"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

USSR UDC 547.26'118

SHOKOL, V. A., MOLYAVKO, L. I., and DERKACH, G. I., (DECEASED), Institute of Organic Chemistry, Academy of Sciences Ukrainian SSR

"Alkyl Esters of Alkyldialkoxyphosphazocarbonic Acid"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 5, May 70, pp 998-1001

Abstract: Dialkyl phosphonites react with azides of alkyl esters of carbonic acid to give alkyl esters of alkyldialkoxyphosphazocarbonic acid. Heating of alkyl esters of alkyldimethoxyphosphazocarbonic acid (120-140°, 3-5 hrs) gives methyl esters of N-methylalkylurethanmethylphosphonic acid, with a side reaction resulting in the formation of dimethyl phosphonates. The structure of the resultant compounds was confirmed by IR spectra.

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UDC 547.26'118

SHOKOL, V. A., KOZHUSHKO, B. N., and KIRSANOV, A. V., Institute of Organic Chemistry, Academy of Sciences, UkrainianSSR

"Reaction of Trichloromethylisocyanate With Triethylphosphite"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 3, Mar 73, pp 544-551

Abstract: Reaction of trichloromethylisocyanate with one mole of triethylphosphite yields 10-20% of diethoxyphosphonyldichloromethylisocyanate regardless of the reaction conditions. In most cases also 20-40% of bis-(diethoxyphosphonyl)chloromethylisocyanate is obtained and occasionally 5-10% of triethylphosphate. Increasing the amount of triethylphosphite to two and three moles gives bis(diethoxyphosphonyl)chloromethylisocyanate and tris(diethoxyphosphonyl)methylisocyanate respectively plus admixtures of triethylphosphate and tetraethylpyrophosphate. Increasing triethylphosphite to four moles increases the yield of the tris(diethoxyphosphonyl)methylisocyanate to 40%. Thus it has been shown that the trichloromethyl group may participate in Arbuzov reaction replacing all three chlorine atoms by phosphorus containing radicals. A novel compound has been synthesized containing an isocyanate group and three phosphorus atoms at one carbon atom.

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UDC 546.185

SHOKOL, V. A., GOLIK, G. A., LEVCHUK, Yu. N., YEGOROV, Yu. P., and DERKACH, G. I. (deceased), Institute of Organic Chemistry, Academy of Sciences, UkrainianSSR

"Acidolysis of Reaction Products of Amidoesters of Alkylphosphonic Acids With Phosphorus Pentachloride"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 4, Apr 73, pp 747-750

Abstract: Alkyldichlorophosphazo- and alkylaroxychlorophosphazodichlorophosphonyls react with anhydrous formic acid yielding alkyldichlorophosphazo- and alkylaroxychlorophosphazochloroxyphosphonyls. Acidolysis of trichlorophosphazotrichloromethylchlorophosphonyl yields the chloroanhydride of N-dichlorophosphonylamidotrichloromethylphosphonic acid. The structures of the products were proposed on the basis of NMR ^{31}P and IR spectroscopic data. All of these products are dense liquids soluble in benzene, dioxane, and acetone, insoluble in petroleum ether.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

UDC 632.95

USSR

CHEREPENKO, T. I., LOBODA, L. S., SHOKOL, V. A.

"Search for Effective Compounds to Control the Powdery Mildews"

Fiziol. aktivn. veshchestva. Resp. mezhved. sb. (Physiologically Active Materials. Republic Interdepartmental Collection), 1972, No 4, pp 17-19 (from RZh-Khimiya, No 5 (II), 1973, Abstract No 5N617)

Translation: When testing 18 different compounds on the conidia Erysiphe cichoracearum it was established that the fungicidal activity of $PhCh_2OOC-(CH_2)_4COOH$ and $n-MeC_6H_4$ with $SO_2N = CClSCl$ in 0.1% concentration exceeds the activity of the karatan standard.

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UDC 547.26'118

SHOKOL, V. A. KOZHUSHKO, B. N., DOROSHENKO, V. V., and KIRSANOV, A. V.

"Reaction of Dichloromethyl Isocyanate with Triethylphosphite"

Leningrad, Zhurnal Obshchey Khimii, Vol XLIII (CV), No 1, 1973, pp 12-15

Abstract: It was found previously that on interaction of chloromethyl isocyanate with trialkyl phosphites, dialkoxyphosphonil methylisocyanates are obtained [V. A. Shokol, et al., ZhOKh, No 40, 1458, 1970]. In the current experiment on interaction of dichloromethylisocyanate with triethylphosphite, depending on the ratio of the reagents, diethoxy phosphonyl chloromethyl isocyanate or bis(diethoxyphosphonyl)methylisocyanate is formed. The reactions and views described for five or these compounds: 1) diethoxy phosphonylchloromethyl isocyanate, 2) bis(diethoxyphosphonyl)methyl isocyanate, 3) N-diethoxyphosphonylmethylene-p'-p-chlorophenyl urea, 4) N-bis(diethoxyphosphonylmethyl-p'-phenyl urea, 5) N-bis(diethoxyphosphonyl)methyl-N'-n-chlorophenyl urea.

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UDC 547.26'118

SHOKOL, V. A., MOLYAVKO, L. I., MATYUSHA, A. G., and DEPKACH, G. I.

"Tetraisocyanato-*p*-phenylene Diphosphite and Its Derivatives"

Leningrad, Zhurnal Obshchey Khimii, Vol XLIII (CV), No 1, 1973, pp 29-32

Abstract: Heretofore, only the synthesis of tetraisocyanatodiphosphine with a yield of 5% [M. Baudler, et al., Z. Naturforsch, No 20b, 494, 1965] and 3,9-diisocyanato-2,4,8,10-tetraoxy-3,9-diphosphaspiro-5,5)-undecane, its dioxides, mono and dithiooxides [P. M. Pivawer, et al., J. Heterocyclic. Chem., No 4, 599, 1967] has been described. On interaction of tetrachloro-n-phenylene diphosphite with sodium cyanate, tetraisocyanato-*p*-phenylene diphosphite is formed. The tetraisocyanato-n-phenylene diphosphite is easily oxidized by nitrogen oxides into tetraisocyanato-n-phenylene diphosphate, and on reacting with phosphorus thiooxychloride, it is converted into tetraisocyanato-n-phenylene phosphitophionphosphate or tetraisocyanato-*p*-phenylene-bis-thionphosphate. On storing tetraisocyanato-n-phenylene diphosphite and phosphate, they polymerize, apparently, with the formation of uretidine dionic rings. The tetraisocyanates reacting easily with alcohols and amines with the formation of the corresponding urethanes and ureas.

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USSR

UDC 547.26'18

GORDEYEV, A. D., KYUNTSEL', I. A., GOLIK, G. A., and SHOKOL, V. A.

"Study of the Structure of Phosphazo Phosphonils -- Products of the Reaction of Amido Esters of Alkyl Phosphonic Acids with Phosphorus Pentachloride Using the Nuclear Quadruple Resonance Spectra of ^{35}Cl"

Leningrad, Zhurnal Obshchey Khimii, Vol XLIII (CV), No 1, 1973, pp 9-12

Abstract: The study of the nuclear quadruple resonance spectra of ^{35}Cl of phosphazo phosphonils obtained from the amides of alkyl and aryl esters of methyl and chloromethyl phosphonic acids with phosphorus pentachloride was used to establish that they have the structure of alkyldichlorophosphazo and alkylaroxychlorophosphazo dichlorophosphonils and not the trichlorophosphazoalkylchloro and trichlorophosphazo alkylaroxyphosphonils isomeric to them. The $\rightarrow P = N - P(=O)=$ grouping is more stable when the oxygen atom is on the phosphorus atom bound to the more electronegative atoms or groups. The measurements were performed on the pulse spin echo nuclear quadrupole resonance spectrometer equipped with a device for blowing liquid nitrogen vapor through the specimen. The measurement procedure was analogous to that described earlier [A. D. Gordeyev, et al., ZhSKh, No 11, 773, 1970].

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

172 008 UNCLASSIFIED PROCESSING DATE--30DEC70

TITLE--N SUBSTITUTED DERIVATIVES OF IMINOTHIONYL CHLORIDE -U-

AUTHOR-(03)-MARKOVSKIY, L.N., SHOKOL, Z.I., LEVCHENKO, YE.S.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(3), 496-9

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--THIOL, CHLORINATED ORGANIC COMPOUND, AMIDE, CONDENSATION REACTION, AMINE DERIVATIVE, BENZENE DERIVATIVE, BROMINATED ORGANIC COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1992/1675 STEP NO--UR/0366/70/006/003/0496/0499

CIRC ACCESSION NO--AP0112669

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

2/2 008 UNCLASSIFIED

CIRC ACCESSION NO--AP0112669 PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CONDENSATION OF AMINES, THEIR HCL SALTS, OR AMIDES WITH SCL SUB2 GAVE 45-80PERCENT RN: SCL SUB2 (R IS P CLC SUB6 H SUB4 CO, P BRC SUB6 H SUB4 CO, ETOCO, 2,NITRO,6,PYRIDYL, 3,5,DICHLORO,2,METHYL,6,PYRIDYL, ME SUB2 NSO SUB2, PIPERIDINO SULFONYL, MORPHOLINOSULFONYL, OF P BR SUB6 H SUB4). THE YIELDS DEPEND ON THE BASICITY AND SOLY. OF THE AMINES OR AMIDES.

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USSR

UDC: 621.396.69:621.319.4(088.8)

SHOKOROV, V. A., RADAYEV, N. S.

"A Variable Vacuum Capacitor"

USSR Author's Certificate No 265290, filed 20 May 68, published 26 Jun 70 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1V299 P)

Translation: As a distinguishing feature of the variable vacuum capacitor covered by this patent, specific capacitance is increased and the operational reliability of the condenser is improved by using a current-conducting bellows to interconnect the stacks of rotor plates. Inside the bellows is a drive shaft with right-hand and left-hand threads at the ends.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

USSR

UDC 621.396.69(088.8)

RADAYEV, N. S., SHOKOROV, V. A., SIMONOVA, L. S.

"A Device for Locking a Nut"

USSR Author's Certificate No 258457, Filed 26 Jul 68, Published 17 Apr 70 (from RZh-Radiotekhnika, No 10, Oct 70, Abstract No 10V394 P)

Translation: The proposed device for locking a nut contains a set-screw threaded into the nut radially. As a distinguishing feature of the patent, the operational reliability of the device during vibrations is improved by making the screw with a flat end, making a platform on the thread of the sleeve onto which the nut fits in the region where the screw is threaded into it, and installing balls between sleeve and nut on one or both sides of the screw.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

USSR

UDC 620.17

SAVCHENKO, V. I., SHOKOT'KO, S. G.

