / MNCh - NNCh$, where Δf_i is a band with the permissible delay signal, and MNCh and NNCh are the maximum observable frequency and least observable frequency respectively. Results are given of investigations into the dependence of K_{red} on the frequency and the distance range, and descriptions of the daily variations in K_{red} are also presented. One illustration, bibliography of two. A. L.

1/1

USSR UDC 621.039.51

KHROMOV, V. V., KUZ'MIN, A. M., KASHUTIN, A. A., and SILAYEV, YU.V.

"Calculation Optimization Complex for Fast Nuclear Reactors (ROKBAR)"

Fiz. Yadern. Reaktorov (Nuclear Reactor Physics -- collection of works), No 2, Moscow, Atomizdat Press 1970, pp 3-16 (from Referativnyy Zhurnal-Yadernyye Reaktory, No 3, 1971, Abstract No 3.50.63)

Translation: The ROKBAR program for optimization of fast nuclear reactors has been written for the M-20 computer at the Moscow Engineering Physics Institute. The ROKBAR program allows sequential search for the optimal version of a fast reactor considering its thermal, strength, and neutron physical characteristics while avoiding variant calculation. The program is based on an algorithm of gradient search for an optimal version using formulas from the theory of small perturbations and linear programming. The authors preferred this method of optimization above other methods (dynamic programming, the maximum principle of Pontryagin), since it is most universal and has been developed in sufficient detail. The

1/2

USSR

KHROMOV, V. V., et al., Fiz. Yadern. Reaktorov, No 2, Moscow, Atomizdat Press 1970, pp 3-16 (from Referativnyy Zhurnal-Yadernyye Reaktory, No 3, 1971, Abstract No 3.50.63)

creation of the ROKBAR optimization complex was facilitated by the experience in the planning of fast nuclear reactors accumulated at the Institute of Physics and Power Engineering. Optimization studies of a BN-350 nuclear reactor have shown that 2 to 3 minutes of M-20 computer machine time is required for each step in the search, the total time expended for optimization of the nuclear reactor being not over 1.5 hr. Studies performed using the ROKBAR program have shown that it is a reliable and effective tool for the search for optimal compositions of fast nuclear reactors. 9 biblio. refs.

2/2

USSR UDC 621.039.51

KHROMOV, V. V., KUZ'MIN, A. M., KASHUTIN, A. A., and SILAYEV, YU.V.

"Calculation Optimization Complex for Fast Nuclear Reactors (ROKBAR)"

Fiz. Yadern. Reaktorov (Nuclear Reactor Physics -- collection of works), No 2, Moscow, Atomizdat Press 1970, pp 3-16 (from Referativnyy Zhurnal-Yadernyye Reaktory, No 3, 1971, Abstract No 3.50.63)

Translation: The ROKBAR program for optimization of fast nuclear reactors has been written for the M-20 computer at the Moscow Engineering Physics Institute. The ROKBAR program allows sequential search for the optimal version of a fast reactor considering its thermal, strength, and neutron physical characteristics while avoiding variant calculation. The program is based on an algorithm of gradient search for an optimal version using formulas from the theory of small perturbations and linear programming. The authors preferred this method of optimization above other methods (dynamic programming, the maximum principle of Pontryagin), since it is most universal and has been developed in sufficient detail. The

1/2

USSR

KHROMOV, V. V., et al., Fiz. Yadern. Reaktorov, No 2, Moscow, Atomizdat Press 1970, pp 3-16 (from Referativnyy Zhurnal-Yadernyye Reaktory, No 3, 1971, Abstract No 3.50.63)

creation of the ROKBAR optimization complex was facilitated by the experience in the planning of fast nuclear reactors accumulated at the Institute of Physics and Power Engineering. Optimization studies of a BN-350 nuclear reactor have shown that 2 to 3 minutes of M-20 computer machine time is required for each step in the search, the total time expended for optimization of the nuclear reactor being not over 1.5 hr. Studies performed using the ROKBAR program have shown that it is a reliable and effective tool for the search for optimal compositions of fast nuclear reactors. 9 biblio. refs.

2/2

USSR

UDC 612.039

KUZ'MIN, A. M., KASHUTIN, A. A., SILAYEV, Yu. V., and KHROMOV, V. V.

"Solution of Certain Optimization Problems for Fast Reactors"

V sb. Fiz. yadern. reaktorov (Physics of Nuclear Reactors — Collection of Works), No 2, Moscow, Atomizdat, 1970, pp 17-32 (from RZh-Fizika, No 4, Apr 71, Abstract No 4V526)

Translation: Problems illustrating the possibilities of the ROKBAR program and giving an idea of the nature of solutions and the optimization of high-power fast reactors are described. Reactors with oxide fuel and sodium coolant are considered; the core consists of two regions with different concentrations of fissionable isotopes. The following problems are solved: 1. the minimum of the critical mass for a constant reactor power. In seeking the optimum the dimensions of the fuel elements and the assembly, the dimensions of the core regions, the step of the fuel element lattice, the velocity of the coolant, and the concentration of fissionable isotopes were varied. Results are presented for reactors with an electric power from 500 to 2500 Mw. The minimum critical mass is achieved for very high values of the maximum thermal stress, which drops from 2590 to 2050 kw/l with an

USSR

KUZ'MIN, A. M., et al, Fiz. yadern. reaktorov (Physics of Nuclear Reactors -- Collection of Works), No 2, Moscow, Atomizdat, 1970, pp 17-32 (from RZh-Fizika, No 4, Apr 71, Abstract No 4V526)

increase in power in this range, so that the value of the minimum critical mass increases by a factor of 4 with the rise in power. The minimum of the critical mass is achieved for a flattening coefficient of ~0.3. 2. The minimum of the doubling period of the breeder reactor system. It is shown that in this case the doubling period drops with a rise in reactor power and can be decreased by holding a constraint on the average heating of the coolant and also through creating a weakly stressed active section in the center of the reactor or a zone with raw material. 3. The minimum expenditure of plutonium to ensure a given rate of development of nuclear power. The results of calculations are given and discussed. Experience accumulated in the process of optimization studies with the aid of the ROKBAR program is discussed, and recommendations are made on the selection of a plan for the solution of optimization problems taking into account thermophysical and strength relationships. S. M. Zaritskiy.

