"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

USSR UDC: 621.391.81

KUZENKOV, V. D., PUTILOVA, S. A.

"Effect of Limited Noise on a Receiver With Amplitude Detector"

Tr. Kuybyshev. aviats. in-t (Works of Kuybyshev Aviation Institute), 1970, vyp. 44, pp 54-64 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6A55)

Translation: The authors determine conditions under which the variance of the envelope of the process at the output of an ideal linear amplitude detector (or the variance of the square of the envelope in the case of a quadratic detector) reaches maximum values at fixed values of the input noise. The latter is narrow-band Gaussian noise with a zero average limited by an inertialess bilateral symmetric clipper with constant limiting level. Five illustrations, bibliography of six titles. N. S.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

USSR UDC: 621.391.827

KUZENKOV, V. D.

"Effect of Pulse Interference on a Receiver"

Tr. Kuybyshev. aviats. in-t (Works of Kuybyshev Aviation Institute), 1970, vyp. 44, pp 45-53 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6A46)

Translation: Expressions are derived for the mathematical expectation and variance of interference in the form of a flow of non-overlapping square radio pulses with a low off-duty factor at the output of a receiver which consists of a filter matched to an isolated radio pulse of rectangular shape and an ideal quadratic envelope detector. It is assumed that the input noise pulses have identical amplitude, duration and carrier frequency, and arbitrary initial phase. Five illustrations, bibliography of two titles. N. S.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

USSR UDC: 621.391:519.27

KUZENKOV, V. D.

"Use of the Representation of a Narrow-Band Random Process in the Form of a Quasiharmonic Signal in Solving Certain Problems"

Tr. Kuybyshevsk. aviats. in-t (Works of the Kuybyshev Aviation Institute), 1970, vyp. 44, pp 42-44 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6A49)

Translation: It is shown that representation of a narrow-band process in the form of a quasiharmonic oscillation with slowly varying envelope and phase makes it possible to determine the distribution of the envelope of the sum of two processes from the known distributions of the envelopes of the components without using eigenfunctions. A formula is derived which defines the probability density of the additive sum of two narrow-band random processes. One illustration, bibliography of three titles. N. S.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

USSR UDC: 621

KUZENKOV, V. D.

"On the Problem of the Transition Function of an Open Pulse System With Stepwise Variable Parameters"

Tr. Kuybyshev. aviats. in-t (Works of the Kuybyshev Aviation Institute), 1970, vyp. 44, pp 114-125 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5G251)

Translation: A method is outlined for computing the transfer functions of first and second order open pulse systems with stepwise variable parameters. The procedure is based on calculating the pulse characteristic by using ordinary and discrete Laplace transforms. Bibliography of four titles. N. S.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

USSR

UDC: 621.375

KORCHENENKOVA, V. G., Engineer, [redacted], Engineer, CHERNYSHEV, E. N., Engineer, POLONNIKOV, D. Ye., Doctor of Technical Sciences

"A Low-Current Measurement Amplifier"

Moscow, Pribory i Sistemy Upravleniya, No 4, Apr 72, pp 35-37

Abstract: An amplifier with temperature control is proposed for measuring currents of the order of 10^{-12}-10^{-14} A with a parametric input stage which appreciably simplifies circuitry, reduces overall dimensions and weight, and thus extends the range of application of these devices. A schematic diagram is presented and the operation of the device is described. The amplifier has a gain of the order of 10^5 with an output of 10 V at 10 mA. Drift is 30 μV/°C and input impedance is 10^{10} Ω.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

USSR UDC 661.55:621.762.5

KUZENKOVA, M. A., and KISLYY, P. S., Institute of Problems of Material Science, Academy of Sciences, Ukrainian SSR

"Sintering of Titanium Nitride in a Vacuum"

Kiev, Poroshkovaya Metallurgiya, No 2, Feb 71, pp 52-56

Abstract: Studies were performed with a powder of titanium nitride $TiN_{0.93}$ with a total content of impurities of 0.4% and average particle diameters of 0.5 and 10-20 μ. Specimens were prepared with porosities of 52-55% (coarse powder) and 38-40% (fine powder), dried, then vacuum sintered at various temperatures. The process of sintering of titanium nitride in a vacuum is significantly activated in its initial period. The increase in the rate of deformation during this period results from activation of processes on the particle surfaces, i. e., activated slipping of particles toward the centers of pores under the influence of surface tension forces. The period of stable

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

USSR

KUZENKOVA, M. A., and KISLYY, P. S., Poroshkovaya Metallurgiya, No 2, Feb 71, pp 52-56

creep is insignificantly activated. Activation of the process results from formation of excess vacancies upon heating in a vacuum. The kinetics can be described by a diffusion creep equation under the influence of the difference between surface and boundary energies. The titanium nitride grain growth rate during the initial period of sintering is so high that pores are trapped in grains. This indicates that grain growth occurs not due to boundary movement, but rather due to reorientation of neighboring grains with formation of sub-boundaries between them. The titanium nitride grain growth rate during the stable creep period follows the regularity of collective recrystallization.