"'Freezing' Thermoelastic Deformations With the Application of Radiation"

V sb. VII Vses. konf. po polyarizats.-optich. metodu issled. napryazh., 1971. T. 3 (VII All-Union Conference on the Polarization-Optical Method of Studying Stresses, 1971, Vol. 3 -- Collection of Works), Tallin, 1971, pp 30-33 (from RZh-Mekhanika, No 3, Mar 72, Abstract No 3V1652)

Translation: The possibility of "freezing" thermoelastic deformations by radiation with gamma-rays from Co^{60} of a uniformly heated model of ED-6M material in a high-temperature state is discussed. A technique of "freezing" of deformations was proposed on the basis of a study of the effect of Co^{60} gamma-rays on the loaded sample. By this technique a model was heated to a high elastic state and the temperature field (the minimum temperature in the model should not decrease the "freezing") is produced by additional heating. The thermal stresses relax and the optical anisotropy in the model disappears. After ceasing the radiation the nonuniform heating is removed and the thermodynamic state corresponding to the temperature field but with an inverse sign arises in the model. Cooling of the model fixes the optical anisotropy and the cut of the model on the media does not destroy the "freezing" picture. The proposed technique was worked out

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SAVCHENKO, V. I., SHOKOT'KO, S. G., VII Vses. konf. po polyarizats.-optich. metodu issled. napryazh., 1971. T. 3, Tallin, 1971, pp 30-33

on a disc with a central opening in which an axisymmetric temperature field was produced by an additional heating along the external contour. A comparison of experimental and computational values of the stresses support the possibility of "freezing" of thermoelastic deformations by irradiation of nonuniformly heated bodies. 5 ref. V. D. Kopytov.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

1/2 013 UNCLASSIFIED

TITLE—REACTION OF ADAMANTANE WITH OLEFINS -U- PROCESSING DATE—30OCT70

AUTHOR-(03)-KAZANSKIY, B.A., SHOKOVA, E.A., KOROSTELEVA, T.V.

COUNTRY OF INFO—USSR

SOURCE—DOKL. AKAD. NAUK SSSR 1970, 191(4), 831-4

DATE PUBLISHED———70

SUBJECT AREAS—CHEMISTRY

TOPIC TAGS—ADAMANTANE, ALKENE, CHEMICAL REACTION, ALUMINUM COMPOUND, CHEMICAL SYNTHESIS

CONTROL MARKING—NO RESTRICTIONS

DOCUMENT CLASS—UNCLASSIFIED

PROXY REEL/FRAME—2000/0689 STEP NO—UR/0020/70/191/004/0831/0834

CIRC ACCESSION NO—AT0124361

UNCLASSIFIED

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2/2 013 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AT0124361

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PASSING GASEOUS OLEFINS (C SUB2 H SUB4, ME SUB2 C:CH SUB2 OR MECH:CH SUB2) INTO A MIXT. OF ADAMANTANE AND EITHER ALCL SUB3 OR ALBR SUB3 IN HEXANE AT NEGATIVE10DEGREES, WITH EXCESS ADAMANTANE ALWAYS PRESENT TO AVOID MUCH POLYALKYLATION, GAVE A VERY COMPLEX SET OF PRODUCTS, THE COMPN. OF WHICH WAS TABULATED FOR VARIOUS PROPORTIONS OF THE CATALYSTS INSOFAR AS IDENTIFICATION WAS POSSIBLE, BUT SOME 50PERCENT OF THE PRODUCTS REMAINED UNIDENTIFIED IN MOST CASES. ALL THE OLEFINS USED GAVE AT LEAST SOME 1,ETHYLADAMANTANE, 1,PROPYLADAMANTANE, 1,ISOBUTYLADAMANTANE AND 1,SEC,BUTYLADAMANTANE, BUT ONLY ME SUB2 C:CH SUB2 GAVE 1,ISOPROPYLADAMANTANE. THE TOTAL YIELDS WERE NOT OVER 22-5PERCENT. THE RESULTS INDICATED THAT ADAMANTANE IS ALKYLATED NOT ONLY BY C SUB2 H SUB4 PER SE BUT ALSO BY ITS DIMERIZATION PRODUCTS, WHILE MECH:CH SUB2 YIELDS MAINLY THE 1,PROPYLADAMANTANE IN YIELDS OF 22-32PERCENT OF THE TOTAL ALKYLATE AND 8-9PERCENT RUE YIELD. PROBABLE SCHEMES FOR FORMATION OF THE IDENTIFIED PRODUCTS WERE SHOWN. ALBR SUB3 CATALYST GAVE UP TO 22PERCENT ALKYLATES, WHILE ALCL SUB3 GAVE NOT OVER 4.5PERCENT. CHROMATOGRAPHICALLY UP TO 20 PRODUCTS WERE DETECTED IN TYPICAL RUNS; EVIDENCE FOR DI AND POLYALKYLATION WAS INDICATED. FACILITY: MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

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AA0039827 Sholeninov, V.M. UR 0482 5

Soviet Inventions Illustrated, Section I Chemical, Derwent,

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237914 METALLISED SINTER PRODUCTION uses heated air for sintering and heated reducing gas, at controlled waste gas pressure. To upgrade the end product and prevent secondary oxidation, the reducing gas temperature (heated to 1200°C) is reduced to 100°C at a rate of 30-50 degrees/min. The gas is heated in regenerative checkers themselves heated by the sintering air re-circulating. After the charge has been placed on the throat grid, it is fired and sintered, keeping gas pressure above 1.0 atm. abs. The fine, low-sulphur

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end product occurs as a cake whose upper part is at 1000-1300°C. The reducing gas is passed through the bed, also under controlled pressure. Te mination of this reducing blow operation is signified by the cessation of ferrous oxide reduction as the sinter cake cools back to 300-100°C, and thus prevents secondary oxidation. 1.4.67. as 1145585/22-2. MIKHALEVICH, A.G. et al. I.P. Bardin Ferrous Metallurgy Res. Inst. (11.7.69.) Bul.9/20.2.69. Class 18a. Int.Cl. C21b.

AUTHORS: Mikhalevich, A. G.; Voskoboynikov, V. G.; Buyarov, A. A. Bunakov, O. D.; Zhurakovskiy, B. L.; Migutskiy, L. R.; Antonov, V. M.; Sholeninov, V. M.; and Tkachev, V. V.

Tsentral'nyy Nauchno - Issledovatel'skiy Institut Chernoy Metallurgii imeni I. P. Bardina

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SHOLIN, G.V.

JPRS 59027

15 May 1973

UDC 533.9

POSSIBLE MECHANISMS OF TURBULENT HEATING OF A PLASMA BY ULTRASHORT LASER PULSES

[Article by S. D. Fanchenko, G. V. Sholin; Moscow, Doklady Akademii Nauk SSSR, Russian, Vol 204, No 5, 1972, submitted 4 October 1971, pp 1090-1091]

In experiments to obtain a high temperature dense plasma using picosecond laser pulses [1], effective heating was observed not only of the electrons but also the ions. Hard x-radiation with an energy appreciably exceeding the electron temperature of the plasma T_e was also detected. The time structure of the laser radiation in these experiments was very complex and, unfortunately, it is not known in all its details up to now. If under the conditions of this experimental indeterminancy the largest possible heating time τ_H is given, then the heating of the basic part of the electrons obviously can be explained without considering the collective interactions on the basis of dissipation of the light wave energy as a result of paired coulomb collisions. As for the hard component of the x-radiation, significant difficulties are encountered in its interpretation with this approach [2].

If, on the contrary, we admit that τ_H has a minimum value comparable to the observed width of the optical spectrum of the laser, then obviously difficulties will also arise in explaining the experimentally observed ion heating.

The purpose of this paper is to show that when interpreting the results of laser experiments with a superdense plasma it may turn out to be highly significant to call on the mechanisms of turbulent heating previously detected and investigated in the experiments of [3] with a plasma of appreciably lower density.

The characteristic feature of the experiments in heating a plasma by picosecond laser pulses is comparableness of the peak field intensity of the light wave E with the intratomic field E_a. As a result, a highly characteristic physical situation can arise where the ionization time of the material by the wave field $\tau_{ionization}$ is comparable to or even less than the time of the paired electron-atomic collisions τ_{ea}, the time of the paired electron-ion collisions τ_{ei} and the period of the light wave itself $T = 2\pi\Omega^{-1}$.

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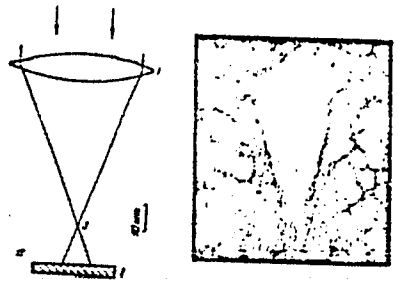

Fig. 1, "Hanging" optical discharge.

The authors suggest adapting the effect to a c-w discharge, using a CO_2 laser for excitation. The effect is claimed as the first of its kind obtained at atmospheric pressure.

Fanchenko, S. D., and G. V. Sholin. Possible mechanisms of turbulent heating of a plasma by ultrashort laser pulses. DAN SSSR, v. 204, no. 5, 1972, 1090-1093.

The authors consider the initial ionization phenomena arising from interaction of a picosecond laser pulse with a very dense plasma. A feature of this case is that the optical field strength E is comparable to intra-atomic field E_a; this results in an ionization time τ_{ion} on the order of or less than electron-atom on electron-ion collision time, and possibly less than the laser wave period. The model used assumes a picosecond pulse with optical

SHOLIN, G. V.

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1/2 045 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--NONIMPACT SHOCK WAVES IN A MAGNETIZED PLASMA -U-

AUTHOR-(04)-ZAGORODNIKOV, S.P., SMOLKIN, G.YE., STRIGANOVA, YE.A., SHOLIN, G.V.

COUNTRY OF INFO--USSR

SOURCE--ZH. TEKH. FIZ. 1970, 40(4), 717-27

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--PLASMA SHOCK WAVE, SHOCK WAVE STRUCTURE, SHOCK WAVE FRONT, TEMPERATURE GRADIENT, IRREVERSIBLE PROCESS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1177 STEP NO--UR/0057/70/040/004/0717/0727

CIRC ACCESSION NO--AP0124831

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

2/2 045 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124831

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE STRUCTURE AND THE NATURE OF THE PROPAGATED COLLISIONLESS SHOCK WAVES, IN A PLASMA, WAS DETD., BY SPECTROSCOPIC MEASUREMENTS OF THE JUMPS OF TEMP., ON THE FRONT OF THE WAVES. WITH INCREASE OF THE ALFVEN MACH NO., SPECIFIC IRREVERSIBLE PROCESSES ARE OBSD. EVIDENTLY RELATED TO THE INCREASE IN THE EFFICIENCIES OF NONCOLLISIONAL DISSIPATIVE PROCESSES AND TO THE CHANGE IN THE CHARACTER OF THE INTERACTION OF THE ALTERNATING MAGNETIC FIELD WITH INCREASE OF ITS AMPLITUDE.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

USSR UDC: 533.9

FANCHENKO, S. D., SHOLIN, G. V.