2/2

Information Theory

USSR

UDC 621.395.44:621.376.56--621.315.213.029.55

KASHUTIN, A. A., TSYM, A. YU.

"Investigating Long-Distance Symmetrical Cable in PCM System Frequency Ranges"

Moscow, Elektrosvyaz', No 8, 1970, pp 16-21

Abstract: The cable under investigation in this article is assemblyline manufactured with cordel polystyrene insulated wires in an aluminum sheath of the MKSAP-60 4X4X1.2 type, making up sections of two and three kilometers in length. Tests were made of the transmission parameters and cross-talk characteristics in a frequency range up to 8 MHz in a pulse-code modulation system with a transmission speed of 8 Mbauds or 120 telephone channels, and up to 15 MHz with a speed of 15 Mbauds or 240 channels. The authors conclude that the cable satisfies shielding requirements, that the variations in the discrete shielding values of the cable circuits at the far end correspond to the normal Gauss-Laplace distribution, and that the reduction in the average value of cross-talk shielding does not exceed 1.45 nepers in the frequency range to 8 MHz or 1.75 nepers in the range to 15 MHz. A description of the test methods is given together with plots of various cable characteristics.

1/1

USSR

UDC 669.295.5:621.785.014:539.4.015.1

GORDIYENKO, A. I., KASICHEV, V. P.

"Effect of Plastic flow on the Structure and Mechanical Properties of VT 15 Alloy"

V sb Vopr. prochnosti i plastichnosti met. (Problems of the Strength and Plasticity of metal -- collection of works), Minsk, Nauka i tekhn. Press, 1971, pp 60-61 (from RZh-Metallurgiya, No 4, Apr 72, Abstract No 41668)

Translation: The effect of the degree of cold deformation and the initial structural state before deformation on the formation of the structure and mechanical properties of VT15 alloy was investigated during fast continuous heating.

1/1

1/2 027 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--DETERMINATION OF VOLATILITY AND PHYTOTOXICITY OF VAPORS OF HORMONAL HERBICIDES -U-

AUTHOR-(05)-SOKOLOV, M.S., ZHUKOV, N.P., SHCHEGLOV, YU.V., KASIKHIN, A.N., MUSIKAYEV, D.A.

COUNTRY OF INFO--USSR

SOURCE--KHIMIYA V SEL'SKOM KHOZYAYSTVE, 1970, NR 3, PP 52-54

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HERBICIDE, HORMONE, TOXICITY, AROMATIC ESTER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/1359 STEP NO--UR/0394/70/000/003/0052/0054

CIRC ACCESSION NO--AP0136723

UNCLASSIFIED

2/2 027 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0136723

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PURPOSE OF THE WORK WAS TO DEVELOP A RELIABLE METHOD FOR DETERMINATION OF THE VOLATILITY AND PHYTOTOXICITY OF VAPORS OF ESTER DERIVATIVES OF 2,4-D. BUTYL, BUTOXYETHYL, CHLOROCROTYL, OCTYL AND TRICHLOROALLYL ESTERS WERE USED. AN ASSUMPTION WAS MADE THAT THE PHYTOTOXICITY OF THE ABOVE COMPOUNDS (CHEMICALLY PURE) WAS PRACTICALLY IDENTICAL. THE PHYTOTOXICITY WAS DETERMINED BY A MODIFIED "ISOLATED SYSTEM" METHOD. THE METHOD WAS BASED ON DETERMINATION OF PLANT WEIGHTS AFTER EXPOSURE OF JUST SPROUTED SEEDLINGS TO THE VAPORS FOR 24 HOURS AND THEIR SUBSEQUENT DEVELOPMENT AND GROWTH FOR 10 DAYS. THE RESULTS OBTAINED INDICATED THAT THE METHOD IS RELIABLE WITH 4-12PERCENT ERROR, THAT VOLATILITY OF THE COMPOUNDS TESTED DIFFERS CONSIDERABLY IN REVERSE DEPENDENCE TO THE MOLECULAR WEIGHT AND BOILING POINT OF THE COMPOUNDS, AND THAT THESE HERBICIDES CAN BE ARRANGED ACCORDING TO THEIR INCREASING PHYTOTOXICITY ACCORDING TO THE FOLLOWING SERIES: TRIETHANOLAMINE SALT OF 2,4-D, TRICHLOROALLYL ESTER, BUTOXYETHYL ESTER, OCTYL ESTER, CHLOROCROTYL ESTER, BUTYL ESTER. FACILITY: VSESOYUZNYY NAUCHNO-ISSLEDOVATEL'SKIY INSTITUT FITOPATOLOGII.

UNCLASSIFIED

1/2 023 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--DETERMINATION OF THE VOLATILITY AND PHOTOTOXICITY OF THE VAPOR FROM HORMONAL HERBICIDES -U-

AUTHOR-(05)-SOKOLOV, N.S., ZHUKOV, N.P., SHCHEGLOV, YU.V., KASIKHIN, A.N., MUSIKAYEV, D.A.

COUNTRY OF INFO--USSR

K

SOURCE--KHIM. SEL. KHOZ. 1970, 8(3), 212-14

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HERBICIDE, LEGUME CROP, ESTER, VAPOR STATE, TOXICITY, PLANT PHYSIOLOGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/0183 STEP NO--UR/0394/70/008/003/0212/0214

CIRC ACCESSION NO--AP0130942

UNCLASSIFIED

2/2 023 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0130942

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN POT EXPTS. BEAN PLANTS WERE HELD IN CLOSED CONTAINERS TOGETHER WITH FILTER PAPER STRIPS, PREVIOUSLY WETTED WITH 0.02PERCENT SOLNS. OF 2,4-D ESTERS IN ETHANOL OR DIOXANE, FOR 24 HR AT 27DEGREES. THE ORDER OF VOLATILITY AS WELL AS PHYTOTOXICITY OF THE ESTERS WERE: TRIETHANOLAMINE SALT SMALLER THAN TRICHLOROALLYL ESTER SMALLER THAN BUTOXYETHYL ESTER SMALLER THAN OR EQUAL TO OCTYL ESTER SMALLER THAN CHLOROOCTYL ESTER SMALLER THAN BUTYL ESTER. A CORRELATION BETWEEN MOL. WT., B.P., AND VOLATILITY WAS FOUND.

