"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

USSR

BACHININA, YE. L., et al., Radiotekhnika, Vol 26, No 10, 1971, pp 46-52

with direct and quarter-wave couplings were compared, and the losses at the center of the pass band for both types of filters compared for three types of lines (wave guide, air cavity and printed ceramic) demonstrated complete identicalness in both types of filters under other equal conditions. The universal curves for the filters and their approximation by a hyperbola are investigated and illustrated. The conditions of minimum losses are discussed, and an example calculation is given.

The law established in the paper -- the product of the average losses in the filter circuit times the width of its pass band is constant -- facilitates the investigation of a filter with losses. By using the universal curves it is possible to determine the losses in the filter with any number of circuits n and any pass band and to find the conditions of minimum losses. The minimum dissipative losses in a filter is highly uncritical. When $k = 1.8-3$ [k is the coefficient of rectangularity], the losses almost do not vary. When $k \to 1$, the losses increase sharply. The type of characteristic (Chebyshev or maximally planar) essentially has no effect on the minimum magnitude of the losses. A table of values of the constants a^a [the product of the average losses in the filter circuit times the filter pass band] permits construction of the required hyperbolas for each specific case. Graphs are presented which demonstrate that the dissipative losses in miniature filters increase sharply.

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USSR UDC 621.382.1

VOROBKALO, F. M., GLINCHUK, K. D., PROKHOROVICH, A. V.

"Electroluminescence of GaAs-Alloy Diodes"

Kiev, Poluprovodnikovaya tekhnika i mikroelektronika, No 5, 1971, pp 7-11

Abstract: The study of the electroluminescent properties of GaAs-alloy diodes is continued [F. M. Vorobkalo, et al., Poluprovodnikov tekhnika i mikroelektronika, No 4, Naukova dumka Press, Kiev, 1970]. The processes of photoluminescence and electroluminescence of GaAs are studied, and the radiation of the homogeneous (initial GaAs) and inhomogeneous (p-n-junction) systems is compared. Both the n and p-regions and the space charge layer make a defined contribution to the recombination radiation of the GaAs-alloy diodes. During the process of creation of the p-n-junction the initial properties of the GaAs do not change. The dependence of the intensity of the electroluminescence on the temperature and injection current is determined both by the initial properties of the GaAs and the properties of the p-n junction.

The intensity of electroluminescence of diodes made of the same sample of GaAs can differ by tens and even hundreds of times. At the same time, the intensity of the photoluminescence in these samples differs by appreciably less — approximately 2-3 times. This indicates that significant scattering of the

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VOROBKALO, F. M., et al., Poluprovodnikovaya tekhnika i mikroelektronika, No 5, 1971, pp 7-11

magnitudes of the quantum yield of the electroluminescence of GaAs alloy diodes is connected with insufficient reproducibility of construction of the diodes (the p-n junctions) and not the properties of the initial material (with respect to photoluminescence properties it is more homogeneous). The fact that in the majority of diodes made of n-GaAs, the variation in intensity of the electroluminescence with temperature was appreciably weaker than the intensity of photoluminescence indicates that with a drop in temperature the proportion of the injection electron-hole current decreases, just as discovered previously [F. M. Vorobkalo, et al., UFZh, No 13, 1810, 1968; FTP, No 3, 150, 1969].

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

USSR UDC 533.69.01+533.662.013

PROKHOROVICH, P. A., SUSLOV, G. V.

"Application of the Integral Equation Method to the Solution of the Reverse Boundary Value Problem of Wing Theory"

Uch. zap. Gorkov. un-t. Ser. Mekhanika (Scientific Notes of Gor'kiy University. Mechanics Series), 1972, Issue 156, No 1, pp 35-39 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3B296)

Translation: An integral equation for the unit vector of the normal to the contour is derived as a function of the polar angle for a symmetric profile with a given distribution of the velocity modulus along its contour for a noncirculating flow. The approximate numerical solution technique is considered that makes it possible to determine the shape of the profile.
Abstractors note: There was an error in deriving the basic integral equation: in the expression for the length of element of arc in polar coordinates there is given the factor $\sqrt{1 + [(1/r)(dr\ d\theta)]^2}$. V. I. Putyata.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

USSR

KULIKOV, G. P., PROKOF'YEV, A. N., VAGINA, V. Ye.

"Testing of a New Herbicide -- Tordone (aminotrichloropicolinc acid)"

Tr. Ul'yanovsk. S.-kh. Opytn. St. [Works of Ul'yanov Agricultural Experimental Station], No 5, 1971, pp 114-120 (Translated from Referativnyy Zhurnal, Khimiya, No 3, 1972, Abstract No 3 N666 by T. A. Belyayeva).

Translation: Experiments showed that tordone (I) has a strong toxic effect and aftereffect on winter and spring wheat. I can be recommended for control of weeds or non-agricultural land, since I has high herbicidal activity and long-term residual toxicity.

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USSR

KULIKOV, G. P., KOGAN, V. Sh., PROKOF'YEV, A. N., KOVALENKO, I. S.

"Effectiveness of Autumn-Spring Application of Mixture of 2,4-D Butylester and Dibutylphosphite in Control of Perennial Shoot Weeds"

Tr. Ul'yanovsk. S.-kh. Opytn. St. [Works of Ul'yanov Agricultural Experimental Station], No 5, 1971, pp 108-113 (Translated from Referativnyy Zhurnal, Khimiya, No 3, 1972, Abstract No 3 N664 by T. A. Belyayeva).

Translation: A combination of autumn (post-harvest) treatment with 2,4-D butylester and spraying during the phase of tillering successfully suppresses both shoot and annual weeds. Addition of 5% dibutylphosphite increases the effectiveness of the herbiside, allowing the rate of expenditure to be halved.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

Environment

USSR UDC 539.16:551.46

PERTSOV, L. A., PROKHORYCHEVA, N. P., and SOKOVISHIN, V. A., Atlantic Scientific Research Institute of Fisheries and Oceanography

"Biological Significance of Current Levels of Radioactive Pollution of the Sea"

Moscow, Nauchnyye Doklady Vysshey Shkoly, Biologicheskiye Nauki, No 7, 1972, pp 64-68

Abstract: Examination of various organs and tissues of sharks, burbots, tuna, herring, eels, and other fishes showed that these hydrobionts receive considerably smaller irradiation doses from strontium-90, cesium-137, and other artificial radionuclides now polluting the ocean than they do from natural radiation sources normally present in the water. The exposure dose of gamma radiation from artificial radionuclides scattered in the water is approximately one million times less than from natural radiation sources. The average dose of internal irradiation by natural radionuclides deposited in muscle is almost two hundred times higher than the average dose from cesium-137. Approximately the same ratio is found in all the internal organs of the fish. Thus, the current levels of radioactive pollution of the ocean and hydrobionts are not pathogenic.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

1/2 054 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--INITIAL STAGE IN CAVITATION DAMAGE TO LEAD -U-

AUTHOR-(03)-KROT, YU.YE., BOLSHUTKIN, D.N., PROKHVATILOV, A.I.

COUNTRY OF INFO--USSR

SOURCE--FIZIKA METALLOV I METALLOVEDENIE, MAR. 1970, 29, (3), 651-652

DATE PUBLISHED----MAR70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--LEAD, ULTRASONIC IRRADIATION, CRYSTALLIZATION, WATER, LIQUID OXYGEN, TEST METHOD, CAVITATION, SURFACE PROPERTY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/0205 STEP NO--UR/0126/70/029/003/0651/0652

CIRC ACCESSION NO--AP0129461

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

2/2 054 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0129461

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INITIAL STAGES IN THE CAVITATIONAL EROSION OF PB WERE STUDIED BY A METALLOGRAPHIC METHOD, WITH SPECIAL REF. TO THE TYPE OF CHANGE MOST EVIDENT ON THE SURFACE OF THE METAL (THE CAVITATION WAS INDUCED BY MEANS OF ULTRASOUND, BOTH WATER AND LIQUID O BEING USED AS MEDIA). THERE APPEARED TO BE A DIFFERENT MECHANISM OF CAVITATION IN LIQUID O AS COMPARED WITH WATER IN THE INITIAL STAGES, THE DAMAGE OCCURRING WITHIN THE GRAIN RATHER THAN AT GRAIN BOUNDARIES. THIS DIFFERENCE WAS ATTRIBUTED TO RECRYSTALLIZATION PROCESSES WHICH DIFFERED SUBSTANTIALLY IN THE TWO CASES FOR REASONS OF TEMP.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

UNCLASSIFIED PROCESSING DATE--04DEC70

1/2 022

TITLE--EFFECT OF PH ON THE CORROSION FATIGUE OF THE MAGNESIUM ALLOY MA,2,1 -U-

AUTHOR-(04)-BELYAKOV, V.E., PUSHKINA, S.V., PROKIN, A.K., ROMANOV, V.V.

COUNTRY OF INFO--USSR

SOURCE--FIZ.-KHIM. MEKHAN. MAT., 1970, 6, (1), 38-41

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CORROSION FATIGUE, SOLUTION ACIDITY, METAL REMOVAL, MAGNESIUM ALLOY/(U)MA21 MAGNESIUM ALLOY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1799 STEP NO--UR/0369/70/006/001/0838/0041

CIRC ACCESSION NO--AP0129167

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

2/2 022 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0129167

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF THE PH OF THE CORROSIVE MEDIUM ON THE CORROSION FATIGUE OF MG ALLOY MA-2-1 IN SOLUTIONS HAVING A STRENGTH OF SIMILAR TO 0.1 N WITH RESPECT TO CL PRIME NEGATIVE IONS WAS STUDIED. THE OVER ALL LOSS OF FATIGUE STRENGTH IN THESE MEDIA WAS DIVIDED INTO TWO COMPONENTS: LOSS OF STRENGTH DUE TO CORROSION FATIGUE PROPER, AND LOSS OF STRENGTH ARISING FROM THE REDUCTION IN THE CROSS SECTION OF THE CORRODED SAMPLE. FOR PH VALUES BETWEEN 1.3 AND 4.0 THE LOSSES AROSE MAINLY FROM THE SECOND FACTOR; FOR PH VALUES BETWEEN 4 AND 14 THEY AROSE MAINLY FROM THE FIRST FACTOR.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

Magnesium

USSR UDC: 620.197.8

BELYAKOV, V. YE., PUSHKINA, S. V., PROKIN, A. K., and ROMANOV, V. V., Institute of Metallurgy imeni A. A. Baykov, Academy of Sciences USSR

"pH Effect on the Corrosion Fatigue of MA-2-1 Magnesium Alloy"

Kiev, Fiziko-Khimicheskaya Mekhanika Materialov, Vol 6, No 1, Jan-Feb 70, pp 38-41.