"Possible Mechanisms of Turbulent Heating of a Plasma by Ultrashort Pulses of Laser Emission"

Moscow, Doklady Akademii Nauk SSSR, Vol 204, No 5, Jun 72, pp 1090-1093

Abstract: It is shown that mechanisms of turbulent heating observed in experiments with low-density plasmas can also be applied to interpretation of the results of experiments with a superdense plasma. When a plasma is heated by picosecond laser pulses, the peak intensity of the field of the light wave E is comparable with the intratomic field E_a. As a consequence, a unique physical situation may arise where the time of ionization of matter by the field of the wave τ_{ion} may be comparable with or even less than the time of electron-atom pair collisions τ_{ea}, the time of electron-ion pair collisions τ_{ei}, or the period of the light wave itself $T = 2\pi\Omega^{-1}$. Let a powerful ultrashort light pulse with frequency Ω be incident on a neutral condensed substance. In a time t much shorter than the rise time of the electric field of the light flux, the light penetrates into the matter almost without producing ionization. As the intensity of the electric field E of the luminous flux increases, the mechanism of sub-barrier ionization

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PANCHENKO, S. D., SHOLIN, G. V., Doklady Akademii Nauk SSSR, Vol 204, No 5, Jun 72, pp 1090-1093

becomes effective, but the degree of ionization at first is low, and the electron plasma frequency ω_{pe} is less than Ω. Finally, as E approaches E_a, all electrons of the substance pass from finite to infinite motion in a time of the order of 10^{-16} s. The authors consider collisionless mechanisms of plasma heating on the first stage of this transition process when $\omega_{pe} < \Omega$, and on the second stage when $\omega_{pe} > \Omega$. The mechanisms investigated include collisionless "ionization" heating of electrons, the formation of collisionless shock waves and annihilation of opposing fields under conditions where the field of the light wave approaches E_a and τ_{ion} less than or of the order of Ω^{-1}, beam-plasma interactions, and turbulent mechanisms of dissociation at high intensities of the light wave. In conclusion, the authors thank Academician Ye. K. Zavoyskiy for assistance with the work and constructive criticism, as well as P. G. Kryukov and S. D. Zakharov for very helpful discussions.

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Free Radicals

USSR UDC 541.515.546.17

ROZANTSEV, E. G., and SHOLLE, V. D., Institute of Chemical Physics, Academy of Sciences USSR, Moscow

"Progress of the Chemistry of Nitroxyl Radicals"

Moscow, Uspekhi Khimii, Vol 40, No 3, Mar 71, pp 417-443

Abstract: In this review (283 references) methods of preparation of nitroxyl radicals by the dehydrogenation of hydroxylamines, oxidation of amines, reduction of nitro- and nitrosocompounds, and addition of free radicals to nitrones are considered. Problems pertaining to the stability of nitroxyl radicals are discussed. Data on the reactivity of these radicals in redox reactions, radical reactions, formation of complexes, and reactions without participation of the unpaired electron are reviewed. It is pointed out that non-aromatic nitroxyl radicals are referred to as iminoxyls in the USSR literature.

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Acc. Nr: AP0046161 S Ref. Code: UR0646

PRIMARY SOURCE: Teoreticheskaya i Matematicheskaya Fizika, 1970, Vol 2, Nr 1, pp 117-128

THE POLARISATION EFFECTS IN THE INDUCED SCATTERING OF HIGH FREQUENCY ELECTROMAGNETIC WAVES IN PLASMA

N. V. Sholokhov

It is shown that the polarisation of the radiation can arise due to the energy redistribution in the spectrum in the process of induced scattering of the completely depolarized high frequency electromagnetic waves in plasma.

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USSR

SHOLOKHOV, N. V., Physics Institute imeni P. N. Lebedev, Academy of Sciences USSR

"Polarization Effects in Induced Scattering of High-Frequency Electromagnetic Waves in a Plasma"

Moscow, Teoreticheskaya i Matematicheskaya Fizika, Vol 2, No 1, Jan 70, pp 117-128

Abstract: Polarization effects arising in a nonlinear interaction of high-frequency electromagnetic waves in a plasma are investigated. Equations for polarization transfer are obtained which take into account the induced scattering of high-frequency waves by plasma particles. The system of integro-differential equations is analyzed without assuming the presence of a certain steady-state noise spectrum with which the separated wave interacts. It was shown that two types of effects are possible in the induced scattering of high-frequency waves in a plasma: rotation of the polarization and a change in the degree of ellipticity of the radiation in the absence of energy transfer in the spectrum, and a change in the degree of polarization of the radiation if the energy transfer in the spectrum is significant. The physical basis for the appearance of radiation polarization is explained as follows: the rate of energy transfer in the spectrum is determined not only by the intensity of the radiation but also by its polarization; the energy transfer of one polarization may therefore occur more rapidly or more slowly than the other,

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SHOLOKHOV, N. V., Teoreticheskaya i Matematicheskaya Fizika, Vol 2, No 1, Jan 70, pp 117-128

leading to the appearance of polarization in the radiation. It is noted that the appearance of polarized radiation in the induced scattering of high-frequency waves in a plasma may explain the appearance of polarization in the radiation of cosmic objects. The solution of the polarization transfer equations may also be useful in experimental problems in high-temperature plasma physics.

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1/2 009 UNCLASSIFIED

TITLE--MANIPULATOR WITH A SYLPHONIC HYDRAULIC DRIVE FOR MICROELECTRODES -U-

PROCESSING DATE--23OCT70

AUTHOR-(03)-MATVEYEVA, M.B., OSIPOVICH, V.V., SHOLOKHOV, V.YU.

COUNTRY OF INFO--USSR

SOURCE--FIZIOLOGICHESKIY ZHURNAL SSSR IMENI I. M. SECHENOVA, 1970, VOL 56, NR 5, PP 797-799

DATE PUBLISHED--------70

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

TOPIC TAGS--HYDRAULIC ACTUATOR, PLATINUM MICROELECTRODE, METAL SYLPHON

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1001

STEP NO--UR/0239/70/056/005/0797/0799

CIRC ACCESSION NO--AP0124660

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

2/2 009

CIRC ACCESSION NO--AP0124660 UNCLASSIFIED

PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A HYDRAULIC SYSTEM FOR REMOVAL OF THE MICROELECTRODES WAS DESCRIBED, WHERE THE SYLPHONS WERE USED INSTEAD OF CYLINDERS WITH PISTONS AS FUNDAMENTAL DEVICE FOR THE REGULATING AND EXECUTIVE PARTS. THE SYSTEM WORKS BY APPLYING A PRESSURE TO THE REGULATING SYLPHON WITH THE AID OF A MICROSCREW. THE PRESSURE IS TRANSMITTED BY THE HYDRODRIVE TO THE EXECUTIVE SYLPHON WHICH HAS ELECTRODE HOLDER ATTACHED TO IT. THE ADVANTAGE OF THIS PARTICULAR DEVICE CONSISTS OF ITS BEING UTTERLY HERMETIC. FACILITY: INSTITUTE OF PHYSIOLOGY, SIBERIAN BRANCH OF ACAD. SCI. USSR, NOVOSIBIRSK.

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Numerical Analysis

USSR

UDC 517.948

SHOLOKHOVICH, V. F., Sverdlovsk

"A Method for the Numerical Solution of Unstable Extremum Problems"

Kazan', Izvestiya Vysshikh Uchebnykh Zavedeniy -- Matematika, No 6, Jun 72, pp 92-100

Abstract: The article considers the extremum problem

$$\inf_{x \in M} F(x) = F_0, \qquad (1.1)$$

where x is an element of the E-space X, $M \subset X$ is a convex closed set. It is assumed that the problem is solvable, the functional F(x) is convex and lower semicontinuous on M, and F_0 is known only approximately: i.e., F_δ is given so that $|F_0 - F_\delta| \leqslant \delta$. On the basis of F_δ an approximate solution of the problem (1.1) is sought by using the discrepancy method. Under the

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SHOLOKHOVICH, V. F., Izvestiya Vysshikh Uchebnykh Zavedeniy -- Matematika, No 6, Jun 72, pp 92-100

assumptions made, the sequence of approximate solutions x_δ, obtained by solving the variational problem of definition

$$\inf\|x\| \text{ for } x \in \Omega_\delta \equiv \{x \in M : F(x) \leqslant F_\delta + \delta\}, \tag{1.2}$$

strongly converges, for $\delta \to 0$, to one of the solutions of problem (1.1) — the "normal" element x_0, which solves the definition problem

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SHOLOKHOVICH, V. F., Izvestiya Vysshikh Uchebnykh Zavedeniy -- Matematika, No 6, Jun 72, pp 92-100

$$\inf \|x\| \text{ for } x \in \Omega_0 = \{x \in M : F(x) = F_0\}. \tag{1.3}$$

One of the ways for numerically finding x_δ is to change to some finite-dimensional analog and find approximations to x_δ which are elements of finite-dimensional sets. Let there be an ascending chain of convex, closed finite-dimensional sets

$$M_n \subset M_{n+1} \subset \ldots \subset M, \quad n = 1, 2, \ldots, \tag{1.4}$$

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SHOLOKHOVICH, V. F., Izvestiya Vysshikh Uchebnykh Zavedeniy -- Matematika, No 6, Jun 72, pp 92-100

such that

$$\overline{\bigcup_{n=1}^{\infty} M_n} = M. \tag{1.5}$$

Problem (1.2) becomes the following variational problem: finding

$$\inf \|x\| \text{ for } x \in \Omega_{\delta,n} = \{x \in M_n : F(x) \leqslant F_\delta + \delta\}. \tag{1.6}$$

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SHOLOKHOVICH, V. F., Izvestiya Vysshikh Uchebnykh Zavedeniy -- Matematika, No 6, Jun 72, pp 92-100

In calculating the functional F(x) its approximate values are ordinarily used: i.e., $F^{(k)}(x)$ are found so that

$$F^{(k)}(x) \to F(x), \quad k \to \infty. \tag{1.7}$$

Therefore the problem considered is

$$\inf \|x\| \text{ for } x \in \Omega^k_{\varepsilon,n} \equiv \{x \in M_n : F^{(k)}(x) \leqslant F_\varepsilon + \delta\}. \tag{1.8}$$

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SHOLOKHOVICH, V. F., Izvestiya Vysshikh Uchebnykh Zavedeniy -- Matematika, No 6, Jun 72, pp 92-100

One of the theorems proved is: Let the functional $F(x)$ be continuous at the point x_0, the functionals $F^{(k)}(x)$ lower semicontinuous on the sets M_n, and condition (1.7) be fulfilled for each x from M_n ($n = 1, 2, \ldots$) Then there exist such n_0 and k_0 that, given $n > n_0$ and $k > k_0$, problem (1.8) is solvable.

The results obtained in the article can be used for questions involving the approximate solution of operator equations of the first kind.

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USSR

SHOLOKHOVICH, V. F., Sverdlovsk

UDC 519.55

"Approximate Solution of Unstable Extremal Problems"

Kazan', Izvestiya Vysshikh Uchebnykh Zavedeniy: Matematika, No 5 (108), 1971, pp 101-107

Abstract: The author studies the variance methods for the approximate solution of unstable extremal problems: V. K. Ivanov's method of quasisolutions and D. L. Phillip's and V. K. Ivanov's closure method. Some evaluations of the deviation of the approximate solutions from the exact are made for the case of convex and nonconvex functionals. The author thanks V. I. Ivanov for his interest in the work.

Orig. art.: 20 formulas and 15 bibliographic entries.

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USSR

SHOLOMIY, K. M.