UNCLASSIFIED

USSR UDC 632.954

SOKOLOV, M. S., ZHUKOV, N. P., SHCHEGLOV, YU. V., KASHKIN, A. N., and MUSIKAYEV, D. A., All-Union Scientific Research Institute of Phytopathology

"Determination of the Volatility and Phytotoxicity of Vapors of Hormonal Herbicides"

Moscow, Khimiya v Sel'skom Khozyaystve, Vol 8, No 3, Mar 70, pp 52-54

Abstract: The article suggests a modification of the "isolated system" method for a comparative estimate of the volatility and phytotoxicity of vapors of hormonal herbicides. This method was used to determine the phytotoxicity of the vapors of six 2, 4-D derivatives, viz. the butyl, butoxyethyl, chlorocrotyl and octyl esters (synthesized at the All-Union Scientific Research Institute of Phytopathology), the trichloroallyl ester (synthesized at the Institute of Organic Chemistry, Academy of Sciences USSR, and tested at the All-Union Scientific Research Institute of Phytopathology) and the triethanolamine salt, using beans as the test plants. The herbicides are ranked as follows in ascending order of phytotoxicity: triethanolamine salt < trichloroallyl ester < butoxyethyl ester < octyl ester < chlorocrotyl ester < butyl ester. It was found that there is a negative correlation between the volatility of a substance and its molecular weight and boiling point.

UDC 669.15-196:621.787

USSR

STARODUBOV, K. F., KASILOV, A. N., and MAKSIMENKO, V. Ya., Dnepropetrovsk Metallurgical Institute

"Mechanical Properties of Some High-Strength Steels After Thermal and High-Temperature Thermomechanical Treatment"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy, Chernaya Metallurgiya, No 10, 1972, pp 132-136

Abstract: Comparative tests were made of the mechanical properties of steel brands 5KhNV (5KhNM), 5KhV2S, 60S2KhFA, 90KhS, ShKh15SG, 50S2KhFa type with cerium, 55KhGSNMF, and 70S2NDKM, oil hardened from optimum temperature and tempered in the 150-700°C temperature interval. The possibility is demonstrated of obtaining high-strength properties (endurance limit > 260 kg/mm^2) for low-alloy steel by applying hardening with medium-temperature tempering and of increasing resistance to rupture of low-alloy steel (015-019%C) from 200 to 220 kg/mm^2 with adequate plasticity. High-temperature thermomechanical treatment is expedient for steel with 0.5-0.6% C and has little effect on steel with a carbon content > 0.6%. At higher C-content, decreased embrittlement and static strength occur with low- and medium-temperature tempering. Specific thermomechanical processing conditions of 5KhV2S, 5KhNV (5KhNM),

1/2

USSR

STARODUBOV, K. F., et al., Izvestiya Vysshikh Uchebnykh Zavedeniy, Chernaya Metallurgiya, No 10, 1972, pp 132-136

55KhGSNMF, 50S2KhFA (with cerium), and 60S2KhFA steels and the obtainable hardening effects are indicated. Four figures, four bibliographic references.

USSR

UDC: 539.121.75

GRISHAYEV, I. A., YEFIMOV, V. P., KASILOV V. I., KOVALENKO, G. D., MOROKHOVSKIY, V. L., FISUN, A. N., SHRAMENKO, B. I., Physicotechnical Institute, Academy of Sciences of the Ukrainian SSR, Khar'kov

"Concerning Some Particulars of the Interaction of High-Energy Electrons and Positrons With Crystals"

Kiev, Ukrainskiy Fizicheskiy Zhurnal, Vol 16, No 9, Sep 71, pp 1548-1550

Abstract: The total yield of electron and positron bremsstrahlung is studied as a function of crystal orientation when the primary beam is nearly parallel to the crystal axis. The electron and positron beams were characterized by the following data: the energy at the maximum of the spectra was (1000±5) MeV; the width of the energy spectra in both instances was ~4%; there was no more than 8% difference between the average currents of the electron and positron beams; the difference in angular divergences of the beams was no more than $5 \cdot 10^{-5}$ radian; the number of charged background particles did not exceed 0.05% of the number of electrons and positrons respectively. The experiment was done on the

USSR

GRISHAYEV, I. A. et al., Ukrainskiy Fizicheskiy Zhurnal, Vol 16, No 9, Sep 71, pp 1548-1550

accelerator at the Physicotechnical Institute of the Academy of Sciences of the UkrSSR. The background due to positron converter photons was 30% of the measured total photon yield and varied by 0.5% during the experiment. Silicon crystals 0.64 mm thick cut in plane (110) and niobium crystals 1 mm thick cut in plane (100) served as the specimens. The strongest distinguishing parameter on the curves plotted for bremsstrahlung yields as related to crystal orientation was the width of the minimum in the small-angle region, which was less for positrons than for electrons in both instances. Controlled experiments seem to indicate that this effect can be attributed to the sign of the charge. The authors thank V. M. Kobezskiy, V. I. Myakota, and V. I. Popenko for maintaining stable accelerator operation; V. I. Artemov for assisting with measurement of beam parameters; and Ye. A. Levikov for assisting with preparation of the crystals. One figure, bibliography of five titles.

2/2

KASIMOV A. M.