Abstract: A determination was made of the effect of pH on the loss of cyclic strength in the MA-2-1 alloy in working media containing chlorine ions (0.1 N). The composition of the alloy is: 4.45% Al; 1.12% Zn; 0.56% Mn; 0.006% Fe; 0.07% Si; 0.0011% Ni; 0.002% Be; the balance Mg. For the study, the alloy was in the form of 1.5-mm sheet. In 0.1 N chloride solutions, the MA-2-1 alloy appears to have low corrosion fatigue strength. In solutions with pH=4 to 14 the alloy's failure is attributed to corrosion fatigue; within this range pH does not control the extent of loss in cyclic strength. At pH=4 to 1.3, the loss in cyclic strength occurs basically due to the reduction in the cross section of the specimen.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

USSR

UDC: 621.315.592

PROKLOV, V. V., SHKERLIN, G. N., and GULYAYEV, Yu. V.

"Diffraction of Electromagnetic Waves by Sound in Conducting Crystals"

Leningrad, Fizika i tekhnika poluprovodnikov, No 10, 1972, pp 1915-1918

Abstract: Currently, investigations are being conducted of the propagation of ultrasonics in semiconductors where the ultrasonic wave may be accompanied by a wave of electrons of concentrated or medium energy. A light wave, therefore, should undergo additional dispersion by such electron waves, and an investigation of such dispersion should provide valuable information on the structure of the electron bunches and their dynamics. For this reason, the authors of the present paper consider the diffraction of light by ultrasonics in semiconductor specimens and theoretically investigate it. For simplicity, they examine the case of nondegenerative isotropic semiconductors for which there are two possibilities: a collision plasma of free charge carriers; a noncollision plasma. Since the contribution of the second case is greater, the authors' attention is focused on it.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

USSR UDC 534.232.46-8

GULYAYEV, Yu.V., IVANOV, S.N., MANSFEL'D, G.D., PROKLOV, V.V., STANKOVSKIY, B.A., STEPANOV, B.G. [In-t radiotekhn. i radioelektron. AN SSSR--Institute Of Radio Engineering And Radio Electronics, AS, USSR]

"Ultrasonic High-Frequency Transducer"

USSR Author's Certificate No 250554, Filed 5 July 67, Published 16 Jan 70 (from RZh--Elektronika i yeye primeneniye, No 8, August 1970, Abstract No 8A347P)

Translation: An ultrasonic high-frequency transducer patented for use in ultrasonic delay lines and ultrasonic amplifiers contains a resonator and a piezosemiconductor crystal involving a layer stripped of charge carriers. With the object of obtaining ultrasonic oscillations of ultra-high frequency, the piezosemiconductor crystal is connected with the central core of the resonator by a thin dielectric layer (e.g., mica) and a controlled voltage source is connected to the central core of the resonator and to the crystal. 1 ill. L.K.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

USSR UDC 621.357:621.79.027

PROKLOVA, V. D., GRODZINSKIY, E. YA.

"Electrochemical Cutting of Complex-Shaped Parts by a Wire Electrode"

V sb. Novoye v elektrofiz. i elektrokhim.obrabotke materialov (What's New in Electrophysical and Electrochemical Treatment of Materials -- collection of works), Leningrad, Mashinostroyeniye Press, 1972, pp 50-52 (from RZh-Khimiya, No 12, Jun 72, Abstract No 12L306)

Translation: A technological process and an experimental machine tool have been developed which permit electrochemical intricately shaped cutting by a cylindrical electrode tool using a pattern. A brass wire 0.3-0.5 mm in diameter is used as the electrode tool to obtain narrow cuts; for a cut width greater than 1.5 mm, a rod electrode is used. The technical characteristics of the machine tool are presented.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

Acc. Nr.: AN0104552 Ref. Code: UR9003

AUTHORS-- LEONT,YEV, M., AND PROKOF,YEV, A., ENGINEERS

TITLE-- THE OCEAN LISTENS TO ASTRONAUTS

NEWSPAPER-- IZVESTIYA, JUNE 6, 1970, P 5, COLS 1-3

ABSTRACT-- THE ARTICLE REPORTS THAT THE SOVIET FLEET THAT MONITORS SPACE FLIGHTS IS UNDER THE DIRECTION OF IVAN DMITRIYEVICH PAPANIN. IT CONSISTS OF THE FOLLOWING VESSELS-- THE "NEVEL", THE "KEGOSTROV", THE "MORZHOVETS", THE "DOLINSK", THE "RISTMA", THE "BEZHITSA", AND THE "BOROVICHI". THE FLAGSHIP OF THE FLEET IS THE "KOSMONAVT VLADIMIR KOMAROV", A RESEARCH SHIP OF THE ACADEMY OF SCIENCES.

REEL/FRAME

19871186

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

1/2 017 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--PHOTONEUTRON CROSS SECTIONS FOR THALLIUM 203 AND THALLIUM 205 -U-

AUTHOR-(04)-ANTROPOV, G.P., MITROFANOV, I.YE., PROKOFYEV, A.I., RUSSKIKH, V.S.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. FIZ. 1970, 34(1), 116-21

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--PHOTONEUTRON, EXCITATION CROSS SECTION, THALLIUM ISOTOPE, COMPUTER CALCULATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0209 STEP NO--UR/0048/70/034/001/0116/0121

CIRC ACCESSION NO--AP0105285

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

2/2 017 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0105285

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE YIELDS OF THE N FROM THE REACTIONS (GAMMA, N) AND (GAMMA, 2N) ON PRIME203 TL AND PRIME203 TL NUCLEI WERE MEASURED AT E PRIMEMAX. SUBGAMMA EQUALS 7-20 MEV. THE EXPTL. DETD. VALUES WERE USED TO CALC. THE CROSS SECTIONS OF THESE REACTIONS. THE CALCN. WAS CARRIED OUT ON A COMPUTER BY THE PENFOLD LEISS METHOD WITH A 0.5 MEV STEP. THE RESULTS ARE PLOTTED AND DISCUSSED.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

USSR

UDC 547.558.1

PROKOF'YEV, A. I., SOLODNIKOV, S. P., MALAKHOVA, I. G., TSVETKOV, Ye. N., and KABACHNIK, M. I., Institute of Metal Organic Compounds, Academy of Sciences USSR

"EPR Spectra of Phosphorus-Containing Ethyl Benzoates"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 12, Dec 73, pp 2621-2626

Abstract: Anion radicals of ethyl benzoates have been studied containing electron acceptor and electron donor groups such as phosphino- and phosphinyl groups in meta- and para- positions. A correlation function has been developed for the constants of superfine interaction with the ortho protons of ethylbenzoates a_2^H and the σ_{eff} constants ($\sigma_{eff} = \sigma_{R(M)} + 0.23_T$). It has been shown that in all of the studied compounds the phosphine- and phosphinyl groups show an electron accepting character. The σ_{eff} constant values of the phosphorus containing substituents agree with the known characteristics of their electronic effects.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

1/2 030 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--EFFECT OF SUBSTITUENTS ON THE REACTIVITY OF AROXYL RADICALS WITH DI,TERT,BUTYL PEROXIDE -U-

AUTHOR-(04)-PROKOFYEV, A.I., SOLODOVNIKOV, S.P., NIKIFOROV, G.A., YERSHOV, V.V.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER KHIM. 1970, (3), 558-61

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--REACTION KINETICS, ORGANIC PEROXIDE, BENZENE DERIVATIVE, CHEMICAL REACTION RATE, ELECTRON THEORY, ACTIVATION ENERGY, FREE RADICAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0742 STEP NO--UR/0062/70/000/003/0558/0561

CIRC ACCESSION NO--AP0124412

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

2/2 030 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0124412

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

1/2 015 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--INTRAMOLECULAR COORDINATION IN ORGANOMETAL,METALLOID, COMPOUNDS -U-

AUTHOR-(03)-PROKOFYEV, A.K., BREGADZE, V.I., OKHLOBYSTIN, O.YU.

COUNTRY OF INFO--USSR

P

SOURCE--USP. KHIM. 1970. 39(3), 412-43

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--COORDINATION CHEMISTRY, ORGANOMETALLIC COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/2047 STEP NO--UR/0074/70/039/003/0412/0443

CIRC ACCESSION NO--AP0125635

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

2/2 015 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125635

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A REVIEW WITH 210 REFERENCES THROUGH PART OF 1969, COVERING THE NATURE OF INTRAMOL. COORDINATION, ITS RELATION TO PHYS. PROPERTIES OF MOLS. AND ITS CHEM. CONSEQUENCES. SUCH COORDINATION IS DISCUSSED AS THE DRIVING FORCE IN ELIMINATIONS.

FACILITY: INST. ELEMENTOORG. SOEDIN., MOSCOW, USSR.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

UNCLASSIFIED PROCESSING DATE--11SEP70

1/2 012

TITLE--ELECTRON DIFFRACTION STUDY OF THE STRUCTURE OF TETRAKIS (DIMETHYLAMINO) STANNANE -U-

AUTHOR--VILKOV, L.V., TARASENKO, N.A., PROKOFYEV, A.K.

P

COUNTRY OF INFO--USSR

SOURCE--ZH. STRUKT. KHIM. 1970, 11(1) 129-31

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ELECTRON DIFFRACTION ANALYSIS, MOLECULAR STRUCTURE, ORGANOTIN COMPOUND, CHEMICAL BONDING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1987/0314 STEP NO--UR/0192/70/011/001/0129/0131

CIRC ACCESSION NO--AP0103969

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

2/2 012 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0103969

ABSTRACT/EXTRACT--(μ) GP-0- ABSTRACT. THE ELECTRON DIFFRACTION DETN. OF THE MOL. STRUCTURE OF SN(NME SUB2) SUB4 IN VAPOR PHASE ESTABLISHED THE FOLLOWING BOND LENGTHS IN THE TETRAHEDRAL MOL.: SN-N 2.045, C-N 1.45, AND C-H 1.10 ANGSTROMS. BOND ANGLES WERE FOUND AS CNC 119 PLUS OR MINUS 3DEGREES AND SNNC 117.5 PLUS OR MINUS 1.5DEGREES ARE NEARLY COPLANAR (SUGGESTING SP PRIME2 HYBRIDIZATION), AS IN RELATED CL SUB2 PNME SUB2 AND N(SIH SUB3) SUB3.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

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USSR

UDC: 632.95

SHCHEGLOV, Yu. V., KULIKOV, G. P., KOGAN, V. Sh., PRCKOF'YEV, A. N., KOVALENKO, I. S.

"Dialkyl Phosphites -- Synergists of 2,4-Dichlorophenoxyacetic Acid Esters"

Tr. Ul'yanovsk. s.-kh. opytn. st. (Works of the Ul'yanovsk Experimental Agriculture Station), 1971, 5, pp 121-133 (from RZh-Khimiya, No 7, Apr 72, Abstract No 7N642)

Translation: Among the dialkyl phosphites, the most promising synergist with respect to butyl 2, 4-dichlorophenoxyacetate (I) is dibutylphosphite (II). The addition of 5-20% of II to I increases the herbicidal activity of I by a factor of 1.5-2, particularly against annual and perennial dicotyledonous weeds. A mixture of I and II controls perennial rhizome weeds better than does I alone. The addition of II to I does not increase its phytotoxicity for cereal plants. T. A. Belyayeva.