UDC: 8.74

"On a Formal Method of Constructing Rational Recognition Algorithms"

Moscow, Vopr. algoritmiz. i programmir. obuch.--sbornik (Problems of Algorithmizing and Programming Teaching--collection of works), vyp. 2, "Pedagogika", 1973, pp 42-61 (from RZh-Matematika, No 10, Oct 73, abstract No 10V783)

Translation: The paper examines the question of constructing rational recognition algorithms for complex hierarchical systems of features. Complex hierarchical system is the term used for a system of features which is comprised of different groups of homogeneous features where each such group includes more than one feature. The process of recognition is represented as a chain of sequentially realized,uniform set selections: i. e., selections each time from several uniform possibilities. One of the methods of formal construction of rational recognition algorithms is described. The method is based on the assumption that the object has several different groups of uniform features and on the psychological idiosyncrasies of the mental operations with these features performed in the recognition process.

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UDC: 621.372.833(088.8)

VASILENKO, I. Ya. and SHCLONIY, V. M.

"Termination Junction Using a Thin Ribbon Line"

Avt. sv. SSSR (Author's Certificate USSR) Class $21a^4$, 73 (H 01p 5/08), No. 273308, Application 29.07.68, Publication 15.09.70 (from RZh-Radiotekhnika, No. 3, March 71, Abstract No. 3B186P)

Translation: The proposed junction consists of a coaxial line whose center conductor ends in the loop of the terminating device. For the purpose of reducing the criticalness in matching the junction loop, the width is increased compared to the width of the ribbon line.

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USSR

SHOLOMOV, L. A. UDC: 519.1

"Concerning Information Complexity of Problems Involving Minimum Circuit Realization of Boolean Functions"

Moscow, Probl. kibernetiki--sbornik (Problems of Cybernetics--collection of works), vyp. 26, "Nauka", 1973, pp 207-256 (from RZh-Matematika, No 9, Sep 73, abstract No 9V454 by V. Khrapchenko)

Translation: The paper is a detailed presentation of a note by the author (RZhMat, 1972, 1V621). It is shown for one class of fairly natural algorithms that any algorithm of this class which calculates the complexity of minimum circuits for an arbitrary Boolean function is in some sense no simpler than complete sorting.

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UNCLASSIFIED PROCESSING DATE--11DEC70

1/3 036

TITLE--ATMOSPHERIC SCATTERING INDICATRICES MEASURED AT ALTITUDES UP TO 22 KM IN THE REGION NEAR 2.2 MU -U-

AUTHOR-(02)-SHELUKHOVA, YE.C., FEDOROVA, YE.D.

COUNTRY OF INFO--USSR

SOURCE--IZVESTIYA AKADEMII NAUK SSSR, FIZIKA ATMOSFERY I OKEANA, VOL VI, NO 6, 1970, PP 585-590

DATE PUBLISHED--------70

SUBJECT AREAS--ATMOSPHERIC SCIENCES

TOPIC TAGS--INDICATRIX, BALLOON, OPTIC BRIGHTNESS, ATMOSPHERIC SCATTER, ATMOSPHERIC OPTICS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605041/F01 STEP NO--UR/0362/70/006/006/0585/0590

CIRC ACCESSION NO--AP0142758

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

2/3 036 UNCLASSIFIED PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AP0142758

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN DEVELOPING A CYCLE OF STUDIES FOR INVESTIGATING THE VERTICAL SPECTRA OF ATMOSPHERIC EMISSION IN THE NEAR INFRARED REGION THE AUTHORS UNDERTOOD MEASUREMENTS OF THE INDICATRIX OF SKY BRIGHTNESS IN 1968. AN INFLIGHT SPECTROMETER WAS EMPLOYED. THIS MADE IT POSSIBLE TO MEASURE THE INDICATRICES OF SKY BRIGHTNESS ON THE SOLAR ALMUCANTAR FOR THE FIXED WAVELENGTH LAMBDA EQUALS 2.2 MU (SPECTRAL WIDTH OF SLIT 0.075 MU). THE TIME FOR REGISTERING THE INDICATRIX WAS APPROXIMATELY 30 SEC; THE ANGULAR FIELD OF VIEW OF THE INSTRUMENT WAS ABOUT 4DEGREES. THEBALLOON WAS LAUNCHED ON 1 OCTOBER 1968 FROM THE KURSK OBLAST BASE OF THE CENTRAL AEROLOGICAL OBSERVATORY. THE FLIGHT LASTED FROM 1050 TO 1310 HOURS LOCAL SOLAR TIME WHEN THERE WAS CONTINUOUS STRATOCUMULUS LOWER LEVEL CLOUDS. SOLAR ALTITUDE VARIED IN THE RANGE FROM 33.2 TO 35.1DEGREES. GOOD RECORDS OF THE BRIGHTNESS INDICATRIX WERE REGISTERED IN THREE ALTITUDE RANGES: 3.4-4.3 KM (8 CURVES), 11-13.6 KM (10 CURVES) AND 20-21.9 KM (12 CURVES). AFTER AVERAGING THE BRIGHTNESS INDICATRICES IN EACH OF THE ALTITUDE INTERVALS IT WAS POSSIBLE TO COMPUTE THE SCATTERING INDICATRICES MU (H, LAMBDA) FOR THE ENTIRE THICKNESS OF THE ATMOSPHERE ABOVE THE OBSERVATION LEVEL. THE ARTICLE GIVES THE SCATTERING INDICATRICES OBTAINED FOR THE AZIMUTHAL VARIATION OF BRIGHTNESS OF THE DAY TIME SKY AT ALTITUDES UP TO 22 KM AND COMPARES THEM WITH EXPERIMENTAL DATA PUBLISHED BY OTHER AUTHORS. THE AUTHORS EMPHZSIZE THE PRELIMINARY NATURE OF THE INDICATRICES GIVEN HERE.

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3/3 036 UNCLASSIFIED PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AP0142758

ABSTRACT/EXTRACT--REFINEMENT OF THESE DATA, PARTICULARLY SOLUTION OF THE PROBLEM OF THE VARIABILITY OF THE VERTICAL INDICATRIX IN THE INFRARED REGION, WILL BE UNDERTAKEN IN A FUTURE STUDY.

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UDC 621.762.3(088.8)

USSR

SHOLYUBSKIY, V. I., and SEMERNEV, A. I.

"Apparatus for Making Powder Mixtures"

USSR Authors' Certificate No 273382, Cl. 31 b^3, 1/00, (B 22 f 1/00), filed 10 Jan 68, published 10 Sep 70 (from RZh-Metallurgiya, No 3, Mar 71, Abstract No 3G417P by I. Brokhin)

Translation: An apparatus is suggested for making powder mixtures. It consists of a batchmeter with a moving conveyer belt and a mixer with a charging hopper. In order to increase accuracy in the metering of components and make it possible to prepare mixtures of variable composition, the apparatus is equipped with a moving batching frame (situated on the conveyer belt) with at least two cavities, the cross-sections of which vary according to a preset program. A diagram of the apparatus is presented. Two illustrations.

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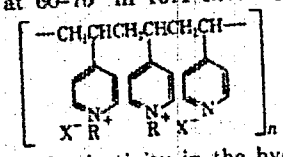
Acc. Nr: AP0042509 Abstracting Service: CHEMICAL ABST. 4-70 Ref. Code: UR0459

86675v **Synthetic polymeric analogs of enzymes with esterase activity.** Kirsh, Yu. E.; Pluzhnov, S. B.; Shomina, T. S.; Kabanov, V. A.; Kargin, V. A. (Mosk. Gos. Univ. im. Lomonosova, Moscow, USSR). *Vysokomol. Soedin., Ser. A* 1970, 12(1), 186-204 (Russ). Polymeric catalysts (I, R = Me, Et, Pr, iso-Pr, Bu, iso-Bu, isoamyl, $PhCH_2$ and X = Cl, Br, I) were prepd. by partial *N*-alkylation of poly(4-vinylpyridine) with the corresponding alkyl halide at 60-70° in 10:1 $MeNO_2$-MeOH. I had high



(I)

catalytic activity and selectivity in the hydrolysis of esters such as p-$NO_2C_6H_4OAc$. The active centers for the catalysis were the unsubstituted pyridine rings. The catalytic activity of an unalkylated link was $10^{2.5}$-$10^{3.5}$ times greater than that of the simplest analog, 4-ethylpyridine. The kinetic behavior of I was similar to that of α-chymotrypsin. The kinetic parameters for each step of the hydrolysis were calcd., and their dependence on the nature of

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the substituents and macromol. dimensions were detd. The catalytic activity of I was a function of their shape in soln. and the type of solvent. The high catalytic activity of I was explained by the development of local hydrophobic cavities, each of which contains a nucleophilic group (pyridine ring) and is surrounded by hydrophobic substituents. DBJR

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UDC 632.95

USSR

ABRAMOVA, K. A., KHASKIN, I. G., RUDNEV, G. K., SHIRANKOV, D. F., SHOMOVA, YE. A., GRIB, O. K., KUPRINA, ZH. S.

"Pesticide"

USSR Author's Certificate No 252756, filed 10 Jul 68, published 12 Feb 70 (from RZh-Khimiya, No 18, 25 Sep 70, Abstract No 18N665 P, by P. V. Popov)

Translation: Esters of alpha-chlorocinnamic acid with general formula PhCH=CClC(O)OR (I) (R = Me, Et, or Ph) exhibit fungicidal and herbicidal properties. In toxicological experiments 1 (R = Me or Et) suppressed development of colonies of Alternaria, Botrytis, Cladosporium, Penicillium, Rhizoctonia, and Verticillium on potato-dextrose agar in most cases no less vigorously than did figon and TMTD [tetramethylthiuram disulfide] 7. As herbicides, I (R = Me or Ph) act selectively on dicotyledonous plants (beans, sunflower, buckwheat, beet, and mustard); winter wheat and oats of the cereal crops are resistant, corn is the most sensitive.

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USSR

SMOLINA, A. A.I., SHOMOVA, Ye. A., RUDAVSKIY, V. P., KOVAL', A. A., SHCHEVCHENKO, V. I.

"Insecticidal and Fungicidal Activity of Esters of N-carbacylamido Phosphoric Acids"

Fiziol. aktivn. veshchestva. Resp. mezhved. sb. (Physiologically Active Materials. Republic Interdepartmental Collection), 1972, vyp. 4, pp 19-22 (from RZh-Khimiya, No 5 (II), 1973, Abstract No 5N578)

Translation: The results are presented from testing compounds containing residues of phosphoric and halogen carboxylic acids $RC(OR') = NPO(OR')_2$ (R = CCl_3, CF_3, $R''CCl_2$, R'' = alkyl) and $R'''CCl_2CONHPO(OR'')_2$ (R''' = alkyl) simultaneously for contact insecticidal activity against Calandra oguzae L., Drosophila S. P. and fungicidal toxicity in pure cultures of Fusicladium dendriticum (Wallr.(Fusk., Verticillium dahliae Rleb. $MeCCl_2C(OEt) = NOP(OEt)_2$, $EtCCl_2C(OEt) = NPO(OEt)_2$, $PrCCl_2C(OEt) = NPO(OEt)_2$ cause 100% destruction of Drosophila S. P. with 5 and 10% concentration of the solution in acetone after 24 hours. The tested compounds demonstrate very weak fungicidal activity.