COMPRESSORS

FLUIDIC OUTPUT CONTROLLERS FOR PISTON COMPRESSORS

[I. I. Kratkichshikov, Yu. A. Andreyev, A. M. Kasimov; "Struynyye Regulyatory Proizvoditel'nosti Porshnevykh Kompressorov"; Moscow, Russian, B2, pp 13-20]

The analysis of the operation of various control systems for the output capacity of piston compressors has demonstrated that in spite of the significant achievements in the field of improving the methods of regulation permitting quite efficient utilization of the methods at the compressor stations of industrial enterprises, they are characterized by certain deficiencies: for example, the effort to have the system maintain a constant pressure in the compressor station receiver independently of load at the same time as it would be more efficient to raise the pressure maintained by the regulator with an increase in load in order to compensate for the increasing pressure losses in the lines. The operation of the system depends only on the sign of the deviation of the controlled pressure from the established value and the rate of variation of the output capacity does not depend on the pressure variation rate. The most advanced regulating units operating by the method of cycle pulse alternation are insufficiently effective when servicing technological processes with variable loads.

The effort to improve the quality of the transient processes has led to different types of measures with respect to improving the existing regulation procedures; however, these measures do not solve all of the problems connected with improving the quality of the transient processes. They significantly complicate the regulating units and, as a consequence, they do not find practical application in industry.

The method of multiposition regulation of the piston compressors developed by the All-Union Scientific Research and Planning and Design Process Institute of Chemical Machine Building jointly with the Control Problems Institute [1] and its

USSR

UDC 564.621

BATALIN, Yu.V., KASIMOV, B.S., and STANKEVICH, Ye.F. (Geological Institute, Kazan')

"Dawsonite, a Possible Source of Aluminum Production"

Moscow, Razvedka i Okhrana Nedr, No 7, July 71, pp 59-62

Abstract: This article contains a review of potential world resources of dawsonite. In the USSR dawsonite has been found in the Donbass region in the form of needle-shaped crystals, and also in the trans-Carpathian region in mercury deposits and Neogenic deposits. Transcaucasia is considered to be a prospective region for dawsonite, because underground sodium carbonate-containing highly mineralized waters are widespread within its limits, and analcite-zeolite rocks are known in Mesozoic and Cenozoic deposits.

1/1

USSR

UDC 621.382.322

GADZHIYEV, N. D., KASIMOV, F. P., and KADYMOV, G. G.

"MOS Transistor Sensitivity to Pressure"

MOS-tranzistor chuvetvitel'nyy k davleniyu (cf. English above. Editorial Board of the Journal "Izv. AN AzSSr. ser. fiz.-tekhn. i mat. n." [News of the Academy of Sciences Azerbaidzhan SSR. Physico-Technical and Mathematical Sciences Series]), Baku, 1971, 5 pp. 3 ref (No 2695-71 DEP (from RZh-Elektronika i yey primeneniye, No 7, July 1971, Abstract No 7B304 DEP)

Translation: A model is proposed of a sensitive electromechanical transducer using a MOS transistor as a base, the gate of which is in direct contact with piezoelectric material. A calculation for barium titanate shows that the sensitivity of the device may be on the order of 10^{-4} kg/cm^2. It is possible to adjust the sensitivity within wide limits by a choice of the thickness of the insulating film of the transistor gate, by a change of the channel length, and also by a choice of the appropriate piezomaterial.

1/1

USSR

UDC 546.883.5.825:538.113

KASIMOV, G. S., ROZHDESTVENSKIY, F. A., KRYLOV, YE. I., PILIPENKO, G. I., and SOLOMOV, V. P.

"Magnetic Properties of Titanium, Vanadium, Chromium, and Iron Orthotantalates"

Moscow, Neorganicheskiye Materialy, Vol 6, No 1, Jan 70, p 186

Abstract: An investigation was made of the magnetic properties of $TiTaO_4$, $VTaO_4$, $CrTaO_4$, and $FeTaO_4$ by the methods of magnetostatics and electron parametric resonance in a broad temperature range. The studies made it possible to obtain new data. The anomalous behavior of $FeTaO_4$ at low temperatures is explained by the phase transition at 223°K as a result of which the spin-lattice relaxation time decreases (the width of the electron paramagnetic resonance line increases sharply), and the intensity of the electron paramagnetic resonance spectrum becomes insignificant at nitrogen temperature. The magnetic susceptibility of the remaining orthotantalates varies according to the Curie-Weiss law. The negative value of the constant θ permits the assumption of the presence of antiferromagnetism in the investigated compounds.

1/1

1/2 016 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--MAGNETIC PROPERTIES OF TITANIUM, VANADIUM, CHROMIUM, AND IRON ORTHOTANTALATES -U-

AUTHOR-(05)-KASIMOV, G.G., ROZHDESTVENSKIY, F.A., KRYLOV, YE.I., PILIPENKO, G.I., SOLODOV, V.P.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSR, NEORG. MATER. 1970, 6(1), 186

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--TITANIUM COMPOUND, VANADIUM COMPOUND, CHROMIUM COMPOUND, TANTALATE, EPR SPECTRUM, MAGNETIC SUSCEPTIBILITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1984/0146 STEP NO--UR/0363/70/006/001/0186/0186

CIRC ACCESSION NO--AP0054942

UNCLASSIFIED

2/2 016 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0054942

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MAGNETIC PROPERTIES OF TITAO SUB4, CRTAO SUB4, AND FETAO SUB4 WERE INVESTIGATED BY MAGNETOSTATIC AND EPR METHODS WITHIN A WIDE TEMP. RANGE, WHICH MADE IT POSSIBLE TO OBTAIN NEW SATA AS COMPARED TO THE KNOWN ONES. THE ANOMALOUS BEHAVIOR OF FETAO SUB4 AT LOW TEMPS. IS EXPLAINED BY THE PHASE TRANSITION AT 223DEGREES K, AS A RESULT OF WHICH THE TIME OF THE SPIN LATTICE RELAXATION DECREASES AND THE INTENSITY OF THE EPR SPECTRUM BECOMES INSIGNIFICANT AT THE N TEMP. THE MAGNETIC SUSCEPTIBILITY OF THE REMAINING ORTHOTANTALATES VARIES ACCORDING TO THE CURIE WEISS LAW. THE NEG. VALUE OF THE CONST. THETA ALLOWS THE ASSUMPTION OF THE PRESENCE OF ANTIFERROMAGNETISM IN THE COMPDS. INVESTIGATED.