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TITLE--THE STUDY OF UNSTEADY STATE HEAT TRANSFER ON ELECTRIC MODELS BLOCK DIAGRAM OF INSTALLATION FOR PRESCRIPTION OF BOUNDARY CONDITIONS OF THE

PROCESSING DATE--16OCT70

AUTHOR--PROKOFYEV, B.YE.

COUNTRY OF INFO--USSR

SOURCE--INZHENERNO-FIZICHESKIY ZHURNAL, 1970, VOL 18, NR 1, PP 172-176

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--THERMAL BOUNDARY LAYER, HEAT TRANSFER COEFFICIENT, CONDUCTIVE HEAT TRANSFER, ELECTRONIC SIMULATION

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CIRC ACCESSION NO--AP0118675 PROCESSING DATE--16OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN INSTALLATION IS CONSIDERED FOR PRESCRIBING VARIABLE BOUNDARY CONDITIONS OF THE THIRD KIND. IT ALLOWS SOLUTION OF UNSTEADY THERMAL CONDUCTIVITY TO BE OBTAINED ON R-C GRIDS WITH CONTINUOUS CHANGE IN TIME NOT ONLY OF MEDIUM TEMPERATURE T SUBC BUT ALSO HEAT TRANSFER COEFFICIENT ALPHA. THOUGH THE INSTALLATION IS DESIGNED FOR A PASSIVE MODEL, IT IS BASED ON THE PRINCIPLES OF ELECTRONIC SIMULATION. THE OPERATION OF THE INSTALLATION IS BASED ON A NEW METHOD OF PRESCRIBING THE BOUNDARY CONDITIONS OF THE THIRD KIND WHICH ALLOWS ELIMINATION OF THE ELECTRIC ANALOG OF COEFFICIENT ALPHA (CONDUCTIVITY) FROM THE MODEL AND THEIR SIMULATION BY THE VOLTAGE. THE METHODS FOR CALCULATING THE PARAMETERS OF THE INSTALLATION ARE PRESENTED AND THE WAYS OF THEIR REALIZATION ARE SHOWN.

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USSR

UDC 669.14.018.295:620.183

PROKOF'YEV, D. I., and KOP'YEV, I. M., Moscow

"Phase Composition and Thermal Stability of High-Strength Fine Steel Wire"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 1, Jan-Feb 74, pp 134-137

Abstract: The effect of heat treatment on phase composition of steel wire and its stability in relation to annealing time and temperature were studied for the purpose of determining the best steel wire to use as the reinforcing fiber in composite materials. Fine steel wires were made from three steels with a tensile strength above 250 kg/mm^2. The steels used were: EP 322 (Kh13N13M2) with unstable austenite, maraging MS200 (N18K9M5T), and an Fe-Co-Ni-Cr aging steel 40KhNVMTYu. Steel EP 322, after annealing at 450 and 500° C, retains structural stability, i.e., the austenite-martensite ratio is practically unchanged. Annealing at 600° C for 100 hours increases austenite content to 72%. After annealing at 400 and 500o C, steel MS200 retains tis structural stability, having only martensite. Annealing at 600 and 700° C leads to the formation of austenite in MS200 -- reverse martensite transformation. The austenite content formed is almost 78% after soaking for two hours at 700° C. Steel 40KKhNMVTYu has an austenite structure after all modes of heat treatment.

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USSR

PROKOF'YEV, D. I., and KOP'YEV, I. M., Izvestiya Akademii Nauk SSSR, No 1, Jan/Feb 74, pp 134-137

Weakening (softening) of wire made from this steel was associated with phase coalescence and deformed austenite recovery. The effect of softening during annealing of steel EP322 was linked with the occurrence of recovery and development of the reverse martensite transformation, and for steel MS200 the softening effect is the result of possible "overaging" of the martensite and dissolution or excess phases in the austenite being formed during annealing. Four figures, one bibliographic reference.

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AGEYEV, N. V., SAVITSKIY, YE. M., KORNILOV, I. I., ZUDIN, I. F., and PROKOF'YEV, D. I., Editors

Struktura i Svoystva Zharoprochnykh Metallicheskikh Materialov (Structure and Properties of Heat-Resistant Metallic Materials), Moscow, "Nauka," 1973, 262 pp

Translation: Results are generalized from studies associated with the physical criteria of heat resistance; the role of the electron structure of alloys; the principles of alloy and dispersion hardening of alloys; the physico-chemical basis for developing composite materials; dislocation mechanisms of failure and deformation; the development of alloys on the basis of Fe, Ni, Mo, Nb, and other refractory elements; ways of increasing the heat resistance of alloys and others. This publication is intended for researchers, metallurgists, metals experts, the designers of the power, aviation, and machine-building industries and for other specialists.

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USSR

AGEYEV, N. V., et al., Structure and Properties of Heat-Resistant Metallic Materials, Moscow, 1973

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AGEYEV, N. V., et al., Structure and Properties of Heat-Resistant Metallic Materials, Moscow, 1973

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USSR UDC 620.17:539.562:669.7

BANNYKH, O. A., BUSALOV, YU. YE., KLEKOVKIN, A. A., KOF'YEV, I. M., and PROKOF'YEV, D. I., Institute of Metallurgy imeni A. A. Baykov

"High-Strength Wires for Reinforcement of Light Alloys"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 7, 1973, pp 40-45

Abstract: A study was made of the mechanical properties, depending on tempering temperature and time, of high-strength wires from steels of industrial melts: U8A carbon steel (1), VNS9(2Kh15N5AM3) austenitic martensite steel (2), MS200(N18K9M5T) martensite-aging steel (3), EP322(CKh14N14M1) austenite steel (4), and an aging alloy based on Fe-Co-Ni-Cr (40KNKhMVTYu) (5). X-ray structural analysis revealed that the loss of strength of the wire at increasing tempering tempreature is generally determined by processes of recovery in cold-deformed martensite, the development of $\alpha(M) \rightarrow \gamma$ transformation, and also by coagulation of particles of excess phases. Wires of steel (1) weakened at temperatures $> 300^{\circ}C$, of steels (2), (3), and (4) - at temperatures $> 500^{\circ}C$, and of (5) - at tempetatures $> 650^{\circ}C$. The selection of the technology for producing a light alloy-wire composite depends on the loss-of-strength temperature of the wire. A liquid-phase technology can be applied in strengthening with

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BANNYKH, O. A., et al., Metallovedeniye i Termicheskaya Obrabotka Metallov, No 7, 1973, pp 40-45

fibers of alloy (5). In strengthening wires of alloy steels (2), (3), and (4), only solid-phase methods with heating $\leqslant 500^{\circ}C$ can be applied, and only short-duration heating $< 300^{\circ}C$ can be applied for composites strengtened by steel (1) wires. Three figures, two tables.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

Therapy

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USSR UDC 615.849.19.015:616-091

KHROMOV, B. M., KOROTKEVICH, N. S., OKSOVA, Ye. Ye., KRYLOV, K. I., PROKOPENKO, V. T., and BOGDANOV, M. P., Leningrad Institute of Postgraduate Medicine imeni S. M. Kirov, Leningrad Institute of Precision Optics and Mechanics, and Institute of Psychoneurology imeni V. M. Bekhterev

"Organ Changes Following Experimental Resection With a Laser Beam"

Moscow, Eksperimental'naya Khirurgiya i Anesteziologiya, No 2, 1973, pp 45-48

Abstract: The liver, spleen, and kidneys of rats were resected with a laser beam (energy density 10 to 18 j/mm^2). Immediately after the operation, a linear area of coagulated tissue could be seen on the surface of the organs. Histologic examination from 1 to 33 days after the operation revealed several distinct zones of altered tissues in the 3 operated organs. Under a surface zone of coagulated tissue was a zone of necrosis and then a zone of reactive changes. Still deeper was normal tissue with solitary hemorrhages. A leukocyte reaction became apparent on day 3. Edema and hemorrhages were most pronounced in the spleen. Connective-tissue fibers began to proliferate in the necrotic zone of the spleen on day 3 after the operation and in the liver and kidneys on day 7. The amount of connective tissue gradually increased and formed a scar.

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AGEYEV, N.V., SAVITSKIY, Ye. M., KORNILOV, I. I., ZUDIN, I. F., PROKOF'YEV, D. I. (Editorial Board)

Legirovaniye i svoystva zharoprochnykh splavov (Alloying and Properties of High-Temperature Alloys), Collection of Papers, Moscow, "Nauka" Press, 1971, 208 p., illustrations, graphs, tables, 2500 copies printed.

Translation of Annotation:

This collection covers topical problems of the theory of heat resistance (mechanism of creep, hardening of solid solutions by alloying to produce stable dislocation structures, precipitation hardening, and the effect of the type, quantity, and pattern of excess phase distribution on the creep and failure of alloys). Some of the papers discuss problems related to the interaction of metallic materials with the environment (problems of protective coatings on high-temperature alloys, diffusion processes within these alloys). The collection is intended for researchers, design engineers, production personnel, metallurgists, and associates of establishments in power engineering and transportation machinery as well as in the aviation industry.

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AGEYEV, N. V. (Ed.). et al. Legirovaniye i svoystva zharoprochnykh splavov, Moscow, "Nauka" Press, 1971.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

USSR

AGEYEV, N. V. (Ed.). et al. Legirovaniye i svoystva zharoprochnykh splavov, Moscow, "Nauka" Press, 1971.

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USSR

AGEYEV, N. V. (Ed.). et al. Legirovaniye i svoystva zharoprochnykh splavov, Moscow, "Nauka" Press, 1971.

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USSR

AGEYEV, N. V. (Ed.). et al. Legirovaniye i svoystva zharoprochnykh splavov, Moscow, "Nauka" Press, 1971.

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USSR

IGEYEV, N. V. (Ed.). et al. Legirovaniye i svoystva zharoprochnykh splavov, Moscow, "Nauka" Press, 1971.

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USSR

AGEYEV, N. V. (Ed.). et al. Legirovaniye i svoystva zharoprochnykh splavov, Moscow, "Nauka" Press, 1971.

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TITLE--STRUCTURE OF OXIDE FILMS AND SCALE RESISTANCE OF AUSTENITIC CHROMIUM MANGANESE STEEL 45KH15G14YUS -U-

AUTHOR-(04)-PROKOFYEV, O.I., BANNYKH, O.A., ZUDIN, I.F., MIROSHKINA, M.I.