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KUZENKOVA, M. A., and KISLYY, P. S., Institute of the Problems of Material Science, Academy of Sciences Ukrainian SSR

"Sintering of Titanium Nitride in Nitrogen"

Kiev, Poroshkovaya Metallurgiya, No 5, May 70, pp 34-38

Abstract: Studies were conducted of the kinetic parameters and mechanism of titanium nitride shrinkage in nitrogen. For the investigations, titanium nitride with the following chemical composition, close to stoichiometric, was used: Ti -- 78%, N -- 21.3%, C (general) -- 0.1%, Fe -- 0.2%, total -- 99.6%. The formula of the compound is $TiN_{0.95}$. According to the results of x-ray analysis, the titanium nitride was a single-phase product and had a constant lattice of a = 4.23 Å. Specimens were prepared by die-pressing from initial titanium nitride with particle sizes of 10-20 microns and from powder with mean particle size of about 0.5 micron obtained by pulverization in a vibrational mill in an alcohol medium for 60 minutes. The specimens pressed from unpulverized powders had a porosity of 52-55% prior to sintering and those from pulverized ones -- 38-40%. Sintering was conducted in the 1800-2400°C temperature region.

Results of the sintering of specimens from unpulverized titanium nitride indicated that even at a very high temperature (2400°C), specimens are obtained

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USSR

KUZENKOVA, M. A., and KISLYY, F. S., Poroshkovaya Metallurgiya, No 5, May 70, pp 34-38

with a porosity of about 50%. Moreover, up to 2200°C there is practically no shrinkage of specimens; porosity at temperatures up to 2000°C even increases and strength rises somewhat only at temperatures above 2200°C. The weight of specimens at sintering temperatures of 1800-2200°C rises slightly in view of the nitrogen absorption inasmuch as in the caked powder, with allowance made for impurities, 1.33% nitrogen is lacking. At 2400°C, the weight of the specimens begins to decrease with a rise in holding time, i.e., titanium nitride vaporization occurs regardless of the low overpressure of nitrogen in the furnace. The diffusion coefficients and activation energy of mass transfer in titanium nitride during sintering in nitrogen were calculated. The activation energy of the process of mass transfer via diffusion equalled 109± kcal/mole.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

1/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--REACTION OF SOME EPOXIDES OF OLEFINS WITH HYDROGEN BROMIDE -U-

AUTHOR-(03)-MALINOVSKIY, M.S., YUDASINA, A.G., KUZENTSOVA, L.N.

COUNTRY OF INFO--USSR

SOURCE--IKR. KHIM. ZH. 1970, 36(2), 183-6

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--EPOXIDE, ALKENE, HYDROGEN BROMIDE, PROPYLENE OXIDE, UV LIGHT, CHROMATOGRAPHY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/2017 STEP NO--UR/0073/70/036/002/0183/0186

CIRC ACCESSION NO--AP0125605

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

2/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125605

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE REACTION OF HBR WITH PROPYLENE OXIDE AND 3 SUBSTITUTED PROPYLENE OXIDES, THE MAJOR PRODUCT WAS A SECONDARY ALC. AND NO APPRECIABLE DIFFERENCE WAS MADE BY THE PRESENCE OF PEROXIDES, UV LIGHT, OR BOTH. THE FOLLOWING PERCENT OF SECONDARY ALC. BASED ON VAPOR PHASE CHROMATOG. WERE OBTAINED (SUBSTITUENTS AND RANGE IN PERCENT FOR THE VARIOUS TYPES OF RUN GIVEN): H, 75.2-8.4; CL, 97.7-8.95; AND CL SUB3, 97.1-100. FACILITY: DNEPROPETROVSK. GOS. UNIV., DNEPROPERTROVSK, USSR.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

1/2 026 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--DOSIMETRIC REQUIREMENTS TO THE ACCURACY OF RONTGENOMETRIC INVESTIGATIONS IN RADIUM THERAPY -U-

AUTHOR-(04)-KUZETSOV, E.A., SINITSYN, R.V., MALEVICH, M.A., KOSSOV, B.A.