UNCLASSIFIED

USSR UDC: 621.317.763(088.8)

KASIMOV, R. M.

"A Device for Continuous Flow Measurement of the Electromagnetic Wavelength of Liquid Dielectrics in the SHF Range"

USSR Author's Certificate No 254591, filed 15 Jun 67, published 3 Apr 70 (from RZh-Radiotekhnika, No 11, Nov 70, Abstract No 11A299 P)

Translation: The proposed device consists of a frequency modulated SHF oscillator, a directional coupler, a detector head, and a section of waveguide which is filled with liquid dielectric and short-circuited by a movable piston. As a distinguishing feature of the patent, the liquid dielectric is continuously monitored while flowing by using a tracking system which consists of an amplifier, a phase detector and an electromagnetic drive which changes the position of the piston. E. L.

1/1

Acc. Nr: AA0039649 Abstracting Service: CHEMICAL ABST. 4-70 Ref. Code: UK0000

80097m **Diolefin hydrocarbons.** Aliev, V. S.; Kasimova, A. P.; Ter-Sarkisov, V. G. (Mamedaliev, Yu. G., Institute of Petrochemical Processes, Academy of Sciences, Azerbaidzhan S.S.R.) **Brit.** 1,178,475 (Cl. C 07c), 21 Jan 1970, Appl. 03 Mar 1967; 3 pp. Diolefins were prepd. by catalytic dehydrogenation, of olefins under adiabatic conditions in the presence of steam, O, and a catalyst composed of Fe_2O_3 20-30, Cr_2O_3 43-53, ZnO 20-5, and K_2O 1-2%. Thus, a catalyst composed of Fe_2O_3 24, Cr_2O_3 50, ZnO 25, and K_2O 1% was charged into a reactor, and an 81.5-2.5% butylene-contg. starting material fed in at 585-600° at 500 l./hr at 10:1 steam-butene molar ratio, or at 800 l./hr at 20:1 ratio. When the catalyst layer was 0.5 m deep and the steam-butene ratio was 20:1, the O (0.5-1:1 molar ratio O-butene) was fed above the catalyst. When the catalyst was 1.0 m deep and the steam-butene ratio was 10:1, the O was fed above the catalyst and into the catalyst layer at 2 points. This process gave 36-40% butadiene (I) based on cycled butenes, and 82-5% I based on consumed butenes. Isoprene was similarly prepd. from isoamylenes. BFPN

= B

REEL/FRAME
19740917

1/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--CATALYTIC AND ADSORPTION PROPERTIES OF MIXED CATALYSTS BASED ON NICKEL -U-

AUTHOR-(05)-KASIMOVA, G.I., BIZHANOV, F.B., SOKOLHSKIY, D.V., POPOV, N.I., KHISAMETDINOV, Z.M.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK KAZ. SSR, SER. KHIM. 1970, 20(2), 20-4

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CATALYST ACTIVITY, NICKEL, MAGNESIUM OXIDE, HYDROGENATION, ORGANIC NITRO COMPOUND, PHENOL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/2029 STEP NO--UR/0360/70/020/002/0020/0024

CIRC ACCESSION NO--AP0125617

UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125617

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT WAS STUDIED OF MGO ADDNS. ON THE ACTIVITY OF A NI CATALYST. THE CARRIER:NI RATIO WAS CONST., 4:1. THE ACTIVITY OF THE NI CATALYSTS FOR THE HYDROGENATION OF O-NITROPHENOL INCREASED 2.5 TIMES UPON USING A CARRIER AND FOR THE ADDN. OF MGO; THE OPTIMUM ADDN. BEING NI:MGO EQUALS 1:0.2. A COMPARISON OF THE CATALYTIC AND ADSORPTION PROPERTIES SHOWED THAT THEIR CHANGES ARE SYMBATIC. THE MAX. ACTIVITY WAS OBTAINED FOR SAMPLES REDUCED AT 250DEGREES FOR NI, AT 400-50DEGREES FOR THE NI:CLAY EQUALS 1:4 CATALYST, AND AT 350-400DEGREES FOR THE NI:MGO CATALYST. FOR THE PROMOTED CATALYST THE REACTION IS LIMITED BY THE ACTIVATION OF THE UNSATD. COMPD.

FACILITY: KAZ. KHIM.-TEKHNOL. INST., CHIMKENT, USSR.

UNCLASSIFIED

USSR UDC 681.325.3

SHKULIN, P. S., DAVYDOV, V. P. KASIN, A. P.

"A Microprogram Control Device"

Moscow, Otkrytiya, Izobreteniya, Promushlennyye Obraztsy, Tovarnyye Znaki, No 9, 1970, p 130, Patent No 264783, filed 25 Mar 68

Abstract: This Author's Certificate introduces a microprogram control device which contains a permanent memory, decoder, relay registers, and a circuit for controlling the transfer of a microcommand address. As a distinguishing feature of the patent, the device is simplified by connecting the first outputs of the first operation code register throught the first group of rectifiers to the first input of the delay register, the second outputs of the first code operation register are connected through the second group of rectifiers to the second input of the delay register, the first outputs of the second operation code register are connected through the third group of rectifiers to the third input of the delay register, the second outputs of the second code operation register are connected through the fourth group of rectifiers to the fourth input of the delay register, the second inputs of the first and

1/2

USSR

SHKULIN. P. S., et al., Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 9, 1970, p 130, Patent No 264783, filed 25 Mar 68

second groups of rectifiers are connected through the first "AND" circuit to the first output of the flip-flop, the second output of the flip-flop is connected through the second "AND" circuit to the second inputs of the third and fourth groups of rectifiers, the second inputs of the "AND" circuits are connected to the signal transfer bus, and the first and second inputs of the flip-flop are connected to the corresponding outputs of the memory device.