COUNTRY OF INFO--USSR

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CIRC ACCESSION NO--AP0130385 PROCESSING DATE--27NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SCALE RESISTANCE OF A NUMBER OF MELTS OF AUSTENITIC CR-MN STEEL WAS STUDIED IN RELATION TO THE STRUCTURE OF THE OXIDE FILM. IN ALL CASES GOOD SCALE RESISTANCE WAS RETAINED UP TO 900DEGREESC. THE SCALE FORMED AT 900DEGREESC COMPRISED A NUMBER OF LAYERS INCORPORATING FE SUB2 O SUB3 AND MN SUB2 O SUB3, SPINELS OF COMPLEX STRUCTURE, CR SUB2 O SUB3, AND THIN LAYERS OF OXIDES CONTG. A HIGH PROPORTION OF SI. THE RATE OF OXIDATION GRADUALLY SLOWED AFTER 1500 H AT 900DEGREESC; THIS WAS ATTRIBUTED TO THE CR SUB2 O SUB3.

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USSR

UDC: 621.319.4(088.8)

BELYAKHIN, I. K., PARFENOV, B. F., BONDARCHUK, G. M., PROKOF'YEV, L. N.

"A Mandrel for Winding Mansbridge Capacitor Sections"

USSR Author's Certificate No 275231, filed 15 Nov 68, published 25 Nov 70 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6V378 P)

Translation: This Author's Certificate introduces a mandrel for winding sections of self-sealing capacitors. The device contains a cylindrical housing with a longitudinal slot accommodating a long needle for holding the ends of the ribbons to be wound on the mandrel. As a distinguishing feature of the mandrel, removal of the finished sections from the device is simplified by forming the mandrel from two hollow interconnected half-cylinders with tapered inner surface encompassing a tapered rod with a spring on one end which presses the half-cylinders against a support set on the rod.

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PROKOF'YEV, M.A.

JPRS 56097
27 May '72.
UDC: 317.7

THE MAIN DIRECTIONS IN REORGANIZING SECONDARY EDUCATION

[Article by M.A. Prokof'yev (Moscow); Moscow, Vestnik Akademii Meditsinskikh Nauk SSSR, Russian, No 4, 1972, pp 4-13]

We are very pleased that two authoritative academies have convened to discuss a number of pressing problems concerning the scientific bases of formation of the new generation. We all want to see to it that it is comprehensively developed both intellectually and physically inspired with the lofty idea of serving communism.

In this article, an attempt is made to tell about the work that is being done in schools and preschool institutions to improve teaching and rearing of children, about the plans for the next five years. We shall single out the group of issues which, in our opinion, require the closest scrutiny of physicians, pedagogues, and psychologists, in the light of the problem under discussion.

Preschool training. In our country, preschool public education has become one of the most important elements in the educational system. About 103,000 creches, kindergartens, and combined child institutions are in operation in the country. More than 9.5 million children regularly attend permanent preschool institutions. During the period of intensive agricultural work, a large network of seasonal institutions is deployed that can accommodate up to 2.5 million children. Approximately every third child is trained in a kindergarten, and in cities where attendance is open to all, the figure is much higher.

An improved program is being adopted in preschool institutions with deeper elements of physical, esthetic, moral education and broader information is offered, especially for preschool children. We have obtained some success. The Institute of Preschool Education, using the methods it developed for objective evaluations, has tried to compare the development of children of the same age, raised in kindergartens and at home, according to different indices. With regard to physical preparedness of children, level of mental and artistic development, and a number of other indices, the children from kindergartens showed higher results than those reared only at home.

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1/2 010 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--DINUCLEOSIDE PHOSPHO,P YIELDS N, AMINO ACIDS, HYDROLYSIS OF DIURIDINE PHOSPHO,P SUBM YIELDS N, PHENYLALANINE -U-

AUTHOR-(03)-VOROBYEV, O.YE., SHABAROVA, Z.A., PROKOFYEV, M.A.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(4), 842-5

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HYDROLYSIS, PHENYLALANINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/1090 STEP NO--UR/0020/70/190/004/0842/0845

CIRC ACCESSION NO--AT0115109

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

2/2 010 UNCLASSIFIED

CIRC ACCESSION NO--AT0115109 PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. I IS PRACTICALLY INERT TO ALKALI AT PH 10.5 IN 1 HR AT 37DEGREES, WHILE IN 6 HR THE HYDROLYSIS IS NOT OVER 15PERCENT. HOWEVER IN 20 HR UNDER THE SAME CONDITIONS ALMOST 90PERCENT OF THE COMPD. IS DESTROYED. THE INTERNUCLEOTIDE LINK IN 2 PRIME,ACETYLATED DIURIDINE PHOSPHATE IS ALMOST NOT AFFECTED AT ALL UNDER THESE CONDITIONS. THUS THE ALK. CLEAVAGE OF I IS DETD. BY THE RATE OF DEACETYLATION OF THE 2 PRIME-OH GROUP. THE KINETIC DATA WERE TABULATED FOR I, DIURIDINE PHOSPHATE, URIDINE CYCLOPHOSPHATE, O,ISOPROPYLIDENEURIDINE, PHENYLALANINE ME ESTER AT PH 10.5 AT 37DEGREES. I IN N HCL IN 1 HR AT 37DEGREES GAVE EQUIMOLAR AMTS. OF DIURIDINE PHOSPHATE AND THE AMINO ACID. IN N NAOH IN 18 HR I GAVE 2 PRIME (3 PRIME). URIDYLIC ACID, O,ISOPROPYLIDENEURIDINE AND PHENYLALANINE.

FACILITY: MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

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BIOLOGY
Agriculture

USSR

UDC 633.311:631.53.027.3

KOLOKOL'TSEVA, L. S. and PROKOF'YEV, M. K., Tashkent Agricultural Institute and Tashkent Polytechnical Institute

"The Effect of Ultrasound on the Germination of Blue Alfalfa Seeds"

Moscow, Selektsiya i Semenovodstvo, No 1, 1971, pp 59-60

Abstract: Treatment of "hard" alfalfa seeds with ultrasound is simpler and more effective than mechanical, thermal, or chemical methods of increasing the germination rate and ensuring even stands. "Hard" seeds differ from ordinary ones in possessing a tough coat that prevents water or air from entering, thus delaying germination for a long time. Four varieties (Bostandykskaya, Bakhmal'skaya, Tokmanskaya mestnaya, and Semirechenskaya mestnaya) were exposed from 1 to 10 min to ultrasound (1.6 to 2.75 W/cm^2), and then grown under different soil and climatic conditions. The effects of ultrasound were varied. One variety (Tokmakskaya mestnaya) required a long period of exposure and high intensity, another required a long period but a lower intensity (Bostandykskaya), while the other two (Bakhmal'skaya and Semirechenskaya mestnaya) required both a brief exposure and low intensity of ultrasound. Exposures for 10 minutes or more were injurious to all the seeds.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

1/2 040 UNCLASSIFIED

TITLE--HYDROXYETHYL CYANOETHYL CELLULOSE -U- PROCESSING DATE--23OCT70

AUTHOR-(05)-KATALEVSKAYA, I.V., YERMILOVA, I.I., SMIRNOVA, G.N., KHIN, N.N., PROKOFYEVA, M.V.

COUNTRY OF INFO--USSR

SOURCE--PLAST. MASSY 1970, (2), 23-5

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--HYDROXYL RADICAL, CELLULOSE RESIN, CYANIDE, CHEMICAL SYNTHESIS, POLYMER, TRANSITION TEMPERATURE, PLASTIC FILM, TENSILE STRENGTH, DIELECTRIC PROPERTY, ADHESION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0673

STEP NO--UR/0191/70/000/002/0023/0025

CIRC ACCESSION NO--AP0119581

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2"

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2/2 040 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119581

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SYNTHESIS AND PHYSICOCHEM. PROPERTIES OF THE TITLE POLYMER (I) (USED AS A BINDER FOR ELECTROLUMINOPHORS) WERE STUDIED. THE MOST EFFECTIVE METHOD OF PREPG. I INVOLVED CYANOETHYLATION OF TECH. HYDROXYETHYL CELLULOSE (II) (3.5 MOLES OF CH SUB2:CHCN-ELEMENTARY UNIT OF II) AT 30DEGREES FOR 3 HR. I HAD A GLASS TRANSITION TEMP. OF SIMILAR TO 40DEGREES AND A VISCOELASTIC TRANSITION TEMP. OF 100DEGREES. COLORLESS AND TRANSPARENT FILMS WERE PREPD. FROM SOLNS. OF I. THE FILMS EXHIBITED HIGH TENSILE STRENGTH, RELATIVE ELONGATION AT BREAK, AND GOOD DIELEC. PROPERTIES, AND WERE READILY BONDED TO GLASS, METALS, AND OTHER MATERIALS.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

UNCLASSIFIED

1/2 018 PROCESSING DATE--04DEC70

TITLE--LEVELS OF NEODYMIUM-146 EXCITABLE IN THE, N,GAMMA,REACTION -U-

AUTHOR-(03)-BERZINS, V., KRUMINA, A., PROKOFYEV, P.T.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. FIZ. 1970, 34(4), 824-7

DATE PUBLISHED--------70

SUBJECT AREAS--NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--NEODYMIUM ISOTOPE, EXCITED STATE, NUCLEAR REACTION, CONVERSION ELECTRON SPECTRUM, NEODYMIUM COMPOUND, GAMMA RAY, BETA DECAY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3009/0106 STEP NO--UR/0048/70/034/004/0824/0827

CIRC ACCESSION NO--AP0138971

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

2/2 018 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0138971

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SPECTRUM OF CONVERSION E AND GAMMA RAYS FORMED DURING THE PRIME145 ND(N,GAMMA) PRIME146 ND REACTION WAS STUDIED BY USING A ND SUB2 O SUB3 TARGET ENRICHED TO 94.4PERCENT IN PRIME145 ND. A SCHEME OF ENERGY LEVELS AND GAMMA TRANSITIONS IN PRIME146 ND IS PRESENTED BY USING ALSO LITERATURE DATA ON BETA DECAY AND (N,ALPHA) REACTIONS.

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USSR UDC 669.35.71.1.24.6.782.71.620.193.27(088.8)

VOL, A. Ye., GAYDAY, P.I., GORYNIN, I. V., KAPYRIN, G. I., KUZNETSOV, Ya. Ya., PROKOF'YEV, S. N., SUMINOV, N. S., CHIZHIKOV, G. I., SHUMSKIY, K. A.

"Copper-Based Alloy"

USSR Author's Certificate, No. 276417, Filed 27/10/67, Published 16/10/70. (Translated from Referativnyy Zhurnal Metallurgiya, No. 5, 1971, Abstract No. 5 I713P).

Translation: An alloy with increased corrosion-fatigue strength in sea water is suggested. The composition of the alloy (%) is: Al 7-9, Mn 8-12, Fe 2-4, Ni 1.5 - 4, Sn 0.1-05, Si 0.1-0.5, remainder - Cu. The technological properties of the alloy can be improved by introducing up to 0.3 % Mg and up to 0.2 % Be. These additions decrease the tendency of the alloy toward film formation. The alloy has (in kg/mm^2) $\sigma_b \geq 65$, $\sigma_{0.2} \geq 30$, HB 180-210, $\sigma_{-1} \geq 17$ at $10 \cdot 10^6$ cycles and is a promising shipbuilding material.