COUNTRY OF INFO--USSR

SOURCE--MEDITSINSKAYA RADIOLOGIYA, 1970, VOL 15, NR 4, PP 67-70

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--RADIUM, RADIOTHERAPY, DOSIMETRY, CHARGED PARTICLE, ELECTROMAGNETIC RADIATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/0959 STEP NO--UR/0241/70/015/004/0067/0070

CIRC ACCESSION NO--AP0109116

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

2/2 026 UNCLASSIFIED PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0109116

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AS A CRITERION OF ACCURACY OF ROENTGENOMETRIC MEASUREMENTS THE AUTHORS PUT AN ERROR IN DETERMINING THE DOSE IN THE FOCUS IN DISPLACEMENT OF THE TARGET TO A DEFINITE VALUE. THE CALCULATION WAS MADE FOR ELECTROMAGNETIC RADIATION AND HEAVY CHARGED PARTICLES IN THE INSTANCE OF SHIFT OF THE TARGET IN THE DIRECTION OF THE BEAM AXIS AND IN PERPENDICULAR DIRECTION. FACILITY: TSENTRAL'NYY N-I RENTGENO-RADIOLOGICHESKIY INSTITUT MINISTERSTVA ZDRAVOOKHRANENIYA SSSR.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

UDC 541.183.24

USSR

MATSKEVICH, YE. S., KUZEVANOVA, L. V., and KUL'SKIY, L. A., Academician of the Academy of Sciences Ukrainian SSR, Institute of Colloidal Chemistry and the Chemistry of Water, Academy of Sciences Ukrainian SSR, Kiev

"Effect of Electron Density Displacement in Surface Layer of Active Carbons on Their Adsorption Properties in Electrolyte Solutions"

Moscow, Doklady Akademii Nauk SSSR, Vol 194, No 2, 1970, pp 303-306

Abstract: Based on the idea of the nonequipotentiality of the surface of oxidized active carbon, the authors assumed that changes in the dipole potential jump φ_d can be judged not so much from a decrease in cation adsorption as a change in the magnitude of anion adsorption. The purpose of the article was to study this question. The adsorption was studied on specimens of ashless coarse-pore carbon from phenol-aldehyde resin. It was found that methylation of oxidized carbon decreases the magnitude of the dipole potential jump due to the presence

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USSR

MATSKEVICH, YE. S., et al., Doklady Akademii Nauk SSSR, Vol 194, No 2, 1970, pp 363-366

of different oxygen-containing groups on the surface. The value of $\Delta\varphi_d$ can be found from variations in the magnitude of anion adsorption (a_A^-). Variations in $\Delta\varphi_d$ in the transition from oxidized carbons to methylated oxidized carbons can also be judged from displacement of the point of zero ion adsorption on these carbons, which tends towards less positive potentials.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

UDC 546.791

USSR

KUZHAKHMETOV, E. I.

"Extraction of Niobium and Tantalum on the Anion Exchange Resin AN-2F and EDE-10P"

Leningrad, Radiokhimia, Vol 13, No 5, 1971, p 788

Abstract: It was demonstrated that high purity niobium may be obtained using anion exchange resins AN-2F and EDE-10P for its purification. When ammonium chloride is used for desorption of the solutions, complete regeneration of the anion exchange resins is achieved. The niobium pentoxide obtained satisfies the technical requirements for the piezotechnique.

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USSR UDC 621.318.13:621.372.85

BEZMATERNYKH, L. N., SEVARTSMAN, G. I., MASHCHENKO, V. G., AFANAS'YEV, A. P., BOKOV, L. A., PROKHOPOV, A. R., ZAYTSEV, V. A., KUZHELEV, S. M.

"Controllable Delay Lines Based on Yttrium-Garnet Ferrite Rods"

V sb. Tonkiye magnitn. plenki, vychisl. tekhn. i radiotekhn. T. 2 (Thin Magnetic Films, Computer Technology and Radio Engineering--collection of works. Vol 2), Krasnoyarsk, 1971, pp 142-146 (from RZh-Radiotekhnika, No 11, Nov 71, Abstract No 11B190)

Translation: The paper presents the results of an experimental study on excitation and propagation of magnetoelastic and magnetostatic waves in yttrium-garnet ferrite rods as applied to their use in controllable delay lines. An analysis is made of relationships for delay time as a function of the external magnetic field when frequency is held constant, delay time as a function of frequency when the magnetic field is held constant, and total insertion losses as a function of delay time. The measurements were made in the frequency range of 560-3 800 MHz. Two illustrations, bibliography of eight titles. A. K.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

USSR UDC 621.382.2

ALMAZOV, A.B., KULIKOVA, YE.V., RYZHIKOV, I.V., KUZHETSOVA, YE.N., KURINNYY, V.I.