2/2

USSR

UDC 575.24

PERIYLINN, O. and KASK, K., Institute of Experimental Biology, Academy of Sciences Estonian SSR, and Yygeva Selection Station, Estonian Scientific Research Institute of Agriculture and Soil Improvement

"Rust Resistance in Mutant Lines of Spring Wheat Induced by Chemical Mutagens"

Tallin, Izvestiya Akademii Nauk Estonskoy SSR, Biologiya, Vol 20, No 3, 1971, pp 250-254

Abstract: The 5th, 6th, and 7th generations of 60 mutant lines of the Norrona spring wheat strain in which mutations had been induced by N-nitrosoethylurea and N-nitrosomethylurea were investigated for their resistance to brown rust (Puccinia triticina) and stem rust (Puccinia graminis) while grown in a hothouse (where they were infected artificially) and on experimental plots and regular fields (where they were exposed to natural infections). None of the mutants were totally resistant to brown rust strain 77 and to stem rust. However, a number of them were much more resistant to these fungi than the parent Norrona strain; they were also highly productive. In view of the considerable improvement achieved, it is concluded that the method of chemical mutagenesis is promising and may eventually produce strains totally resistant to rust diseases.

1/1

USSR

UDC:621.378.324.666.249.1

KASK, N. Ye., KORNIYENKO, L. S., FEDOROV, G. M., CHOPORNYAK, D. B.

"Threshold of Rupture of Laser Glass as a Function of Dimensions of Nonmetallic Inclusions"

Optiko-Mekhanicheskaya Promyshlennost', No 10, Oct 73, pp 61-62

Abstract: This report presents the results of a study of the rupture of nonmetallic inclusions in laser glass for the case when the inclusions are large enough to be observed visually, that is much larger than the wave length of the laser radiation. The maximum size of inclusions studied fell in the 0.1-1 mm range. The experiments utilized a laser (λ=1.06μ) operating in the free-generation mode. A graph is presented showing the threshold of rupture as a function of maximum size of projection of the inclusion on the plane perpendicular to the laser beam.

1/1

Acc. Nr: AP0044135

Ref. Code: UR 0493

PRIMARY SOURCE: Izvestiya Akademii Nauk Estonskoy SSR, Biologiya, 1970, Vol 19, Nr 1, pp 78-83

V. KASK

A STUDY OF THE PROCESS OF ARTIFICIAL SELECTION UNDER NATURAL CONDITIONS AND EXPERIMENTAL ONES, INDUCED BY THE VARIABILITY OF γ-RAYS

Summary

The paper is concerned with an experimental study of artificial selection under conditions of natural variability as well as variability induced by γ-rays. The effects of selection upon the wing-length of *Drosophila melanogaster* (Canton-S and P-86) were studied.

Two different systems were used — brother-sister and brother-sister plus γ-rays (in each 3rd generation the male were irradiated with a dose of 1500 r) — and, for each system, selected plus and minus lines were maintained.

Selection was effective in both systems, but γ-ray selected lines usually show more response when compared with unirradiated ones. The response to selection is more effective in short-wing selected lines.

Academy of Sciences of the Estonian SSR, Institute of Experimental Biology

Received Aug. 5, 1969

REEL/FRAME 19770616

USSR

BEZUGLYY, V. P., and KASKEVYCH, L. M.

Gostri Otruyennya Pestytsydamy (Klinika ta Persha Dopomoga) (Acute Pesticide Intoxications, Clinical Symptoms and First Aid), Kiev, Zdorov'ya, 1971, 28 pp

Translation: Annotation: Some general properties of different types of pesticides, their toxicodynamics, characteristics of the clinical manifestation of intoxication, and general principles of rendering medical assistance, depending on the route of entry of the pesticide into the organism, are described in the pamphlet. Information concerning the clinical symptoms of acute intoxications by pesticides with a different chemical structure, and the mechanism of their toxic action is provided. Methods of pathogenetic and symptomatic therapy applied in acute intoxications by different types of pesticides are described in detail.

The pamphlet is intended for use by fel'dshers in rural fel'dsher and fel'-dsher-obstetrical points and district hospitals. It may be useful also to the mass of readers inasmuch as it acquaints them with the character of the effect of different types of pesticides on the organism.
1/2

USSR

BEZUGLYY, V. P., and KASKEVYCH, L. M., Zdorov'ya, 1971, 28 pp

Table of Contents

USSR

UDC 627.81.034(47+57)

BEYROM, S. G., KASKEVICH, L. N., RYBKA, V. G., SAVKIN, V. M., SHIROKOV, V. M.

"Dynamics of Revision of the Banks of the Novosibirsk Hydroelectric Power Plant Reservoir in 1966"

Izuch. i ispol'z. vodn. resursov SSSR. 1966-1967 V sb. (Study and Use of USSR Water Resources. 1966-1967 -- Collection of Works), Moscow, Nauka Press, 1970, pp 134-135 (from RZh-Elektrotekhnika i Energetika, No 2, Feb 71, Abstract No 2 D45)

Translatnon: A brief description of the level and wind-wave conditions of the reservoir, data on the nature of revision of the reservoir banks and the dynamics of the bottom layer of the layers of water involved in the wave action in the shore zone and data on the alluvial displacements along the shore are presented.

1/1

USSR

UDC 535.37

KAS'KOV, B. N., KATIBNIKOV, M. A. and STARTSEV, YU. V.

"Spectral-Luminescence Study of the Interaction of Compounds of High Molecular Weight With Dyes. 1. Interaction of Acridine Orange and Acridine Yellow with Polymethacrylic Acid"

Vestn. Belorus. un-ta (Herald of Belorussian University), 1971, Series 1, No 1, pp 30-33 (from RZh-Fizika, No 7, Jul 71, Abstract No 7D758)

Translation: The effect of additions of various concentrations of polymethacrylic acid on the absorption and fluorescence spectra and also on the degree of polarization of the fluorescence of aqueous solutions of acridine orange and acridine yellow were studied. A comparative study of the spectral characteristics and vector characteristics of the emission showed the role of individual centers in the mechanism for the complex formation of dyes with a polyelectrolyte. It was shown that the optical effects observed in the adsorption and fluorescence spectra and the degrees of polarization of the fluorescence are associated with the formation of joint aggregates of the dye with polymers of various structures. 12 ref. Authors abstract.