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Entomology

USSR

MELIKADZE, L. D., MIKADZE, L. D., SHONIYA, D. I., GURGENIDZE, Z. I., BARABADZE, Sh. Sh., and AZKHAZAVA, I. I., Georgian Institute of Plant Protection

"Olfactometry to Evaluate Chemical Attractants"

Tbilisi, Soobshcheniya Akademii Nauk Gruzinskoy SSR, No 2, 1972, pp 473-476

Abstract: A description is given of a device used to test attractants of the European spruce bark beetle (Dendroctonus micans) and other insects. Unlike other olfactometric methods, it can determine the optimum concentration of an attractant in the air. Air is fed through a thermostat-controlled heating coil and bubbler containing the substance tested. The temperature is controlled to keep the vapor pressure uniform. The air saturated to the same concentration by the vapor of the attractant (working mixture) enters the working part of the olfactometric unit. Both the control and the working parts of the unit are divided into three chambers. The working mixture after entering the olfactometer gradually fills the three chambers and through openings in the bottom of the third chamber diffuses along a platform where the insects are kept. An equal amount of pure air flows from the control part and moves along the platform in the opposite direction, creating a concentration

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MELIKADZE, L. D., et al., Soobshcheniya Akademii Nauk Gruzinskoy SSR, No 2, 1972, pp 473-476

gradient along the platform. Depending on the reaction of the insects to the substance, they crawl into the working or control part of the olfactometer. The optimum concentration is determined (a) from a curve showing the dilution of the working mixture at the outlet from the third chamber of the olfactometer and (b) from the dynamics of migration of the insects in time. The optimum concentration is that which attracts the most insects.

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MELIKADZE, L. D., KIPIANI, R. YA., MUKHASHAURIYA, A. L., SHONIYA, D. I., GURGENIDZE, Z. I., Institute of Physical and Organic Chemistry, Academy of Sciences of the Georgian SSR, Institute of Plant Protection, Ministry of Agriculture

"A Chemicalfor Controlling Large Spruce Bark Beetles"

USSR Author's Certificate No 270390, filed 18 Jan 67, published 9 Apr 71 (from RZh-Khimiya, No 1(II), Jan 72, Abstract No 1N25 P)

Translation: The large spruce bark beetle can be effectively controlled by treating the trunks of trees with a 50% emulsion prepared from a concentrate containing 5.5-6.0% technical hexachlorocyclohexane, 49-54.5% kerosene, 20-25% dichloroethane, 2.0% sulfite pulp extract, 0.5% OP-10 or OP-7 and water (to make 100%). The treatment does not harm the tree. P. V. Popov

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

USSR UDC 621.374.5 (088.8)

TRIFONOV, V.V., SHONIROV, S.A., LEMZYAKOV, S.R., KHMELEVSKIY, V.A., PRILEPSKIY, V.M. (Leningrad Electrical Engineering Institute)

"Magnetostrictive Transducer For Delay Lines"

USSR Author's Certificate No 296154, filed 25 Feb 69, published 9 Apr 71 (from RZh:Radiotekhnika, No 2, Feb 72, Abstract No 2G241P)

Translation: A magnetostrictive transducer for a delay line is proposed, which contains a winding with a few loops connected with an acoustic line, a matching transformer, and an acoustic damper. With the object of an increase of the product of the transmission coefficient by the power in the band of the frequencies being transmitted, the transducer winding is made in the form of two adjacent sections situated at the acoustic line and connected across the corresponding matching transformers into the circuit of an electromagnetic delay line. In order to decrease the dissipation inductance and widening of the band of the frequencies being transmitted, the step-down windings of the transformers are made in the form of cylindrical rods with a disk bulge [utolshchenyy] in the middle part and with the cores of the step-up windings at the ends placed in cup-shaped cavities connected electrically with the ends of the rod, and in so

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USSR

TRIFONOV, V. V. et al, USSR Author's Certificate No 296154

doing a section of the winding of the transducer is connected between the edge of each cup-shaped cavity and the disk. With the object of increasing the efficiency, sections of the winding are made in the form of solenoids and each section -- in the form of two adjoining coils of an insulated wire, the diameter of which is equal to the internal diameter of the solenoid. The alignment of the acoustic line in the latter is accomplished with the aid of bushings /vtulka/ located at the ends of the winding, and the transformer, magnet, and acoustic damper are attached to a common housing.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

UDC 681.327

USSR

TRIFONOV, V. V., SHONUROV, S. A., et al.

"A Memory Device"

USSR Author's Certificate No 276165, Filed 25/02/69, Published 8/10/70 (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 5, 1971, Abstract No 5B310P)

Translation: Delay line memory units are known which contain recirculation systems, arithmetic devices, synchronous generators for cycle marker and access pulses, a commutator-distributor, and a combining commutator. The defects of these devices include increased cycle frequency of the delay line and arithmetic unit elements in the circuit of undistributed pulse sequences. This makes the use of standard elements in the delay line and arithmetic unit circuits difficult and makes the device impossbile without elements operating at high cycle frequencies. Furthermore, when the delay of one delay line only is stabilized, it is difficult to assure stable circulation of codes when the number of delay lines in the memory unit is further increased and with more rigid tolerances for delay. In the device suggested, each recirculation system contains a stabilizer and adder connected to the output of the distributing commutator and the input of the combining

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

USSR

TRIFONOV, V. V., et al., USSR Author's Certificate No 276165, Filed 25/02/69, Published 8/10/70 (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 5, 1971, Abstract No 5B310P)

commutator. The inputs of the commutators are connected with the synchronous generator, while the delay stabilizer providing for regulation of the delay time of the signals might be a delay line heater, for example. 2 figs.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

USSR

UDC 621.374.5(088.8)

TRIFONOV, V. V., SHONUROV, S. A., BUDRIS, M.-B. K.

"Device for Manufacturing the Spiral Acoustic Line of an Acoustic Delay Line"

USSR Author's Certificate No 277836, Filed 25 Feb 69, Published 20 Oct 70 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4G270P)

Translation: A device is proposed which contains a winding mechanism in the form of a rotating drum with a diameter equal to the outside diameter of the manufactured acoustic line. Supporting strips made of polyfluoroethylene resin are attached near the rim which is wound with a wire acoustic line.

These strips have holes converging on two sides to a cone located at the apexes of equilateral triangles.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

Plant Pathology

UDC 632.4:633.11:582.285.2(47+47)

USSR

LESOVOY, M. P., FEDOROVA, V. A., SHKODENKO, V. I. TERESHCHENKO, B. A., SHOPINA, V. V., IBRAGIMOV, G. R., AKHMEDOV, S. A., YEROSHOVA, N. L., MAKONTOVA, A. N., PERESYPKIN, V. F., BOYKO, Yu. I., SHAVARINA, Z. A., CHUMAKOV, A. Ye., YAKEMENKO, Z. I., PAYCHADZE, L. V., and EL'CHIBAYEV, A. A., All-Union Institute of Plant Protection, Ukrainian Institute of Plant Protection, Ukrainian Agricultural Academy, Azerbaydzhan Institute of Agriculture, Central Asian Institute of Plant Pathology, and Kazan' Institute of Plant Protection, Georgian Institute of Plant Pathology

"Race Formation in Puccinia triticina Eriks. and P. striiformis West. in the USSR"

Leningrad, Mikologiya i Fitopatologiya, No 6, 1972, pp 428-434

Abstract: Study of the causative agents of orange leaf and stripe rusts of wheat in different parts of the Soviet Union and some other European countries showed that, despite the great variety of races, only a few are responsible for epiphytotics. The main races are fairly constant from year to year. This stabilization is due to the fact that that more than 90% of all the regionalized wheat varieties in the USSR are susceptible to all races of the pathogens. The racial composition of the pathogens in the USSR is similar to that occurring elsewhere in Europe because of the exchange of original forms and use of the

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USSR

LESOVOY, M. P., et al., Mikologiya i Fitopatologiya, No 6, 1972, pp 428-434

same components in breeding wheat varieties. The appearance of new races and biotypes and changes in their virulence are the result of mutation, heterokaryosis, resistant varieties, and sexual hybridization.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

UDC 681.327

USSR

YEGIPKO, V. M., PALAGIN, A. V., and SHOR, A. Z.

"Relay Memory Device"

USSR Author's Certificate No 273273, filed 29 Dec 66, published 24 Aug 70 (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 5, 1971, Abstract No 5B336P)

Translation: This invention relates to devices for processing 2-position control signals for digital control machines. Relay memories are known containing an amplifier, separation circuit, coincidence circuits and output relay. The device suggested differs from similar known devices in that in order to simplify the device and increase its speed and reliability, the separation circuit is connected to the coincidence circuit and to an amplifier, the load of which is a relay; the normally closed contact of the relay is connected to one of the inputs of the coincidence circuit.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

USSR UDC 665.637.6:621.892.096/.097

BLAGOVIDOV, I. F., SHOR, G. I., TROFIMOVA, G. L., and LAPIN, V. P.

"Some Aspects of the Development of Contemporary Motor Oils"

Moscow, Neftepererabotka i Neftekhimiya, No 10, 1973, pp 29-32

Abstract: Compatibility of alkyl salicylate, sulfonate, succinimide, and dithiophosphate additives was investigated as well as their pickup by oils of various chemical compositions. On the basis of experimental results effective motor oils have been developed for the current high performance engines, containing a selection of contemporary additives with consideration of maximum utilization of their functional properties.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

1/2 013 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--TRANSHYDRAZINATION OF HYDRAZONES -U-

AUTHOR-(03)-GOLDIN, G.S., TSIOMO, S.N., SHOR, G.S.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(4), 754-7

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--HYDRAZINE, HYDRAZONE, CHEMICAL REACTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1956 STEP NO--UR/0366/70/006/004/0754/0757

CIRC ACCESSION NO--AP0125545

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

2/2 013 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125545

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REFLUXING OF ET SUB2 NNH SUB2 WITH ME SUB2 NN:CRR PRIME1 AND 0.5PERCENT NH SUB4 CL GAVE 56-80PERCENT ET SUB2 NH:CRR PRIME1 (I). SIMILARLY, STARTING WITH ME SUB2 NNH SUB2 ME SUB2 NN:CRR PRIME1 (II) WERE PREPD. (COMPD. R AND R PRIME1 GIVEN): I, ET, ET; I, H, H; I, H, ME; I, H, ET; I, H, PR; I, H, ISO-PR; I, H, ISO-BU; I, ME, ME; I, ME, ET; I, ME, PR, I ME, ISO-PR; II, H, H; II, H, ME; II, H, ET; II, H, PR; II, H, ISO-PR; II, H ISO-BU; II, ME, ME, II, ME, ET; II, ME, PR; II, ME, ISO-PR; II, ME, ISO-BU. THE TRANSHYDRAZINATION IS A REVERSIBLE REACTION; THE POSITION OF EQUIL. DEPENDS ON R AND R PRIME1. THE TIME REQUIRED TO ATTAIN EQUIL. INCREASES WITH THE MOL. WT. OF THE REACTANTS.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

1/2 011 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--REACTION OF LOWER DIALKYLHYDRAZONES OF ACROLEIN WITH HYDRAZINE AND METHYLHYDRAZINE -U-

AUTHOR-(03)-GOLDIN, G.S., BATURINA, L.S., SHOR, G.S.