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AP0020642 CHEMICAL ABST. P 2-70 NE0000

25904x Conditions of crystallization of a chemical compound from a melt enriched with a volatile component. Prokof'ev, S. V.; Rud, Yu. V. (A. F. Ioffe Phys.-Tech. Inst., Leningrad, USSR). *J. Cryst. Growth* 1970, 6(2), 187-9 (Eng). Crystn. conditions are examd., by using as an example, CdTe, whose melt is enriched with Cd. The deviations of the melt compn. from the compn. corresponding to the max. melting temp. of CdTe leads to the appearance of constitutional supercooling at the crystn. front. Constitutional supercooling, in turn, leads to an increase in the probability of the growth of a polycrystal, whose individual monocryst. grains possess strongly pronounced twinning. An examn. is made of the effect on the crystn. conditions of the removal of the excess of the volatile component of the chem. compd. from the melt in the form of bubbles. RCMT

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Hydraulic and Pneumatic

USSR

UDC 62-82:531.3

PROKOF'YEV, V. N., Doctor of Technical Sciences

"Influence of Deformation of the Fluid Upon the Dynamics of a Hydraulic Drive"

Moscow, Vestnik Mashinostroyeniya, No 6, June 1973, pp 21-28

Abstract: The elastic deformations of a fluid affect the value of its volume that passes through the hydraulic machine, and the dynamic characteristics of the hydraulic booster, which consists of a pump and a hydraulic motor, as well as the parameters of the oscillations generated in such a booster. These same deformations determine the value and the nature of change of the force at the unit for control of the pump delivery, and determine the influence of the load of the hydraulic booster upon the speed of the drive motor, since the dynamic characteristics of a hydraulic drive depend upon its rigidity.

In this paper is presented a calculation of the modulus of volumetric elasticity of the working fluid of a hydraulic drive, which contains a gas-air component; there is shown the influence of deformation of the fluid upon the delivery, and upon the oscillations, of various frequencies, generated in the process of delivery. Recommendations are presented on calculation of the dynamic characteristics of a hydraulic drive. 1 table. 6 figures. 14 references.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

USSR

UDC: 621.391.262.002

PROKOF'YEV, V. N.

"Detection of Signal Packets With Unknown Parameters in Noise of Unknown Level"

Kiev, Izvestiya VUZ SSSR--Radioelektronika, No 10, 1972, pp 1244-1252

Abstract: This theoretical article analyzes the following cases of signal packets with unknown parameters against a noise background of unknown intensity: coherent packets of nonfluctuating signals; coherent packets with unknown initial phase of the carrier; incoherent packets of nonfluctuating signals; and incoherent packets with Rayleigh-fluctuating signals. The method of analysis used relies on estimates of maximum probability for unknown signal and noise parameters; the resolving rules thus obtained are of practical importance and can be used for designing automatic signal detectors and receivers. They have the important characteristics of independence of a priori unknown signal and noise parameters, and of invariance in the false alarm probability at any noise level.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

Radar

USSR UDC 621.381.8

BOGDANOVICH, V. A., PROKOF'YEV, V. N.

"Order Detector of Fluctuating Signals in Noise of Unknown Level"

Kiev, Izvestiya Vysshikh Uchebnykh Zavedeniy -- Radioelektronika, Vol. XIV, No 2, 1971, pp 188-191

Abstract: This article contains a study of the construction of an order detector of radar signals in noise of unknown level. The rank criterion of incoherent detection of a fluctuating radar signal against a background of noise of unknown level is determined. This criterion is based on comparison of the oscillations received from two adjacent elementary resolution sections of the radar with respect to range, and it uses the ranks of the initial observations for arbitrary fixed sampling. It does not require a priori information about the signal and noise level and is optimal for small signal/noise ratios. The important properties of the decision rule, in particular, constancy of false alarm for any noise intensity are noted. It is emphasized that when working under actual conditions a detector based on the potential criterion of the propability ratio can give results which are far from potentially optimal as a result of the fact that the noise level is unknown and does not coincide with the calculated value. In this sense the rank detector

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USSR

BOGDANOVICH, V. A., et al., Izvestiya Vysshikh Uchebnykh Zavedeniy -- Radioelektronika, Vol XIV, No 2, 1971, pp 188-191

is preferable since it does not require a priori knowledge of the noise level and insures invariant probability of false alarm without any threshold tuning and the greatest operating efficiency for any noise and signal level.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

1/2 020 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--NONCOHERENT FLUCTUATING SIGNAL DETECTOR IN NOISE OF UNKNOWN INTENSITY -U-

AUTHOR--PROKOFYEV, V.N.

COUNTRY OF INFO--USSR

SOURCE--KIEV, IZVESTIYA, VUZOV SSSR-RADIOELEKTRONIKA, VOL 13, NO 2, 1970, PP 122-127

DATE PUBLISHED--------70

SUBJECT AREAS--NAVIGATION, MATERIALS

TOPIC TAGS--RADAR SIGNAL, DETECTION EQUIPMENT, NOISE ANALYZER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1991/0351 STEP NO--UR/0452/70/013/002/0122/0127

CIRC ACCESSION NO--AP0110239

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

2/2 020 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0110239

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN OPTIMAL SOLVING RULE AND THE CORRESPONDING EQUIPMENT FOR DETECTION OF FLUCTUATING RADAR SIGNALS IN NOISE ARE FOUND UNDER THE CONDITION THAT THE NOISE POWER IS KNOWN A PRIORI AND EMERGES AS THE INTERFERING PARAMETER IN THE DISTRIBUTION OF THE OBSERVED QUANTITIES. THE OPERATION OF THE DETECTOR IS BASED ON COMPARISON OR CONTRAST OF THE PULSES REFLECTED FROM TWO NEIGHBORING ELEMENTARY SECTIONS IN THE RADAR STATION RANGE RESOLUTION. THE ASSUMPTIONS, UNDER WHICH THE CALCULATIONS ARE MADE ARE THE FOLLOWING: THE FLUCTUATING PULSES REFLECTED FROM THE TWO NEIGHBORING SECTIONS ARE STATISTICALLY INDEPENDENT, AND THEIR INSTANTANEOUS VALUES ARE NORMALLY DISTRIBUTED WITH UNKNOWN DISPERSIONS; WITH NO TARGET, THE PULSE REFLECTIONS HAVE THE SAME AVERAGE POWER; THE PROCESSING OF THE RECEIVED OSCILLATIONS IS NONCOHERENT; THERE IS A SUCCESSIVE "LOOK" FOR RANGE, SO THAT THE SECOND OF THE TWO OBSERVED SECTIONS BECOMES THE FIRST AND VICE VERSA. A BLOCK DIAGRAM OF THE PROPOSED DETECTOR IS SHOWN.

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USSR

UDC 621.391.8

BOGDANOVICH, V. A. and PROKOF'YEV, V. N.

"Optimal Detector of Signals in Unknown Noise"

Kiev, Izvestiya VUZov SSSR-Radioelektronika, Vol 13, No 2, 1970, pp 128-130

Abstract: This short article offers the functional system for a coherent detector of radar signals of unknown amplitude in additive normal noise of unknown power. The detector operates in accordance with the uniformly maximum power undisplaced detection rule and does not require a priori information concerning the noise level or the signal amplitude. The following assumptions are made: the signal reflected from the target is a periodic sequence of pulses with unknown amplitudes; the noise is additive and normal, with unknown dispersion; the received oscillations are given coherent processing. The optimum detector has the following important characteristics: it is independent of the a priori unknown parameters of the amplitude and dispersion; it guarantees that the false alarm probability will be no higher than a specified value; it is most efficient for any actual amplitude and dispersion. A block diagram of the detector system is given.

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PROKOF'YEV, V. N.

"Noncoherent Fluctuating Signal Detector in Noise of Unknown Intensity"

Kiev, Izvestiya, VUZov SSSR-Radioelektronika, Vol 13, No 2, 1970, pp 122-127

Abstract: An optimal solving rule and the corresponding equipment for detection of fluctuating radar signals in noise are found under the condition that the noise power is known a priori and emerges as the interfering parameter in the distribution of the observed quantities. The operation of the detector is based on a comparison or contrast of the pulses reflected from two neighboring elementary sections in the radar station range resolution. The assumptions under which the calculations are made are the following: the fluctuating pulses reflected from the two neighboring sections are statistically independent, and their instantaneous values are normally distributed with unknown dispersions; with no target, the pulse reflections have the same average power; the processing of the received oscillations is noncoherent; there is a successive "look" for range, so that the second of the two observed sections becomes the first and vice versa. A block diagram of the proposed detector is shown.

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UDC 621.391.2

BOGDANOVICH, V. A., PROKOF'YEV, V. N.

"Optimum Recognition of Two-Frequency Radar Signals With 'Interfering' Parameters"

Moscow, Radiotekhnika i Elektronika, vol 16, No 12, Dec 71, pp 2193-2198

Abstract: The theory of unbiased resolving rules is used as a basis for determining the optimum rule for recognition of two-frequency radar signals. It is assumed that the signals are reflected from two targets (objects) with different geometric dimensions, and that the a priori data on both the signal parameters and the noise level are incomplete. The structure of the device which realizes this rule is also determined. The rule is based on differences ("contrasts") in the variances and coefficients of mutual correlation of the pulses in the reflected "packets". The resultant recognition rule has properties which are important from the standpoint of realization in automatic systems: 1) it ensures an invariable probability of an error of the first kind for any actual values of signal parameters and any noise level without the need for adjustment during

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USSR

BOGDANOVICH, V. A., PROKOF'YEV, V. N., Radiotekhnika i Elektronika, vol 16, No 12, Dec 71, pp 2193-2198

operation; 2) it ensures maximum probability of a correct solution for any actual values of signal parameters in any noise level in the sense of uniformly maximum power. One figure, bibliography of eight titles.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

USSR

UDC: 622-503

PROKOF'YEV, V. N., KOLPAKOV, Yu. G., Moscow

"Influence of Elasticity in Hydraulic System on Forced Harmonic Oscillations"

Moscow, Mashinovedeniye, No 5, Sep-Oct 70, Pages 33-40

Abstract: The dynamics of a hydraulic drive system with closed control loop, operating with a fluid whose modulus of elasticity depends on the pressure drop are studied. Conditions of stability and the possibility of sudden resonance are established. The amplitude-frequency characteristics are analyzed and areas of existence of solutions determined. The transient process is calculated and the possibility of subharmonic oscillations in case of a harmonic input signal is analyzed. Six illustrations, seven biblio-refs. From {author's abstract.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

USSR

UDC 621.165:681.14

BOGATYRENKO, K. I., IL'CHENKO, O. T., and PROKOF'YEV, V. Ye.