1/1

USSR

UDC 621.378.33 539.194

KASLIN, V.M., KUN'KOVA, Z.E., PETRASH, G.G.

"Generation In Infrared Region At Molecular Hydrogen Lines With Active Gas Cooling"

Kventovaye elektronika (Quantum Electronics), Moscow, No 5(11),1972, pp 101-105

Abstract: The experimental results are reported of pulsed generation at the H_2 molecular electron transition $2s\,{}^1\Sigma_g^+ - 2p\,{}^1\Sigma_u^+$. Curves are shown of the average total power of generation W as a function of the gas pressure p with various voltages at the capacitor and gas temperatures 320° and 100° K. A comparison of the experimental results with the results on generation in N_2 and CO discussed in earlier papers by the authors shows that the basic characteristics of generation in the infrared regionat H_2 electron transitions fit into the general laws inherent in pulse gas lasers at molecular electron transitions.The region where generation exists is described by a parameter $\gamma = (V-V_c)/N$ where V is a voltage across a tube, N is the gas density, and V_c is a constant value. When the gas was cooled down a record peak power of 1.5 kw for such a laser could be achieved. 5 fig. 9 ref. Received by editors, 27 March 1972.

1/1

USSR

UDC 621.373.826

KASLIN, V. M., KNYAZEV, I. N., PETRASH, G. G.

"Pulse Generation in the First Positive Nitrogen Band System with Cooling of the Working Gas"

V sb. Kvant. elektronika (Quantum Electronics--collection of works), Moscow, No 5, 1971, pp 44-52 (from RZh-Radiotekhnika, No 1, 1972, Abstract 1D343)

Translation: A study was made of the laser characteristics in the first positive nitrogen system with cooling of the working gas. It was demonstrated that in this laser there is a significant increase in amplification on cooling the gas. The studies permitted significant improvement of the power, the generation pulse energy and the efficiency of the system. Superluminous emittance conditions were obtained in this system for the first time. It was found that the optimal conditions of existence of generation are uniquely determined by the parameter $\gamma \sim E/N$ (where E is the electric field intensity in the discharge tube, N is the working gas density). A record generation power for the given laser of 55 kilowatts was achieved. The significant role played by the build-up rate of the photon avalanche in pulse lasers was demonstrated experimentally. A new phenomenon in molecular spectroscopy was discovered: inversion of alternation of the intensities in the molecular spectra of stimulated radiation. There are 4 illustrations and a 12-entry bibliography.
1/1

1/2 023 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--NEW LINES OF PULSED GENERATION AND SUPERLUMINANCE OWING TO NEON TRANSITIONS IN THE VISIBLE SPECTRAL REGION -U-

AUTHOR-(02)-KASLIN, V.M., PETRASH, G.G.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. SPEKTROSK. 1970, 12 (3), 540-2

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--LUMINESCENCE, NEON, PULSE GENERATOR, SPECTRUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0328 STEP NO--UR/0368/70/012/003/0540/0542

CIRC ACCESSION NO--AP0119315

UNCLASSIFIED

2/2 023 UNCLASSIFIED

CIRC ACCESSION NO--AP0119315 PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TWO NEW LINES OF PULSED GENERATION WITH WAVELENGTHS OF 6506.52 AND 6304.77 ANGSTROM ARE OBSD. IN MIXTS. OF NE WITH SF SUB6 (VOL. RATIO SF SUB6-NE EQUALS 2-9) AT A TOTAL PRESSURE OF 0.012 TORR. THE LINES ARE ASCRIBED TO 2 RHO SUB8 YIELDS IS SUB4 AND 2 RHO SUB6 YIELDS IS SUB4 NE TRANSITIONS IN THE VISIBLE SPECTRAL REGION. THE PULSED GENERATION IS CHARACTERIZED BY AN ANOMALOUS TOROIDAL SECTION OF LASER BEAM AND A DURATION OF EQUIVALENT 40 NSEC. AFTER REMOVING SF SUB6 ONLY WELL KNOWN LINE AT 6143.06 ANGSTROM (2 RHO SUB6 YIELDS IS SUB5 NE TRANSITION) IS OBSD. THE MECHANISM OF THE SF SUB6 EFFECT IS EXPLAINED BY SELECTIVE BREAKDOWN OF IS SUB4 LEVEL. SUPERLUMINANCE ON THE LINE WITH A WAVELENGTH OF 6506.52 ANGSTROM IS ALSO REPORTED.

UNCLASSIFIED

USSR

UDC 612.015.3+612.274.1

KASMAYIYEV, D. K., Chair of Pharmacology, and Chair of Pathophysiology, Kirgiz Medical Institute

"Effect of Ephedrine on the Water-Salt Balance in Animals in the Process of Adaptation to High-Altitude Conditions"

Frunze, Sovetskoye Zdravookhraneniye Kirgizii, No 6, Nov/Dec 70, pp 13-17

Abstract: The most pronounced effect of ephedrine on the water-salt balance was observed during the first days that test dogs were subjected to high-altitude conditions. Under the effect of hypoxia, the functions of the sympathic-adrenal system are apparently intensified. Ephedrine enchances this effect and, as a result, the total liquid volume is reduced and potassium ions are found in the urine. As the organism adapts itself to high-altitude conditions, the excitability of the sympathetic nervous system is reduced and the effect of ephedrine is less pronounced. After a certain degree of adaptation has been reached, the functions of the sympathetic nervous system are reduced, as is its excitability. Detailed experimental data are provided on the liquid balance of the body and the electrolyte content in the blood plasma and urine as functions of altitude shifts from 760 m to 3,200 m above sea level.