"Capacitance Of Abrupt Electron-Hole P-N Junction Allowing For Charge Of Mobile Carriers"

Elektron. tekhnika. Nauchno-tekhn. sb. Poluprovodn. pribory (Electronic Technology. Scientific-Technical Collection. Semiconductor Devices), 1970, Issue 3(93), pp 15-23 (from RZh--Elektronika i yeye primeneniye, No 1, January 1971, Abstract No 1B121)

Translation: Approximations are considered which make it possible to obtain analytical expressions for the capacitance of the space charge layer, allowing for the shielding effect of the free carriers with a low level of injection during negative and small positive biases. For consideration of an abrupt p-n junction, equal doping is assumed for both regions, disregarding the compensation of the impurity atoms and the recombination of the carriers in the space charge region. The above assumption is also correct for a high level of injection, but with the condition that the voltage at the p-n junction at some kT/q is less than the contact potential difference. An experimental test was conducted on unsymmetric p-n junctions formed by ionic doping in crystals with a concentration of acceptors $(2.5 \div 4.0) \cdot 10^{12}$ cm^{-3}; the thickness of the n-region amounted to 0.6 micron, and the concentration of donors changed from 10^{20} to 10^{12} cm^{-3}. 2 ill. 14 ref. V.M.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

1/2 020 UNCLASSIFIED PROCESSING DATE--11DEC70

TITLE--ON THE CHEMICAL COMPOSITION OF GALACTIC COSMIC RAYS -U-

AUTHOR-(02)-SYROVATSKIY, S.I., KUZMEVSKIY, B.M.

K

COUNTRY OF INFO--USSR, HUNGARY

SOURCE--INTERNATIONAL CONFERENCE ON COSMIC RAYS, 11TH, BUDAPEST, HUNGARY, AUGUST 25-SEPTEMBER 4, 1969, PROCEEDINGS. VOLUME 1 ORIGIN AND GALACTIC

DATE PUBLISHED--------70

SUBJECT AREAS--AGRICULTURE, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--CHEMICAL COMPOSITION, COSMIC RAY, GALAXY, HELIUM ISOTOPE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605061/804 STEP NO--HU/2506/70/029/000/0313/0316

CIRC ACCESSION NO--AT0144428

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

2/2 G20 UNCLASSIFIED PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AT0144428

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STUDY DEALING WITH THE DATA ON THE COMPOSITION OF COSMIC RAYS AND FRAGMENTATION PARAMETERS IN HIGH ENERGY REGIONS (E GREATER THAN 1.5 GEV-NUCLEON). THESE DATA WERE USED TO ESTIMATE THE MOST PROBABLE VALUES AND THEIR UNCERTAINTIES. THE THICKNESS OF MATTER TRAVERSED BY COSMIC RAYS IN GALAXY IS CALCULATED AS X EQUALS 5.9 PLUS OR MINUS 5, 5.3 PLUS OR MINUS 4.2, AND 9 PLUS OR MINUS 4 G-SQ CM, RESPECTIVELY, FOR THREE MODELS OF PROPAGATION: REGULAR, DIFFUSION, AND HOMOGENEOUS. FOR THESE MODELS THE CHARGE COMPOSITION OF THE SOURCES IS DISCUSSED. CONSIDERING THE ABUNDANCE OF HELIUM ISOTOPES AND L NUCLEI IT IS CONCLUDED THAT THE USUALLY USED REGULAR MODEL (SLAB APPROXIMATION) IS UNRELIABLE FOR GALACTIC COSMIC RAYS. FACILITY: AKADEMIIA NAUK SSSR, FIZICHESKII INSTITUT, MOSCOW, USSR.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

USSR UDC: 535.31;535.8

KUZICHEV, V. I.

"Inverted Telephoto Lenses"

Tr. Mosk. Vyssh. Tekhn Uch-Shcha Im N. E. Baumana [Works of Moscow Higher Technical School Imini N. E. Bauman], No. 135, 1970, pp 88-95, (Translated from Referativnyy Zhurnal Fizika, No. 8, 1970, Abstract #8Д1223, unsigned).