"Analog Computer Determinations of Elongations and Mutual Dislocations of the Rotor and the Body of a Steam Turbine"

Energ. Mashinostroyeniye. Resp. Mezhved. Temat. Nauch.-Tekhn. Sb. [Power Engineering. Republic Interdepartmental Thematic Scientific-Technical Collection], No 13, 1972, pp 77-81 (from Referativnyy Zhurnal, No 10, Oct 72. 49. Turbostroyeniye. Single Issue. Abstract No 10.49.42)

Translation: An account is given of the analog computer method of solution of problems of determinating elongations and mutual dislocations of the rotor and the body of steam turbines. The facility for the solution of these problems, assembled from elements of the USM-1 machine, is described. Results are presented of the determination on the basis of a model of the elongation of the heated shaft and of mutual dislocations of coaxial cylinders. Three illustr. Two biblio. refs.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

USSR UDC: 681.333

PROKOF'YEV, V. Ye., Khar'kov Polytechnical Institute imeni V. I. Lenin

"A Device for Setting up Variable Boundary Conditions"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 4, Feb 71, Author's Certificate No 292163, Division G, filed 27 Nov 69, published 4 Jan 71, p 132

Translation: This Author's Certificate introduces a device for setting up variable boundary conditions. The unit is designed for solving boundary value problems in mathematical physics. The device contains an RC network, a DC amplifier, a resistor and a controllable current stabilizer. As a distinguishing feature of the patent, the rate of input of variable boundary conditions is increased by using digital controlled resistors in the device. The first digital controlled resistor is connected in the feedback circuit of the DC amplifier. This amplifier is connected to the input of the controllable current stabilizer. The input of the DC amplifier is connected through the resistor to the output of the controllable current stabilizer and to the end point of the RC network. The second digital controlled resistor is connected to the input of the DC amplifier.

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USSR

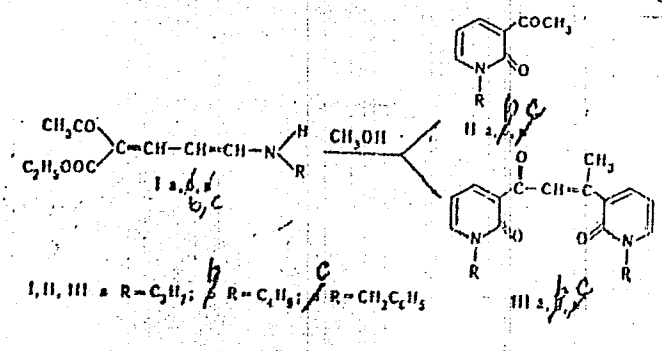
UDC 547.821.2'824.07:543.422.25

KRASNAYA, ZH. A. STYTSENKO, T. S., PROKOF'YEV, YE. P., and KUCHEROV, V. F., Institute of Organic Chemistry imeni N. D. Zelinskogo, Academy of Sciences USSR

"Synthesis of the Derivatives of N-substituted Pyridones Based on Diene Monoalkylaminoketo Esters"

Riga, Khimiya Geterotsiklicheskikh Soyedineniy, 5, May 1973 pp 668-675

Abstract: Syntheses are described based on the following reaction:



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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

USSR

KRASNAYA, ZH. A., et al., Khimiya Geterotsiklicheskikh Soyedineniy, 5, May 1973, pp 668-675

The δ-monoalkylaminoketoesters (I) dissolved in methanol at room temperature react thru ring closure to give an 80% yield of an easily separated mixture of 1-alkyl-3-acetylpyrid-2-one (II) and the dimer 1,3-bis[3-(1-alkylpyrid-2-onyl)]-2-buten-1-one (III). Yields, experimental conditions, UV and extensive NMR data are given. Additional reactions are given, such as IIc + Ib $\rightarrow$ IIIb + dimers where the two R groups are not the same; Ib+$C_6H_5COCH_3$ $\rightarrow$ mixed -R dimers; and I+II $\rightarrow$ dimers containing IR from each compound. The % water in the methanol changes the ratios of products II & III, II increasing with increasing H_2O.

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1/2 015 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--DETERMINATION OF THE RELATIVE SIGNS OF SPIN SPIN COUPLING CONSTANTS IN NITROETHYLENE PRIME15 N BY LOCAL HOMO AND HETERONUCLEAR DOUBLE

AUTHOR-(03)-PROKOFYEV, YE.P., NEGREBETSKIY, V.V., KESSENIKH, A.V.

COUNTRY OF INFO--USSR

SOURCE--ZH. STRUKT. KHIM. 1970, 11(2), 221-8

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--ALIPHATIC NITRO COMPOUND, ETHYLENE, NITROGEN ISOTOPE, NUCLEAR RESONANCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/1502 STEP NO--UR/0192/70/011/002/0221/0228

CIRC ACCESSION NO--AP0138503

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

2/2 015 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0138503

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PRESUMING J SUBH-H (VIC) IS POS. FOR NITROETHYLENE, THE RELATIVE SIGNS OF THE COUPLING CONSTS. WERE OBTAINED. THEY ARE FOR J SUBH-H 14.8 (TRANS), 7.1 (CIS), AND NEGATIVE 1.8 (GEM) AND FOR J SUBH-H PRIME15 NEGATIVE 9.0 (TRANS), NEGATIVE 4.4 (CIS), AND NEGATIVE 4.5 (GEM) GHZ. FACILITY: INST. ORG. KHIM. IM. ZELINSKOGO, MOSCOW, USSR.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

1/2 011 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--REDUCTION OF THE EPOXIDE RING DURING THE REACTION OF METHYLMAGNESIUM IODIDE WITH THE 20,ETHYLENE KETAL OF 16 ALPHA, 17

AUTHOR-(04)-PROKOFYEV, YE.P., AKHREM, A.A., ILYUKINA, T.V., ZAYKIN, V.G.

COUNTRY OF INFO--USSR

SOURCE--IZV. AOAD. NAUK SSSR, SER. KHIM. 1970, (3), 715-6

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--STEROL, EPOXIDE, ACETATE, HYDROXYL RADICAL, CHEMICAL REDUCTION, NMR SPECTRUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1884 STEP NO--UR/0062/70/000/003/0715/0726

CIRC ACCESSION NO--AP0123672

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

2/2 011 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0123672

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CONTRARY TO PUBLISHED CLAIMS (SCIAKY, R., 1961; SUVOROV, N. N., ET AL., 1960) IT WAS SHOWN FROM MASS AND NMR SPECTRAL DATA THAT REACTION OF 16 ALPHA,17 ALPHA, EPOXYPREGN,5,EN,3 BETA, OL,20,ONE ACETATE 20,ETHYLENE KETAL WITH MEMGI PROCEEDS SO THAT ALONG WITH NORMAL OXIDE RING OPENING TO FORM THE 16 BETA,METHYL,17 ALPHA,HYDROXY DERIV., THERE IS ALSO FORMED THE 16,DEMETHYL ANALOG (I), PROBABLY VIA REDN. OF THE OXIDE RING BY RMGX. THIS YIELDS A DIFFICULTLY SEPARABLE MIXT. OF THE TWO PRODUCTS WHICH HAVE THE SAME CHRCMATOGRAPHIC MOBILITY. IF THE REACTION IS RUN IN THF IT IS FURTHER COMPLICATED BY FORMATION OF 20,METHYLPREGN,5,ENE,3 BETA, 17 ALPHA,20,TRIOL, WHILE IN ET SUB2 O,C SUB6 H SUB6 THE MAIN REACTION FORMS PRODUCTS OF WAGNER,MEERWEIN REARRANGEMENT, YIELDING 53PERCENT II.

FACILITY: INST. ORG. KHIM. IM. ZELINSKOGO, MOSCOW, USSR.

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USSR

UDC 547.26'118

PROKOF'YEVA, A. F., MEL'NIKOV, N. N., and VLADIMIROVA, I. L., All-Union Scientific Research Institute of Chemicals for the Protection of Plants

"Reaction of Esters and Esteramides of Thiophosphoric Acid With Substituted Benzyl Chlorides"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), Vyp 4, 1972, pp 820-825

Abstract: At 150-170°C, O,O'-diethyl N-ethylamidothiophosphate reacts with substituted benzyl chlorides in o-dichlorobenzene yielding the corresponding O-ethyl N-ethylamido S-benzyl thiophosphate. Symmetrical dibenzyl sulfides were also synthesized, probably as a result of the further alkylation of the S-benzyl esters of O-ethyl N-ethylamidothiophosphoric acid. O'-ethyl O-phenyl N-ethylamidothiophosphate reacts with the 4-methoxy- and 4-ethoxybenzylchloride to form the corresponding 4-alkoxybenzyl-N-ethylamine, bis(4-alkoxybenzyl)sulfide, and O-phenyl N-ethylamido S-(4-methoxybenzyl) thiophosphates. This reaction proceeds by the simultaneous attack on two nucleophillic centers. Physical data, formulas and IR and NMR constants are given for the synthesized compounds.

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Pesticides

USSR

UDC 632.95

MEL'NIKOV, N. N., PROKOF'YEVA, A. F., and VLADIMIROVA, I. L.

"Method of Production of 0,0-dialkyl Benzylphosphonates"

USSR Author's Certificate No 301336, filed 11/04/69, published 11/10/71 (Translated from Referativnyy Zhurnal, Khimiya, No 9, 1972, Abstract No 9 N568 P by L. V. Razvodovskaya)

Translation: Compounds with the general formula $(RX)R'C_6H_3CH_2P(Y)(OR'')_2$ (I) (R = Me, Et, CH_2COMe; R' = H, Cl, Me; R'' = Me, Et, iso-Pr; X and Y = O or S) are produced by the reacting $MP(Y)(OR'')_2$ (M = alkali metal) with $(RX)R'C_6H_3CH_2Cl$ at 70-90° in an organic solvent. Three point sixty-one g $HP(P)(OEt)_2$ is added to a suspension of 0.6 g Na in 30 ml absolute toluene at 25°, then heated at 60° until the Na dissolves and a solution of 5 g $2\text{-MeO-5-ClC}_6H_3CH_2Cl$ in 20 ml absolute toluene is added. The mixture is heated at 80° for 1 hour, cooled, the precipitate is filtered, washed with ether, the filtrate is evaporated in a vacuum, producing I (RX = 2-MeO, R' = 5-Cl, Y = O, R'' = Et), yield 51.33%, b.p. 140-1°/0.25, $n^{20}D$ 1.5150, d_4^{20} 1.2176. Similarly produced are I (given are RX, R', R'', Y, yield in % b.p. in °C/mm, $n^{20}D$, d_4^{20}): 2-MeO, 5-Cl, Et, S, 46.4, 138-40/0.25, 1.5365, 1.2099; 2-EtO, 5-Cl, Et, S, 49, 136-8/0.22, 1.5300, 1.1812; 2-EtS, 5-Cl, iso-Pr, O, 63, 142-5/0.14, 1.5050,