COUNTRY OF INFO--USSR

SOURCE--KHIM. GETEROTSIKL. SOEDIN. 1970, (3), 429

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--HYDRAZONE, ALDEHYDE, HYDRAZINE, CONDENSATION REACTION, ORGANIC SYNTHEISS, HETEROCYCLIC NITROGEN COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0854 STEP NO--UR/0409/70/000/003/0429/0429

CIRC ACCESSION NO--AP0124517

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

2/2 011 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124517

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CONDENSATION OF THE TITLE COMPDS. IN ETOH AT 75DEGREES 10-15 HR IN THE PRESENCE OF AMMONIUM SALTS GAVE THE FOLLOWING I (R, B.P.-MM, AND N PRIME20 SUBD GIVEN): H, 63-4DEGREES 40, 1.4782; AND ME, 109-10DEGREES-760, 1.4523. FACILITY: GOS. NAUCH. ISSLED. INST. KHIM. TEKHNOL. ELEMENTOORG. SOEDIN., MOSCOW, USSR.

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

USSR

UDC 621.375.4(02)

SHOR, K. G.

Maloshumyashchiye tranzistornyye usiliteli (Low-Noise Transistorized Amplifiers), Moscow, Energiya Press, 1971, 111 pp, ill., 33 k. (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4D121K)

Translation: Problems of the occurrence of noise in transistorized amplifiers, the creation of amplifiers with low noise and also engineering calculations and measurements of noise characteristics of amplifiers are discussed. The effect of the characteristic parameters of the transistor and their divergence and also various operating parameters (the resistance of the signal source, the operating conditions, the frequency, feedback, temperature, and so on) on the noise characteristics of transistorized amplifiers is investigated. The book is designed for engineering and technical workers dealing with the problems of planning and designing low-noise radio electronic equipment.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

1/2 026 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--THE CHARACTER OF RHEOGRAMS OF THE COLLATERAL PULSE IN PATIENTS WITH THROMBOBLITERATIVE DISEASES OF THE EXTREMITIES ARTERIES -U-

AUTHOR--SHOR, N.A.

S

COUNTRY OF INFO--USSR

SOURCE--VESTNIK KHIRURGII IMENI I. I. GREKOVA, 1970, VO 104, NR 5, PP 57-60

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--CIRCULATORY SYSTEM DISEASE, BLOOD VESSEL, RHEOLOGIC PROPERTY, DIAGNOSTIC MEDICINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/0585 STEP NO--UR/0589/70/104/005/0057/0060

CIRC ACCESSION NO--AP0108800

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

2/2 026 UNCLASSIFIED PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0108800

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN 30 SOUND INDIVIDUALS AND 30 PATIENTS WITH THROMBOBLITERATIVE DISEASES OF LARGE ARTERIES OF THE EXTREMITIES 490 RHEOGRAMS OF THE FEMUR, SHIN AND FOOT HAVE BEEN RECORDED AND ANALYSED. IT WAS NOTED THAT THE CHARACTER OF A RHEOGRAPHIC CURVE OF THE COLLATERAL PULSE COLSELY DEPENDS ON CLINICAL PICTURE OF THE DISEASE. THE CHARACTERISTIC SIGNS OF RHEOGRAPHIC CURVES OF THE COLLATERAL PULSE ARE DESCRIBED. FOR PROMPT EVALUATION OF STATE OF THE COLLATERAL CIRCULATION SOME TYPES OF THE COLLATERAL PULSE CURVE ARE DIFFERENTIATED.

FACILITY: GOSPITAL'NOY KHIRURGICHESKOY KLINIKE VOROSHILOVGRADSKOGO MEDITSINSKOGO INSTITUTA.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

Acc. Nr: AP0037185 Abstracting Service: CHEMICAL ABST. 3-70 Ref. Code: UK 0000

57299v Alumina from nephelite rock and kaolin. Semenenko, N. P.; Sazhin, V. S.; Shor, O. I.; Moshkina, M. K.; Chumachenko, V. S.; Smirnov, M. N.; Zorikov, M. M. (Institute of General and Inorganic Chemistry, Academy of Sciences, Ukrainian S.S.R.) Brit. 1,177,133 (Cl. C 01f), 07 Jan 1970, Appl. 10 Feb 1967; 3 pp. A process for prepg. Al_2O_3 is described in which nephelite rock is leached in an autoclave with an aq. NaOH soln. (500 g Na_2O/l.) in the presence of CaO. The temp. is 280–300°, the time is 10 min, and the CaO:SiO_2 mole ratio is 1.05:1. The mixt. is filtered, the solids are washed, and the filtrate and washings are evapd. yielding an aluminate soln. contg. 500–20 g Na_2O/l. The soln. is cooled to 40–5° to crystallize aluminates which are then sepd. from the mother liquor. A portion of the mother liquor (contg. 120–30 g Na_2O/l.) is recycled to the autoclave; the remainder is fortified with NaOH and used

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AA0037185

to leach calcined (1050–150°) kaolin. The NaOH is added in an amt. calcd. to react only with the sol. part (~60%) of the SiO_2 in the kaolin. The leach liquor, comprised of a silicate soln. (contg. Na_2O 130–50, SiO_2 100–20, and Al_2O_3 2–5 g/l.), it is cooled to 20° to crystallize com. Na silicate. The leach solids, comprised of an Al_2O_3 conc. (contg. Al_2O_3 55–65, SiO_2 32–8, and impurities 2–3%) are sintered (1100–200°) with limestone and Na_2CO_3. The sinter is cooled and leached with wash H_2O to prep. an aluminate soln. contg. 65–75 g Al_2O_3/l. The insol. material is sepd. from the leach liquor and can be used as raw material for the manuf. of portland cement. The cryst. aluminates from the nephelite treatment are dissolved in the aluminate soln. from the kaolin treatment to prep. a soln. contg. 130 g Al_2O_3/l. and 130 g Na_2O/l. which corresponds to the concns. in Bayer process solns. Silicates are removed from the soln. by treatment at 105° for 6 hr with $3CaO.Al_2O_3.6H_2O$. The solids are sepd. and the soln. is treated with $Al(OH)_3$ to ppt. Al oxide hydrate which is sepd. and calcined to prep. Al_2O_3. Compared with other processes for prepg. Al_2O_3 from nephelite or kaolin this process requires less evapn. of leach solns. and less NaOH.

E. C. Houston

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

UNCLASSIFIED PROCESSING DATE--18SEP70

1/2 011

TITLE--FUNDAMENTAL CONCEPTS AND TERMS IN SYSTEM OF PRODUCT QUALITY CONTROL

-U-

AUTHOR--SHOR, YA.B.

COUNTRY OF INFO--USSR

SOURCE--STANDARTY I KACHESTVO, 1970, NR 2, PP 29-32

DATE PUBLISHED--------70

SUBJECT AREAS--BEHAVIORAL AND SOCIAL SCIENCES

TOPIC TAGS--QUALITY CONTROL, INDUSTRIAL STANDARD, INDUSTRIAL PRODUCTION, RESEARCH FACILITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

STEP NO--UR/0422/70/000/002/0029/0032

PROXY REEL/FRAME--1985/0331

CIRC ACCESSION NO--AP0100818

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

2/2 011 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0100818

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CONCEPTS CITED HAVE BEEN DERIVED FROM THE TERMINOLOGY RELATIG TO A SYSTEM OF PRODUCT QUALITY CONTROL, THAT IS NOW UNDER DEVELOPMENT AT THE ALL UNION RESEARICHT INSTITUTE FOR STANDARDIZATION.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

USSR

IVANENKO, V. I., KOLESNIK, V. V., SHOR, Ye. I.

"Certain Methods of Determination of the Optimal Control for Probabilistic Dynamic Objects"

Upravlyayemyye Sluchayn. Protsessy i Sistemy [Controlled Random Processes and Systems -- Collection of Works], Kiev, 1973, pp 24-53 (Translated from Referativnyy Zhurnal Kibernetika, No 6, 1973, Abstract No 6V216, by R. Liptser).

Translation: Suppose z_k, $k = 1,\ldots, m$ is a sequence of random quantitites, u_k, $k = 1,\ldots, \ell$ is a sequence of control actions generated by z_k, $k \geq 1$. Control z_k, $k \geq 1$, should be selected so as to minimize $M\sum_{k=1}^{N} w(x_k, u_k)$, where $x_k = G(u_1,\ldots, u_e, z_1,\ldots, z_m)$, while w and $G(\cdot,\ldots,\cdot)$ are certain measurable functions.

In order to seek out the optimal control in this problem, one must solve the equation of Bellman. Since determination of the solution of Bellman's equation is difficult, conditions are formulated under which the optimal control in the kth step can be found by minimizing the conditional mathematical

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USSR

Ivanenko, V. I., Kolesnik, V. V., Shor, Ye. I., Upravlyayemyye Sluchayn. Protsessy i Sistemy, Kiev, 1973, pp 24-53.

expectation $M[w(x_k, u_k)S_{k-1}, z_k, u_k]$ in the kth step, where S_{k-1} is a sigma algebra generated by the quantities $(z_1, \ldots, z_{k-1}, u_1, \ldots, u_{k-1})$. Certain other approaches simplifying the solution of Bellman's equation for this control problem are also studied.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

USSR

UDC: 519.2

SHOR, Ye. Ya.

"Performance Effectiveness of Protective Devices in Two Types of Breakdown"

Izv. AN MoldSSR. Ser. fiz.-tekhnol. i mat. n. (News of the Academy of Sciences of the Moldavian SSR, Physical Engineering and Mathematics) No 3, 1971, pp 85-87 (from RZh--Matematika, No 6, 1972, Abstract No 6V199)

Translation: Given are protected objects for which a distribution function of breakdown time is specified. The protected device, for which a correction must be made at the time of breakdown of the protected object, is subjected to random breakdowns of two types: false alarms and hidden breakdowns. An expression is found for a functional of the damage connected with the operation of the described system. I. Kovalenko

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

USSR UDC 51:330.115

SHORIN, B. V.

"Algorithms for Minimization of Unevenness of Consumption of Resources Which Cannot be Stored in Network Graphs"

Sistemy Raspredeleniya Resursov na Grafakh [Systems for Distribution of Resources on Graphs -- Collection of Works], Moscow, Acad. Sci. USSR Computer Center, 1970, pp 85-117, (Translated from Referativnyy Zhurnal, Kibernetika, No 6, 1971, Abstract No 6 V554 from the Introduction).

Translation: In stating and solving problems of network planning considering limitations on resources, there are currently two main approaches.

Problem I. For a fixed network graph, compose a schedule of performance of all operations in the minimum time with limited resource vector.

Problem II. With fixed time of performance of the plan, minimize the deviation in resources utilized from resources allocated.

Two heuristic algorithms are presented for solution of Problem II.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

SHORIN N.I. UR 0482

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

239597 INDUCTIVE LEVEL METER where a float can move freely along the inductive coils indicating its position corresponding to the measured level. The float has been improved, it has two flanges which make it possible to obtain a parallel reading from two independent coils.