Translation: Problems of calculating the dimensions of inverted telephoto lenses are discussed. The characteristics of various domestic and foreign systems are presented.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

USSR

UDC 632.938:616.992:632.4

YAROSHENKO, T. V., GREBENCHUK, Ye. A., NIKITINA, A. V., and KUZICHEVA, V. V., Kharkov State University

"Plant Immunity to Different Kinds of Parasites"

Leningrad, Mikologiya i Fitopatologiya, No 6, 1972, pp 235-240

Abstract: Long-term studies on different plant families (Gramineae, Chenopodiacea, Solanaceae) show that they have similar immunological responses to fungus infections regardless of the biological characteristics, evolutionary development, and nature of the parasitism of the pathogens, e.g., Erysiphe graminis, Ustilago zeae, Cercospora beticola, Peronospora schachti, Tilletia tritici, Sphacelotheca panici-miliacea, and Puccinia triticina. These pathogens all undergo recessive changes in the host plants in the form of hypoplasia, plasma degeneration, and lysis. It would appear, therefore, that the processes by which physiological immunity is formed are basically similar even when induced by different agents.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

USSR UDC 632.937.3

ADASHKEVICH, B. P., and KUZIN, A. A., Moldavian Scientific Research Institute of Irrigation Farming and Vegetable Growing

"Resistance of Common Chrysopa to Pesticides"

Moscow, Khimiya v Sel'skom Khozyaystve, Vol 9, No 6, 1971, pp 23-24

Abstract: Previous studies showed that Chrysopa is relatively resistant to a number of pesticides in the larval stage. The present article shows that Chrysopa is relatively resistant to Cyphos, Kil'val' [transliterated from the Russian], Amiphos, Phosalone and anabasine sulfate in all developmental phases. Chrysopa is least subject to the destructive action of pesticides in the egg and third instar larva phase. Pesticide resistance increases with the instar of the larvae. The relative pesticide resistance of Chrysopa offers great opportunities to combine the chemical and biological method of controlling harmful insects.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

USSR UDC 629.7.036:3:536.46

KUZIN, A. F., YANKOVSKIY, V. M., APOLONOV, V. L., and TALANEOV, A. V.

"Influence of the Initial Temperature Upon the Basic Combustion Characteristics of a Homogeneous Mixture in a Turbulent Stream"

Moscow, Goreniye i Vzryv--Sbornik (Combustion and Explosion--Collection of Works), Nauka, 1972, pp 337-341 (from Referativnyy Zhurnal--Aviatsionnyye i Raketnyye Dvigateli, No 2, 1973, Abstract No 2.34.34. Resume)

Translation: Data are presented of an experimental investigation of the relationship of the length of the combustion zone, the combustion time, and the rate of turbulent propagation of the flame to the temperature. The object of the investigation was a two-dimensional (turbulent) flame of a homogeneous gasoline-air mixture. The range of the investigation embraces: T_0 = 393-793°K; α = 0.4-1.9; w = 30-75 m/sec; C = 4.7%. The experiments enabled the following to be established. 1. The mainstream temperature exerts a substantial influence upon the basic combustion characteristics. 2. As the mainstream temperature is increased, the rate of turbulent propagation of the flame increases, and the combustion time decreases, as does also the length of the combustion zone. 3. With an increase of the initial rate, the degree of influence of the initial temperature upon the combustion characteristics decreases. An

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

USSR

KUZIN, A. F., Goreniye i Vzryn--Sbornik, Nauka, 1972, pp 337-341

analysis of the results of the investigation, conducted on the basis of a surface model of turbulent combustion, manifests a good correspondence between the conclusions of the theory and the experimental data. 4 figures. 5 references.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

USSR

KUZIN, A. M., Corresponding Member, Academy of Sciences USSR

Problemy Radiobiologii (Problems of Radiobiology), Moscow, "Znaniye," 1970, 96 pp

Translation: Annotation: Aleksandr Mikhaylovich Kuzin is a corresponding member of the Academy of Sciences USSR, a doctor of biological sciences, and the author of more than 300 written pieces in the area of biochemistry and radiobiology. A. M. Kuzin's monographs on radiation biochemistry, the use of radioisotopes in biological research, and the structural-metabolic hypothesis in radiobiology have received wide fame.

At the present time, Aleksandr Mikhaylovich heads the division of radiobiology at the Institute of Biophysics, Academy of Sciences USSR, directs the activity of the Scientific Council on the Problem of Radiobiology at the Academy of Sciences USSR, and is a USSR representative in the U. N. Scientific Committee on Atomic Radiation.