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USSR

MEL'NIKOV, N. N., et al., USSR Author's Certificate No 301336, filed 11/04/69, published 11/10/71 (Translated from Referativnyy Zhurnal, Khimiya, No 9, 1972, Abstract No 9 N567 P by L. V. Razvodovskaya)

1.1373; 2-OCH_2COMe, 5-Me, iso-Pr, 0, -, -, 1.4950, -. The products I have fungicidal activity.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

USSR

UDC 547.26'118

PROKOF'YEVA, A. F., MEL'NIKOV, N. N., VLADIMIROVA, I. L., and EYNISMAN, L. I., All-Union Scientific Research Institute of Chemical Plant Protection

"Organic Insectofungicides. Reaction of Substituted Benzyl Chlorides with Dialkyl and Trialkyl Phosphites"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 8, Aug 71, pp 1702-1706

Abstract: Since there has been insufficient study of the Michaelis-Becker reaction for the synthesis of phosphonates in the case of benzyl halides, the authors undertook to study the reaction of dialkylphosphorous and thiophosphorous acid salts with benzyl chlorides containing various substituents in the benzene ring. Salts of dimethyl-, diethyl-, diisopropylphosphorous acids and diethylthiophosphorous acid were used as the nucleophilic agent. The reaction, conducted in absolute toluene at 70-90° for 3-10 hours, gives O,O-dialkyl benzylphosphonates. The principal processes occurring in such polar solvents as methanol, methanol-water, methanol-toluene, dioxane-water are methanolysis or hydrolysis of the initial benzyl chlorides. 5-chloro-2-methoxy(2-ethoxy)benzyl chlorides in methanol-water are converted into corresponding benzyl alcohols. The reaction of benzyl chlorides with sodium diethylthiophosphite gives benzylthiophosphonates. Biological studies show that the synthesized O,O-dialkyl benzylphosphonates possess fungicidal properties.

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USSR

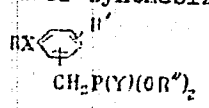
UDC: 547.26.118.07

MEL'NIKOV, N. N., PROKOF'YEVA, A. F., VLADIMIROVA, I. L.

"A Method of Synthesizing O, O-Dialkyl Benzyl Phosphonates"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 14, May 71, Author's Certificate No 301336, Division C, filed 21 Apr 69, published 21 Apr 71, p 67

Translation: This Author's Certificate introduces a method of synthesizing O, O-dialkyl benzyl phosphonates of the general formula



where R is CH_3, C_2H_5, CH_2COCH_3; R' is H, Cl, CH_3; R" is CH_3, C_2H_5, iso-C_3H_7; X and Y are O, S. As a distinguishing feature of the patent, salts of dialkylphosphorous or dialkylthiophosphorous acid are allowed to react with chloromethylated aromatic esters in an inert organic solvent in the presence of heat with the subsequent isolation of the product by conventional methods. The patent also covers a modification of the method distinguished by the fact that the process is carried out at 70-90°C.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

1/2 035 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--COMPOUND OF RHODIUM WITH ALPHA AMINOBUTYRIC ACID -U-

AUTHOR-(03)-PROKOFYEVA, I.V., BUKANOVA, A.YE., ZVYAGINTSEV, O.YE.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(4), 1037-9

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--RHODIUM COMPOUND, AMINE, BUTYRIC ACID, CRYSTAL, ELECTRIC CONDUCTIVITY, IR SPECTRUM, HEAT EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1207 STEP NO--UR/0078/70/015/004/1037/1039

CIRC ACCESSION NO--AP0128625

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

2/2 035 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0128625

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ORANGE NEEDLE LIKE CRYSTALS OF (RH(LH)L SUB2 CL).H SUB2 O (I) SEPD. AFTER A MIXT. OF AQ. SOLN. OF NA SUB3 RHCL SUB6 AND ALPHA AMINOBUTYRIC ACID (LH) WAS BOILED AND THEN THE VOL. OF THE SOLN. REDUCED. I HAS NGAMMA 1.595, NALPHA 1.531, AND NBETA 1.552, LOSES H SUB2 O AT 105-10DEGREES, STARTS TO DECOMP. SIMILAR TO 280DEGREES, AND HAS A MOLAR ELEC. COND. OF 202:4 OHM PRIME NEGATIVE1 CM PRIME2 (AT PH 2.3 AND 5 TIMES 10 PRIME NEGATIVE3 MU CONCN.). THE COND. INCREASES WITH INCREASING DILN. AND TEMP. OF SOLNS. THE IR SPECTRUM OF I IS GIVEN.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

1/2 019 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--EFFECT OF POLAR SCATTERING ON THE MOBILITY OF CARRIERS IN LEAD CHALCOGENIDES -U-

AUTHOR-(04)-RAVICH, YU.I., YEFIMOVA, B.A., PROKOFYEVA, L.V., DUBROVSKAYA, I.N.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TEKH. POLUPROV. 1970, 4(1), 230

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, MATERIALS

TOPIC TAGS--LEAD SULFIDE, TELLURIUM COMPOUND, THERMAL EFFECT, OPTIC PROPERTY, LIGHT SCATTERING, REACTION MECHANISM, PHOTON EMISSION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0591 STEP NO--UR/0449/70/004/001/0230/0230

CIRC ACCESSION NO--AP0105574

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

2/2 019 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0105574

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A CALCN. OF CARRIER MOBILITIES IN PBTE, PBSE, AND PBS IS PRESENTED, COVERING A WIDE RANGE OF TEMPS. AND CONCNS. (2-600DEGREES K; 10 PRIME18 MINUS 10 PRIME20-CM PRIME3). IT TAKES INTO ACCOUNT THE POLAR SCATTERING ON OPTICAL PHONONS. RESULTS ARE COMPARED WITH EXPTL. DATA. POLAR SCATTERING HAS A SUBSTANTIAL INFLUENCE ON MOBILITY AND IS CONSIDERED TO BE THE PREVAILING MECHANISM OF SCATTERING AT LOWER CONCNS. (SMALLER THAN OR EQUAL TO 10 PRIME18-CM PRIME3) AT BOTH LIQ. N AND ROOM TEMPS. THE CONTRIBUTION OF POLAR SCATTERING INCREASES FROM PBTE TO PBS. MANY EXPTL. RESULTS CAN BE BETTER UNDERSTOOD IF POLAR SCATTERING IS CONSIDERED. THIS APPLIES IN PARTICULAR TO THE TEMP. DEPENDENCE OF MOBILITY AT SMALLER THAN 77DEGREES K.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

1/2 017 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--MECHANISMS OF THE SCATTERING OF CURRENT CARRIERS IN LEAD CHALCOGENIDES -U-

AUTHOR-(05)-RAVICH, YU.I., GURIYEVA, YE.A., DUBROVSKAYA, I.N., YEFIMOVA, B.A., PROKOFYEVA, L.V.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TVERD. TELA 1970, 12(4) 917-19

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--LEAD SULFIDE, TELLURIUM COMPOUND, ELECTROMOTIVE FORCE, LOW TEMPERATURE EFFECT, HALL CONSTANT, MAGNETIC FIELD EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0582 STEP NO--UR/0181/70/012/003/0917/0919

CIRC ACCESSION NO--AP0105565

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2/2 017 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0105565

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN ANAL. WAS CARRIED OUT OF THE EXPTL. DATA ON MOBILITY AT 2-600DEGREES K AND THE LORENZ NO. AT SMALLER THAN OR EQUAL TO 77DEGREES K IN N AND P TYPE PBTE, PBSE, AND PBS WITH CARRIER CONCNS. OF APPROX. 10 PRIME20-CM PRIME3. CONSIDERATION OF POLAR SCATTERING ALLOWS ONE TO EXPLAIN ALSO THE RESULTS OF MEASUREMENTS OF MAGNETORESISTANCE. CALCNS. WERE MADE OF THERMAL EMF. AND THE LORENZ NO. IN PBTE AND PBSE OF N TYPE IN A BROAD INTERVAL OF CONCNS. AT GREATER THAN OR EQUAL TO 300DEGREES K; THE TEMP. DEPENDENCE OF THE HALL COEFF. FROM VERY LOW TEMPS. TO THE BEGINNING OF INTRINSIC COND.; THE NERNST ETTINGSHAUSEN COEFF. AT 300DEGREES K AS A FUNCTION OF CONCN. ALSO AT 77DEGREES K, WHERE SCATTERING IS INELASTIC; AND FINALLY THE VARIATION OF THERMAL EMF. IN A STRONG MAGNETIC FIELD AT 77DEGREES K. IN ALL CASES, GOOD AGREEMENT WAS OBSD. BETWEEN THEORY AND EXPT. AT HIGH CONCNS. (OF THE ORDER OF 10 PRIME20-CM PRIME3), SCATTERING ON LONG WAVELENGTH ACOUSTICAL PHONONS PREVAILS. BECAUSE OF NONPARABOLICITY, THE MATRIX ELEMENT OF THE ACOUSTICAL SCATTERING DEPENDS ON THE ENERGY. AT CONCNS. OF SMALLER THAN OR EQUAL TO 10 PRIME18 MINUS 10 PRIME19-CM PRIME3, IN ADDN. TO ACOUSTICAL SCATTERING, AN ESSENTIAL ROLE IS PLAYED BY POLAR SCATTERING: AT RELATIVELY LOW TEMPS. (20-200DEGREES K), THERMOELEC. AND THERMOMAGNETIC EFFECTS ARE INFLUENCED BY THE COLLISIONS BETWEEN CARRIERS. AT EXTREMELY LOW TEMPS. (SMALLER THAN OR EQUAL TO 100DEGREESK), SCATTERING IS CONSIDERABLE IN THE CENTRAL PART OF THE IMPURITY POTENTIAL.

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PROKOFYEVA M.M.

AA0052656

UR 0482

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

244817 TWO-SIDED HYDRAULIC DAMPER consists of two parts; 1 and 2 bolted together and mounted on base 3. It is filled with working medium under atmospheric pressure and connected by pipelines with additional chambers 4 and 5. The body contains a number of chambers with pistons 6 and 7 connected between themselves by crosspieces 8 and 9 which in turn are rigidly connected to rod 10. All the chambers are interconnected and each contains free piston which divides two media (air and fluid). The air medium communicates with the atmosphere through the non-return valve. Crosspieces 8 and 9 are connected to suitable guides 15 and 16. The pressure is transmitted to pistons 6 and 7 through the flange, thrust ball 17, rod 10 and crosspieces 8 and 9. 1.2.68. as 1214193/25-28. V.A.GOLUBEV et al. (9.10 69.) Bul.18/28.5.69. Class 47a. Int.Cl. F16f.