1/1

USSR

UDC 612.215.8-02:612.014.47-063

KASIMTSEV, A. A., Chair of Normal Anatomy, First Leningrad Medical Institute imeni I. P. Pavlov

"The Effects of Gravitational Stress, Hypokinesia, and Hypodynamia on the Blood Vessels of the Pulmonary Circuit"

Leningrad, Arkhiv Anatomii Gistologii i Embriologii, Vol 64, No 2, 1973, pp 82-90

Abstract: The investigation was corducted on 26 rabbits exposed to a single, maximum tolerable gravitational stress acting in the chest-back direction, 50 rabbits confined to small cages under conditions of hypokinesia and hypodynamia lasting 1 to 8 weeks, 57 rabbits subjected to both treatments, and 15 controls. Gravitational stress caused constriction of the distal segments of 3rd and 4th order arteries, dilation of veins, enlargement of the capillary bed, formation of sinuses in all vessels, and perivascular edema. Similarly, hypokinesia induced arterial constriction and venous and capillary dilation. These changes became more pronounced with increasing duration of hypokinesia. Hypokinesia followed by gravitational stress gave rise to the most pronounced vascular changes, including deformation and rupture of blood vessel walls and extravasation of formed blood elements.

1/1

USSR

UDC 615.616.24-003.656.6

BEZRODNYKH, A. A., KASPAROV, A. A., MAZUROV, V. I., KOCHETKOVA, T. A., RAZDVADOVSKIY, YE. F., SIDOROVA, N. V., KULIKOVA, T. P., GALITSINA, I. Z., ZAMARAYEVA, T. V.

"Antifibrosis Effect of Polyvinylpyridine-N-Oxide as a Compound to Prevent the Development of Silicosis"

Nauch. tr. Irkutsk. med. in-t (Scientific Works of the Irkutsk Medical Institute), 1972, vyp 110, pp 52-53 (from RZh--Farmakologiya. Khimioterapevticheskiye Sredstva. Toksikologiya, No 3, Mar 73, Abstract No 3.54.874)

Translation: The polymers polyvinyl-pyridine-2- and 4-N-oxides had an effect on the degree of expression of histologic alterations in the early stages of the development of experimental silicosis (10 days) when administered intratracheally and, especially, hypodermically. These polymers normalized the indexes of the oxidation processes in the lung tissue and the myrocardium. After one, three and six months of the experiment, the polymers with a molecular weight of 40,000 to 80,000 retarded the development of fibrosis, reduced the amount of neutrally soluble collagen and

1/2

USSR

BEZRODNYKH, A. A., et al., Nauch. tr. Irkutsk. med. in-t, 1972, vyp 110, pp 52-53

normalized the amino acid composition of the lung tissue, the indexes of the oxidation phosphorylation and the activity of the intracellular enzymes. On intratracheal administration of polymers with a molecular weight of 50,000 to 1,500,000, the development of catarrhal bronchitis and bronchiolitis was noted.

2/2

USSR

UDC 577.37

VANIN, A. F., KASPAROV, A. A., and MATKHANOV, E. I., Institute of Chemical Physics, Academy of Sciences USSR, and First Moscow Medical Institute, Moscow

"Changes in the EPR Spectra of the Mouse Liver Upon Poisoning With Boric Acid and Carbon Tetrachloride"

Moscow, Biofizika, Vol 16, No 3, May/Jun 71, pp 472-475

Abstract: It had been established in earlier work by the authors (Biofizika, Vol 15, p 547, 1970) that following poisoning of mice with elemental B, preparations from the liver of the animals showed a pronounced drop in the intensity of the EPR signal associated with complexes of hemin Fe that are located in the microsome respiration chain. Similar changes on poisoning with boric acid were not observed, because this substance had been eliminated from the organism at the time when the EPR spectrum was determined. It was found in the present investigation that changes in the EPR spectrum similar to those resulting from poisoning with B and observed several days later developed 2-6 hrs after administration of boric acid. The intensity of the EPR signal corresponding to the non-heme Fe complex located in the mitochondria was also lowered, but the principal effect was on the hemin-Fe complex. The effect on

1/2

USSR

VANIN, A. F., et al., Biofizika, Vol 16, No 3, May/Jun 71, pp 472-475

the EPR spectrum, which was determined on liver samples at 77°K, was unspecific; it was also observed after poisoning of the animals with CCl_4. Besides the reduction of the intensity of EPR signals corresponding to heme and non-heme Fe complexes after poisoning, new signals developed in the spectrum which could be ascribed to nitrosyl complexes of heme and non-heme Fe on the basis of available data on the EPR spectra of these complexes.

2/2

USSR

UDC: 8.74

IGNAT'YEV, M. B., KASPAROV, G. A.

"Integration of Differential Equations Using Nonideal Analog Integrators"

Tr. Leningr. In-t Aviats. Priborostr. [Works of Leningrad Institute of Aviation Instrument Building], 1972, No 74, pp 134-141 (Translated from Referativnyy Zhurnal Kibernetika, No 11, 1972, Abstract No 11V550, by the authors)

Translation: A method is suggested for programming differential equations, considering the undesirable negative feedback used in actual analog integrators, based on the introduction of an extra number of variables to the initial equation. It is shown that for linear problems, in addition to increasing the accuracy of modeling, this method allows homogeneous decision structures to be used, in which it is simple to perform checking by a priori known final connections.

1/1

USSR

UDC: 681.325.65-525

CHAPLYGIN, E. I., TROSHKIN, A. K., SEMELEV, L. F., BORODIN, Yu. F., SYCHEV, Ye. A., GLYZIN, A. N., CHERNYSHEVA, M. A., KASPAROV, G. Ye.,
Volga Affiliate of the All-Union Scientific Research Institute of Abrasives and Grinding

"An OR-NOR Fluidic Element"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, 1970, No 33, Soviet Patent No 285341, class 42, filed 14 Jul 69, published 29 Oct 70, pp 118-119

Translation: This Author's Certificate introduces an OR-NOR fluidic element which contains supply, control, and output channels; a jet interaction chamber; and also channels which are open to the atmosphere. As a distinguishing feature of the patent, the device is designed for improved stability of the characteristics of the element. The unit contains an added projection on the wall opposite the control channels preceding the corresponding channel which is open to the atmosphere, and also an additional chamber made in this channel which is open to the atmosphere and located immediately behind the projection.

1/1