12.12.66 as 1119046/26-10. A.S. ABRAMOV et al. (28.7.69) Bul 11/18.3.69. Class 42e. Int.Cl.G 01f.

AUTHORS: Abramov, A. S.; Zotov, S. V.; Maslov, G. S.; Vargin, B.A.; Shorin, N. I.; Kornyushin, P. M.; Mirskov, B. L.; Chistyakov, N. N.; Mosyakov, V. A.; Kozlovskiy, G. V.; Chichigin, L. B.; Batov, V. A.; Golovachev, V. T.; Lyakhterov, M. N.; Kobelev, Yu. M.

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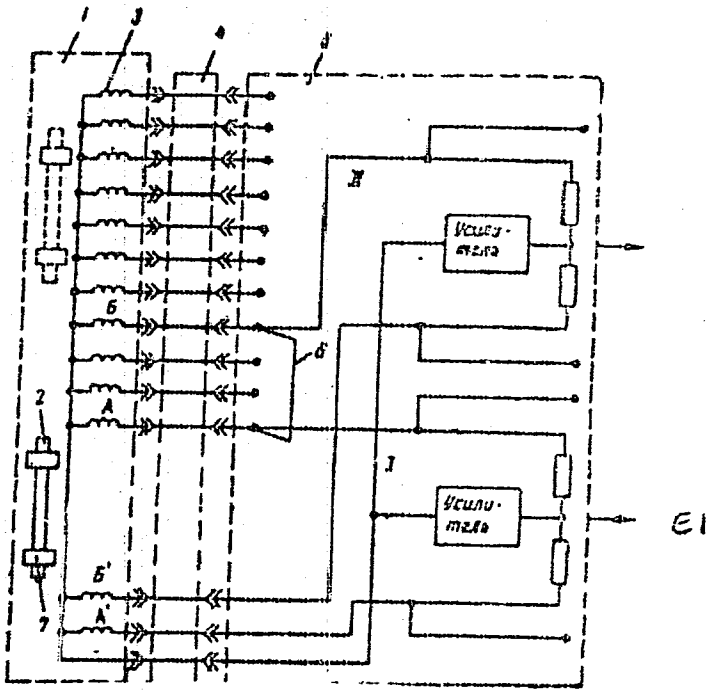

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

1/2 014 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--PRODUCTION OF A NEW ANTIBIOTIC, CHALCIDIN BY MICROMONOSPORA CHALCEA -U-

AUTHOR-(05)-GAUZE, G.F., BRAZHNIKOVA, M.G., SHORIN, V.A., MAKSIMOVA, T.S., OLKHOVATOVA, O.L.

COUNTRY OF INFO--USSR

SOURCE--ANTIBIOTIKI, 1970, VOL 15, NR 6, PP 483-486

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--STAPHYLOCOCCUS INFECTION, ANTIBIOTIC, SOIL BACTERIOLOGY, MOUSE/(U)CHALCIDIN ANTIBIOTIC

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1830 STEP NO--UR/0297/70/015/006/0483/0486

CIRC ACCESSION NO--AP0125441

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

2/2 014 UNCLASSIFIED

CIRC ACCESSION NO--AP0125441 PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE SCREENING PROGRAM FOR NEW ANTIBIOTICS A STRAIN DESIGNATED AS MICROMONOSPORA CHALCEA 845 WAS ISOLATED FROM A SOIL SAMPLE TAKEN IN A DISTRICT NEAR MOSCOW. A NEW ANTIBIOTIC OF POLYPEPTIDE NATURE NAMED CHALCIDIN WAS ISOLATED FROM THE CULTURE FLUID OF THE STRAIN. CHALCIDIN HAD A SLIGHT CHEMOTHERAPEUTIC EFFECT WITH RESPECT TO STAPHYLOCOCCAL INFECTIONS IN EXPERIMENTS ON MICE.

FACILITY: INSTITUTE FOR NEW ANTIBIOTICS, ADACEMY OF MEDICAL SCIENCES OF THE USSR, MOSCOW,

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

1/2 024 UNCLASSIFIED

TITLE--EXPERIMENTAL STUDIES ON ANTITUMOR ACTIVITY OF SIBIROMYCIN -U- PROCESSING DATE--18SEP70

AUTHOR-(02)-SHORIN, V.A., ROSSOLIMO, O.K.

COUNTRY OF INFO--USSR

SOURCE--ANTIBIOTIKI, 1970, VOL 15, NR 4, PP 300-304

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ANTITUMOR DRUG EFFECT, TISSUE TRANSPLANT, MOUSE, DIGESTIVE SYSTEM, ANTIBIOTIC DRUG EFFECT, SARCOMA, LYMPHATIC SYSTEM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1981/0750 STEP NO--UR/0297/70/015/004/0300/0304

CIRC ACCESSION NO--AP0052196

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

2/2 024

UNCLASSIFIED

CIRC ACCESSION NO--AP0052196 PROCESSING DATE--18SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SIBIROMYCIN HAD A HIGH ANTITUMOR ACTIVITY AGAINST 6 TRANSPLANTABLE TUMORS OF MICE. IT WAS MOST EFFECTIVE IN THE TREATMENT OF MICE (LINE OZH SUB5) WITH TRANSPLANTED FLAT CELLULAR CANCER OF THE GIZZARD. WHEN USED IN A MAXIMUM TOLERATED DOSE ADMINISTERED TWICE, THE ANTIBIOTIC COMPLETELY SUPPRESSED THE TUMOR GROWTH. THE DEVELOPMENT OF LYMPHOSARCOMA (STRAIN L10-1) WAS INHIBITED BY SIBIROMYCIN USED IN A MAXIMUM TOLERATED DOSE BY 90 TO 97PERCENT AND THAT OF THE ASCITIC FORMS OF TUMORS AND THE SOLID FORM OF SARCOMA L80 WAS INHIBITED BY 62 TO 66PERCENT. SIBIROMYCIN INDUCED ATROPHIC CHANGES IN THE SPLEEN AND ITS WEIGHT IN TREATED ANIMALS WAS LOWER THAN IN THE CONTROL ANIMALS. THE DECREASE IN THE SPLEEN WEIGHT WAS MAINLY DUE TO THE ANTIBIOTIC DOSE: THE HIGHER WAS THE DOSE, THE LOWER WAS THE WEIGHT.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

C. Operations Research

USSR

SHORIN, V. G. [Editor]

"Methods of Mathematical Economics and Models of Planning and Administration"

Ekonomiko-Matematicheskiye Metody i Modeli Planirovaniya i Upravleniya [English Version Above], Moscow, Znaniye Press, 1973, 239 pages (Translated from Referativnyy Zhurnal Kibernetika, No 6, 1973, Abstract No 6V476K).

Translation: Chapter 1. Planning and Mathematical Economics Methods. Chapter 2. Mathematical Models. Chapter 3. Mathematical Programming. Chapter 4. Linear Programming. Chapter 5. Dynamic Programming. Chapter 6. Basic Applied Sections of the Theory of Probabilities and Mathematical Statistics. Chapter 7. Imitation Modeling. Chapter 8. Typical Problems in Operations Research. Chapter 9. A Complex of Mathematical Economics Models for Branch Planning. Chapter 10. A Complex of Intraplant Planning Models.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

1/2 016 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--THE EFFECT OF PREDNISOLONE ON THE METABOLISM OF ISOLATED HOMOLOGOUS HEART IN PERFUSION WITH THE AID OF A DONOR -U-

AUTHOR-(04)-NOSECA, I.M., NIKULIN, V.I., KORUTKINA, R.N., SHORINA, L.V.

COUNTRY OF INFO--USSR

SOURCE--BYULLETEN' EKSPERIMENTAL'NOY BIOLOGII I MEDITSINY, 1970, VOL 49, NR 6, PP 45-47

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PREDNISONE, HEART, LACTATE DEHYDROGENASE, TRANSAMINASE, SULFUR ISOTOPE, CHEMICAL LABELLING, METHIONINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/0706 STEP NO--UR/0219/70/049/006/0045/0047

CIRC ACCESSION NO--AP0131305

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

2/2 018 UNCLASSIFIED

CIRC ACCESSION NO--AP0131305 PROCESSING DATE--20NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS CONDUCTED STUDIES OF THE EFFECT OF PREDNISOLONE ON THE SYNTHESIS OF TOTAL, CONTRACTILE AND SARCOPLASMATIC PROTEINS (BY THE INCORPORATION OF S PRIME35 LABELLED METHIONINE) OF DIFFERENT REGIONS OF ISOLATED HOMOLOGOUS HEART IN ITS PERFUSION WITH THE AID OF A LIVE DONOR. THE PREDNISOLONE EFFECT WAS ALSO INVESTIGATED ON THE ACTIVITY OF A NUMBER OF ENZYMES OF THE BLOOD PLASMA AND MYOCARDIUM OF THE PERFUSED HEART. PREDNISOLONE WAS INTRODUCED IN A DOSE OF 10 MG-KG OF BODY WEIGHT EVERY FIVE MINUTES FOR ONE HOUR. INHIBITION OF THE SYNTHESIS OF SARCOPLASMATIC PROTEINS OF ALL REGIONS OF THE ISOLATED HEART WAS NOTED, THE SYNTHESIS OF CONTRACTILE PROTEINS DID NOT CHANGE. IN THE BLOOD PLASMA 90 MINUTES AFTER PERFUSION THE ACTIVITY OF LACTIC DEHYDROGENASE AND GLUTAMICO OXALOACETIC TRANSAMINASE INCREASED IN COMPARISON WITH THAT AT THE BEGINNING OF PERFUSION. THE ENZYMATIC ACTIVITY IN THE PERFUSED HEART AND DONOR HEART DID NOT CHANGE. FACILITY: A. V. VISHNEVSKY INSTITUTE OF SURGERY OF THE ACADEMY OF MEDICAL SCIENCES OF THE USSR, MOSCOW.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

035

UNCLASSIFIED

TITLE--OXIDATIVE DEGRADATION OF POLYMERIC PHTHALOCYANINE AND ITS COMPLEXES -U-

PROCESSING DATE--02OCT70

AUTHOR-(02)-SHORMANOVA, L.P., BEREZIN, B.D.