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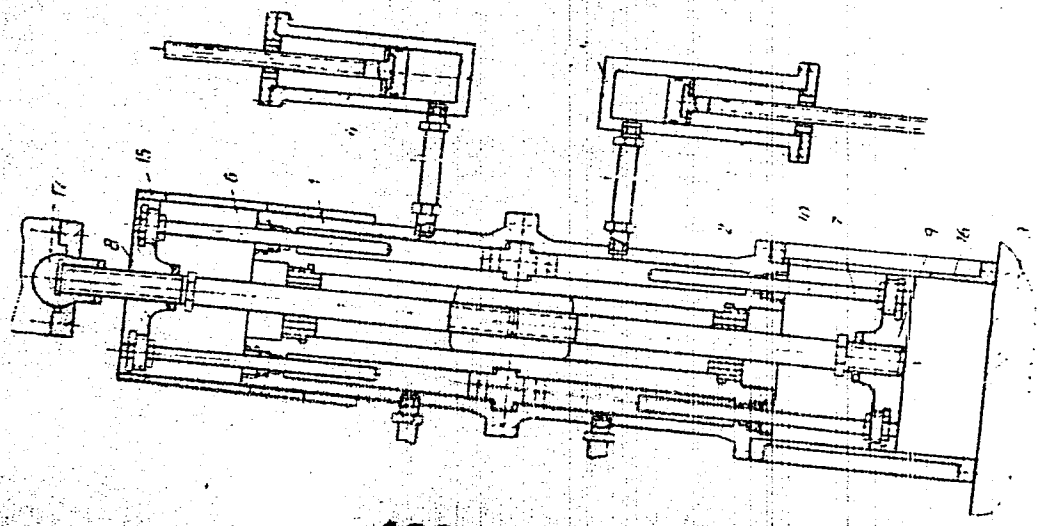
Prokof'yeva, M.M.; Golubev, V. A.; Zhuravlev, A. M.; Morozova, Z.I.; Nugayev, R.A.;



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IX-9. OBTAINING SINGLE SILICON CARBIDE CRYSTALS IN THE CUBIC VERSION (β-SiC) AND THE STUDY OF THEIR STRUCTURE

[Article by M. B. Reyfman, N. K. Prokof'yeva, V. G. Fomin, L. A. Zhukova, L. A. Shegol'kova, Moscow; Novosibirsk, III Simpozium po Protsessam Rosta i Sinteza Poluprovodnikovykh Kristallov i Plenok, Russian, 12-17 June 1972, p 125]

A study was made of the possibility of obtaining single β-silicon carbide crystals by thermal reduction of the vapor-gas mixture using methyl trichlorosilane-toluene (ratio C:Si > 1).

By using the C^{14} radioisotope, the participation of an additional carbon-containing compound introduced into the vapor-gas mixture in the reaction of formation of the β-silicon carbide was demonstrated.

The optimal conditions for growth of platy single crystals with dimensions of the mirror surface reaching 4 × 5 mm^2 in individual cases were defined. On the basis of the grown crystals, the point-contact and diffuse light diodes and also barrier-layer photoelements were manufactured.

X-ray diffraction and electron diffraction studies were used to demonstrate the theoretical possibility of obtaining perfect crystals by the indicated method.

PROKOF'YEVA, N.K.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

Radar

USSR

UDC 621.391.8

PROKOF'YEV, V. N.

"Asymptotic Optimal Detector of Fluctuating Signals in Noise of Unknown Intensity"

Kiev, Izvestiya Vysshikh Uchebnykh Zavedeniy, Radioelektronika, Vol XIV, No 6, 1971, pp 626-632

Abstract: The rank criterion of incoherent detection of a fluctuating radar signal in noise of unknown level is determined, and the construction of an incoherent detector for such signals is investigated. The criterion is based on comparing oscillations received from two adjacent elementary segments of the radar resolution with respect to range (the contrast method [V. A. Bogdanovich, Radiotekhnika i Elektronika, Vol 14, No 10, 1893, 1969; V. N. Prokof'yev, Radiotekhnika i Elektronika, Vol 14, No 10, 1895, 1969). The detection rule using ranks of the initial observations for sampling a large volume is presented. The adopted decision rule is found to be preferable in that it insures invariable probability of false alarm for any real noise level and requires no threshold adjustments. It also insures the highest probability of correct detection for any actual signal/noise ratio in the sense of uniformly highest power of the decision rule.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202530005-2

USSR

UDC: 621.396.96:621.391.82

BOGDANOVICH, V. A. and PROKOF'YEV, V. N.

"Ranking Detector of Fluctuating Signals in Noise of Unknown Distribution"

Kiev, Izvestiya VUZ - Radioelektronika, vol. 14, No. 5, 1971, pp 522-526

Abstract: A two-stage rule for noncoherent detection of a radar signal, with binary quantization in the first stage and the accumulation of quantized values in the second, is proposed. The rule is based on the comparison of oscillations received from two adjoining sectors under radar observation for range and angle, i.e., the contrast method, and uses ranks of original observations. Furthermore, it does not require any a priori information concerning the noise distribution and maintains its efficiency in the face of a mixture of nonstationary noise and the signal with any distribution, and is convenient for realization by digital computer techniques. A block diagram of the ranking detector is shown, and curves are given for the losses in the threshold signal/noise ratio as a function of the number of accumulation cycles and for the efficiency of the ranking detector for various signal fluctuation laws.

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TITLE--STRUCTURAL CHEMICAL TRANSFORMATIONS IN MELTS OF PERITECTIC TYPE SYSTEMS -U-

AUTHOR-(03)-SOKOLOV, YE.B., GLAZOV, V.M., PROKOFYEVA, V.K.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(3), 580-1

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SUBJECT AREAS--MATERIALS

TOPIC TAGS--GERMANIUM ALLOY, BARIUM ALLOY, ALLOY PHASE TRANSFORMATION, INTERMETALLIC COMPOUND, THERMAL ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

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ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PHASE EQUIL. IN THE GE-BA SYSTEM TO 50 ATOM PERCENT BA ARE DESCRIBED. DTA CURVES SHOW THE PRESENCE OF HEAT EFFECTS AT TEMPS. CORRESPONDING TO THE TEMPS. OF PERITECTIC TRANSFORMATIONS IN THE LIQ. REGION, I.E., IN THE REGION WHERE ACCORDING TO THE PHASE DIAGRAM THERE SHOULD BE NO TRANSFORMATIONS PRESENT. THE PHASE TRANSFORMATIONS, EXTEND INTO THE LIQ. PLUS GE REGION. THE POSSIBILITY IS SUGGESTED OF STRUCTURAL CHEM. TRANSFORMATIONS IN THE LIQ. PHASE WITH THE FORMATION OF MOL. COMPLEXES OF THE BAGE SUB4 AND BAGE SUB2 TYPES. THESE REACTIONS SHOULD AFFECT THE STRUCTURE SENSITIVE PROPERTIES SUCH AS VISCOSITY AND ELEC. COND. THESE SUGGESTIONS WERE EXPTL. CONFIRMED DURING COOLING OF GE ALLOY CONTG. 16 ATOM PERCENT BA. APPARENTLY THESE TRANSFORMATIONS IN THE GE-BA SYSTEM ARE CHARACTERISTIC NOT ONLY FOR SYSTEMS WITH SUCH CLEARLY DEFINED PERITECTIC COMPOS. OF A CONST. COMPN. AS BAGE SUB2 AND BAGE SUB4, BUT ALSO GENERALLY FOR SYSTEMS WITH VARIABLE COMPN. PERITECTIC PHASES. IN THE LATTER CASE THERE MAY BE CHANGES IN THE SHORT RANGE ORDER STRUCTURE WITH FORMATION OF MICROGROUPS APPROACHING THE COMPN. OF THE PHASE FORMING AS A RESULT OF PERITECTIC TRANSFORMATION. FACILITY: MOSK. INST. ELEKTRON. TEKH., MOSCOW, USSR.

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TITLE--ELECTRICAL PROPERTIES OF CRYSTALLITES AND THE INTERCRYSTALLITE LAYER OF BARIUM TITANATE SEMICONDUCTOR CERAMICS -U-

AUTHOR-(02)-BOGATIN, A.S., PROKOPALO, O.I.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., FIZ. 1970, 13(3), 96-100

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SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--MODEL, CRYSTAL STRUCTURE, CERAMIC MATERIAL, SEMICONDUCTOR MATERIAL, BARIUM TITANATE CERAMIC, ELECTRIC PROPERTY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

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CIRC ACCESSION NO--AT0130479 PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TO SIMPLIFY THE MODEL OF THE POLYCRYST. STRUCTURE OF BATIO SUB3, DOPED WITH LANTHANIDES, AN EQUIV. ELEC. DIAGRAM WAS CONSTRUCTED. THE PERMITTIVITY AND RESISTIVITY OF CRYSTALLITES (EK, PK) AND OF THE INTERCRYSTALLITE LAYER (EP, PP) AND MEAN PERMITTIVITY AND RESISTIVITY (EO, PO) WERE CALCD. ON THE BASES OF DIFFERENTIAL MEASUREMENTS OF THE ACTIVE AND REACTIVE COMPLEX IMPEDANCE OF THE CERAMIC SAMPLE AT DIFFERENT FREQUENCIES. EP, EK, EO, PP, PK, AND PO WERE CALCD. IN DEPENDENCE ON TEMP. (0-350DEGREES) AND DIFFERENT MEAN CONCNS. OF CE (0.05-0.5PERCENT). PO DEPENDS ON PP ABOVE ALL. THE MIN. OF PK IS AT HIGHER CONCN. OF CE (SIMILAR TO 0.3PERCENT), THEN MIN. OF PP (CONCN. SIMILAR TO 0.1PERCENT). THE MAX. OF EK AND EO CORRESPOND WITH THE MIN. PK. ONLY EK HAS A TEMP. MAX.; EP IS SUPPRESSED.

FACILITY: ROSTOV.-NA-DONU GOSUNIV., ROSTOV-ON-DON, USSR.

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Stress Analysis and Stability Studies

USSR

UDC 539.4:629.12

ANDREYEV, L. V., KRUSHEL'NITSKIY, I. N., PRIVARNIKOV, YU. K., and PROKOPALO, YE. F.

"The Influence of a Preliminary Dynamic Load Upon the Supporting Power of Cylindrical Shells"

Kiev, Prikladnaya Mekhanika, Vol 9, No 3, Mar 73, pp 110-113

Abstract: Results are presented of tests on aluminum cylindrical shells subjected to single and multiple loading by a brief impulse of external pressure and subsequent static loading. On the basis of comparison of the values of critical pressure for shells subjected to dynamic loading, and for those not subjected to it, it was found that preliminary dynamic loading, single as well as multiple, comprising 60-80% of the critical impulse, does not affect the static supporting power of shells, with various ratios of the radius to the thickness, subjected to subsequent static loading by radial and omnidirectional external pressure. 3 figures. 1 table. 2 references.

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