COUNTRY OF INFO--USSR

SOURCE--VYSOKOMOL. SOEDIN., SER. A 1970, 12(3), 692-6

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--OXIDATIVE DEGRADATION, PHTHALOCYANINE, COPPER COMPLEX, ZINC COMPLEX, GALLIUM COMPOUND, OSMIUM COMPOUND, SPECTROPHOTOMETRY, POLYMER, OXIDATION, CHEMICAL REACTION MECHANISM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/0317

STEP NO--UR/0459/70/012/003/0692/0696

CIRC ACCESSION NO--AP0111511

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

2/2 035 UNCLASSIFIED

CIRC ACCESSION NO--AP0111511 PROCESSING DATE--02OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TO THE SOLNS. OF 10 PRIME NEGATIVE3 NEGATIVE10 PRIME NEGATIVE5 M POLYPHTHALOCYANINE (I) OR ITS COMPLEXES WITH CU PRIME2 POSITIVE, ZN PRIME2 POSITIVE, GA PRIME3 POSITIVE, OR OS PRIME4 POSITIVE IN 17N H SUB2 SO SUB4, 10 MOLAR EXCESSES OF H SUB2 O SUB2, (NH SUB4)SUB2 S SUB2 O SUB3,OR KNO SUB3 WERE ADDED. THE OXIDN. OF I OR THEIR COMPLEXES CAUSES THE DISCHARGE OF THE SOLN. COLOR, PERMITTING THE OXIDN. RATE DETN. BY SPECTROPHOTOMETRY. THE OXIDN. RATES OF I ARE ANALOGOUS TO THE HYDROLYTIC I DECOMPN. RATES (B., ET AL., 1968). I AND ITS COMPLEXES ARE LESS STABLE IN OXIDIZING MEDIA THAN THE MONOMERIC PHTHALOCYANINES. AN OXIDN. MECHANISM IS PROPOSED.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

USSR

UDC: 8.74

SHORNIKOV, B. S.

"Analysis by Families of Sex Distribution in the Progeny of Standard Minks"

V sb. Vopr. kibernetiki (Problems of Cybernetics--collection of works), vyp. 25, Moscow, "Nauka", 1972, pp 93-94 (from RZh-Kibernetika, No 6, Jun 72, Abstract No 6V597)

Translation: A statistical verification of the hypothesis that the probability of birth of a male or female mink is identical, and that these events are statistically independent with respect to different individuals of a single litter. Author's abstract.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

USSR

UDC 681.3:53.085.3

SHOFNIKOV, YE. A., and GALKINA, G.I.

"Display Device"

USSR Authors' Certificate No 304572, Cl. G 06 f 3/14, filed 25 Apr 69, published 28 Jun 71 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 1, Jan 72, Abstract No 1A395P)

Translation: The proposed display device contains switches for presetting the transducer address, a storage block, a decoder connected to a digital display, control relays. For simplification the divice has one pair of contacts of the control relays connected to the decoder, while the other pair of contacts, connected via a holding circuit, is hooked up to the power source through the contacts of the other relays, whose windings are connected to the switches for presetting the transducer address. 1 illustration.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

USSR

UDC: 621.373:530.145.6

ANAN'YEV, Yu. A., SHERSTOBITOV, V. Ye., SHOROKHOV, O. A.

"Calculation of the Effectiveness of Lasers With High Emission Losses"

V sb. Kvant. elektronika (Quantum Electronics--collection of works), No 1, Moscow, 1971, pp 91-95 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5D178)

Translation: The paper presents the results of calculation of the energy characteristics of a laser with unstable cavity of the telescopic type. The results show that in selecting the efficiency-optimum cavity parameters, use may be made of the standard formulas of probability theory derived for the use of a flat cavity. It is shown that when there are appreciable in-active losses and when the emission threshold is considerably surpassed, these formulas are no longer applicable. A simple method is proposed for calculating the effectiveness of a laser in situations of this type. Three illustrations, bibliography of six titles.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

USSR

ANAN'YEV, Yu. A., SHERSTOBITOV, V. Ye., SHOROKHOV, O. A.

UDC 621.375.82

"Calculation of the Effectiveness of a Laser With Large Losses to Radiation"

V sb. Kvant. elektronika (Quantum Electronics -- Collection of Works), No. 1, Moscow, 1971, pp 91-95 (from RZh-Fizika, No 7, Jul 71, Abstract No 7D1038)

Translation: The energy characteristics of lasers with an unstable resonator of the telescope type are calculated. It is shown that in selecting the resonator parameters which are optimal from the aspect of efficiency, one can usually use standard formulas of probability theory derived for the application of a plane resonator. With considerable inactive losses and a large rise in the generation threshold, these formulas become inapplicable. A simple method is proposed for calculating the effectiveness of lasers in such situations. Authors abstract.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

AA0040677 SHOROKHOV V.I. UR 0482 3

Soviet Inventions Illustrated, Section I Chemical, Derwent, 1-70

241581 SHEET STEEL WELDING MACHINE with continuous weld deformation where to improve the weld quality of thin gauge sheet steel, a drum type welding machine was equipped with a semi-cylindrical trough 9 of a small diameter with a slot for the welding electrode 4. During welding, the steel sheets pass round the trough 9: the material expands under the heat and the edges of the sheets are bent downwards which ensures good contact of the welded seam with the backing support.

8.8.66 as 1096074/25-27. A.V.PETROV et alia(8.9.69) Bul 14/18.6.69. Class 21h. Int.Cl.B 23k.

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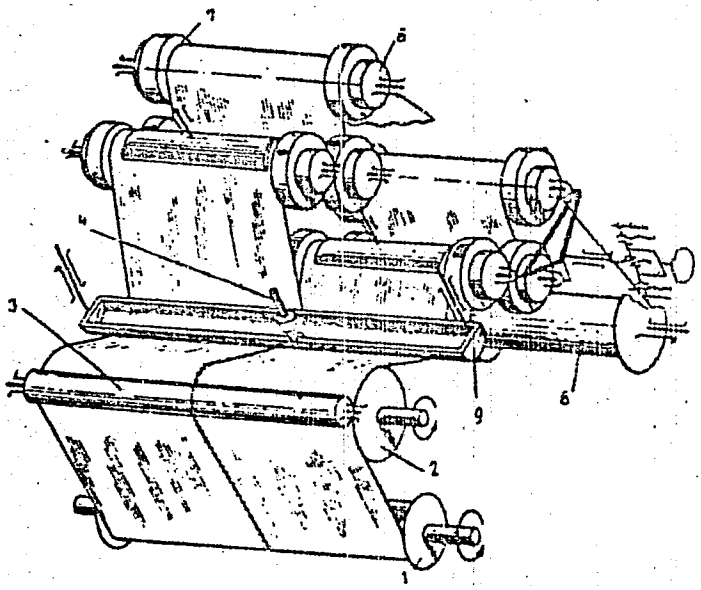
"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

AA0040677



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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

AA0040677

AUTHORS: Petrov, A. V.; Slavin, G. A.; Leonov, V. D.; Kuleshov, M. P.; Zhukov, V. F.; Shorokhov, V. I.; and Mitrofanov, B. D.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

USSR

UDC: 619:616.986.7'036.2:636

SOLOSHENKO, I. Z., PETROV, Ye. M., SHOROKHOV, V. V., DROGUN, A. G., REYCHUK, Ye. A., and OBOLONKOVA, L. K., Institute of Epidemiology and Microbiology imeni N. F. Gamaleya, Academy of Sciences USSR, and Moscow Technological Institute of Meat and Dairy Industry

"Problems of Leptospirosis Epizootiology"

Moscow, Veterinariya, No 12, Dec 70, pp 41-43

Abstract: Cattle, hogs, horses, and sheep in several regions of the Soviet Union were subjected to serological studies (microagglutination), culturing kidney suspensions, and microscopic examination of urine, with subsequent infection of guinea pigs. Leptospira tarassovi and pomona were agents in hogs. The possibility of infection in the Ulyanovsk region by L. grippotyphosa is not excluded. Cattle sppear to be infected by L. pomona, hebdomadis, and tarassovi. Antibodies for tarassovi, icterohaemorrhagiae, and australis were most frequently observed in the blood sera of horses. The L. ballum group was found in the sera of sheep and goats. Antibody liters in all serological groups were low. Acute infections did not exist among test animals.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

1/2 021 UNCLASSIFIED

TITLE--THE PATHOMORPHOLOGY OF SWINE LEPTOSPIROSIS UPON SPONTANEOUS INFECTION -U- PROCESSING DATE--27NOV70

AUTHOR-(04)-DROGUN, A.G., SHOROKHOV, V.V., SOLOSHENKO, I.Z., PETROV, YE.N.

COUNTRY OF INFO--USSR

SOURCE--VETERINARIYA, 1970, NR 2, PP 47-49

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--LEPTOSPIROSIS, HOG, LYMPHOID TISSUE, LIVER, KIDNEY, HISTOLOGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/1216 STEP NO--UR/0346/70/000/002/0047/0049

CIRC ACCESSION NO--AP0130226

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

2/2 021 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0130226

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STUDIES SHOWED THAT LEPTOSPIROSIS OF ADULT SWINE SPONTANEOUSLY INFECTED WITH L. POMONA OR L. TARASSOVI PROCEEDS WITHOUT ANY PRONOUNCED PATHOLOGICAL CHANGES. THE DISEASE IS MORE APPARENT IN ANIMALS INFECTED SIMULTANEOUSLY WITH BOTH L. POMONA AND L. TARASSOVI. HISTOLOGICAL STUDIES SHOWED MOSTLY DYSTROPHIC CHANGES AND PROLIFERATION ON LYMPHOID CELLS IN LIVER AND KIDNEYS. GRANULAR DYSTROPHY AND LYMPHOID CELL PROLIFERATION IN KIDNEY INTERSTITIAL TISSUE WERE FOUND IN ALL CASES, AND ARE CONSIDERED THE FIRST STAGE OF INTERSTITIAL NEPHRITIS AND A SPECIFIC SIGN OF SWINE LEPTOSPIROSIS.

FACILITY: MOSCOW TECHNOLOGICAL INSTITUTE OF THE MEAT AND DAIRY INDUSTRY. FACILITY: INSTITUTE OF EPIDEMIOLOGY AND MICROBIOLOGY IMENI N. F. GAMALEYA.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

1/2 025 UNCLASSIFIED

TITLE--CONCENTRATION FUNCTION OF THE DIFFUSION OF READILY CONDENSED GASES THROUGH RUBBERS -U-

PROCESSING DATE--23OCT70

AUTHOR-(04)-SHOROKHOVA, N.V., VASENIN, R.M., KOLYADINA, N.G., IOSSEL, G.F.

COUNTRY OF INFO--USSR

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SOURCE--KAUCH. REZINA 1970, 29(3), 21-3

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--PERMEABILITY MEASUREMENT, GAS ABSORPTION, GAS DIFFUSION, AMMONIA, FREON, SYNTHETIC RUBBER/(U)F12 FREON, (U)F22 FREON, (U)SKMS10 SYNTHETIC RUBBER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0531

STEP NO--UR/0138/70/029/003/0021/0023

CIRC ACCESSION NO--AP0119450

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0

2/2 025 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119450

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PERMEABILITY COEFF. (P), THE GAS ABSORPTION COEFF. (SIGMA), AND THE GAS DIFFUSION COEFF. (D) OF NH SUB3, FREON F-12, AND FREON F-22 WITH RESPECT TO UNFILLED SKMS-10 SYNTHETIC RUBBER MEMBRANES ARE DEPENDENT ON THE PARTIAL GAS PRESSURE (OR CONCN.) IN GAS MIXTS. P, SIGMA, AND D INCREASE LINEARLY WITH NH SUB3 PRESSURE AND NONLINEARLY WITH F-12 OR F-22 PRESSURE. THE CALCD. P VALUES FROM THE RELATION P EQUALS DSIGMA AND THE EXPTL. P VALUES COINCIDED. FACILITY: LENINGRAD. FILIAL NAUCH.-ISSLED. INST. REZIN. PROM., LENINGRAD, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010003-0"