Introduction: The splitting of the atomic nucleus, the creation of atomic nucleus, the creation of atomic reactors, the widespread use of atomic energy for peaceful purposes, atomic weapons, achievements in mastering thermonuclear power, and the penetration of man into outer space. This is merely an incomplete list of the events which have set a new problem, the problem of radiation and life, right in front of man.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

USSR

KUZIN, A. M., Problemy Radiobiologii, Moscow, "Znaniye," 1970, 96 pp

High-energy, ionizing, penetrating radiation has intruded into our life on a broad front, and questions of its influence on everything living on the earth, above all on the human being, have taken on prime significance. Atomic bomb explosions pollute the environment surrounding us with radioactive nuclides. Radioactive strontium and cesium have appeared in the soil, in plants, in food, and in our bodies. A concentration of radioactive carbon has appeared in the atmosphere. A great deal of effort and labor is spent protecting personnel at enterprises against nuclear radiation from the reactors. Radioactive isotopes are being increasingly widely used not only in scientific research, but also in industry (gamma defectoscopy, radioactivity gauges, thickness gauges, removing electric charges in textile production, and so on), in agriculture (the control of agricultural pests, radiation selection, prolonging product storage periods, and so on), in the food industry (radiation conservation and radiation pasturization), and in medicine (diagnosing and treating a number of diseases, radiation sterilization of bandage materials, medicines, and so on).

Atomic energy is being used to produce electric power, freshen water, and create new types of transportation (atomic ice-breakers, oil transport ships, submarines, and so on).

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KUZIN, A. M., Problemy Radiobiologii, Moscow, "Znaniye," 1970, 96 pp

Space radiation is a serious barrier in planning prolonged space flights by human beings. The Earth's radiation belts limit human flight paths to nearby space. Ionizing radiation interacts with matter and, therefore, with human organisms according to laws which differ from the previously-known light radiation of the sun and even ultraviolet rays. Everything that has been said has led to intensive investigation of the results, rules, and mechanisms ofthe effect of ionizing radiation on human organisms, and has led to the appearance of a new scientific discipline -- radiobiology.

Radiobiologists study a broad range of phenomena. They investigate the effect of high-energy radiation on the substances which living organisms are based on, above all proteins andnucleic acids. A great deal of attention is devoted to the effect of radiation on viruses and bacteriophages. Radiobiologists have directed enormous efforts to investigating the processes which arise in the exposed cell, the simplest unit of life, contamination of which is the basis for the effect of radiation on complex organisms.

It is completely obvious that radiobiologists are first of all interested in the consequences of the effect of radiation on the organisms of mammals and human beings, in particular the questions of protection against and restoration after the harmful effect of radiation, and also the effect of radiation on the plant world, on communities of living organisms in nature,

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KUZIN, A. M., Problemy Radiobiologii, Moscow, "Znaniye," 1970, 96 pp

and on the entire biosphere of our planet.

Radiobiology has developed very rapidly in the past decade. Already today, important branches such as radiation genetics, radioecology, molecular radiobiology, and others are separating themselves out from the main trunk of radiobiology. As in any fast-growing discipline, along with its great achievements radiobiology still has a great deal that is debatable and unclear. The discovery of previously unknown phenomena leads to new problems and makes it necessary to rethink known facts and existing hypotheses.

In the work which is now offered to readers, the author has not posed the task of systematically presenting everything that is important and interesting that we have obtained in radiobiology. Inevitably, he has selectively chosen only a few problems which are, from his point of view, the most important and promising for the development of radiobiology as a whole, as well as certain debatable questions which require further development and an influx of the new strength of young researchers into radiobiology.

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USSR UDC 577.391

KUZIN, A. M., Institute of Biophysics, Academy of Sciences, USSR

"Initial Processes Produced In Plants Under the Effect of Ionizing Radiation"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Biologicheskaya, No 4, 1971, pp 495-502

Abstract: The author demonstrates on the basis of experiments and literature data that, contrary to prevailing opinion, the indirect effect of radiotoxins resulting from irradiation plays a part equal to and at times greater than the direct effect of radiation on the genome of plant cells. Acting upon the DNA of a genome, radiotoxins inhibit development and disrupt enzyme activity, disturbing the equilibrium between growth inhibitors and growth activators. As a result of investigation of the effect of irradiation on (α)-amylase synthesis during the first twelve hours of wetting barley seeds, it was proved that within the range of 40 cr the genetic macromolecular system was not damaged and that the effect was due to the absence of low-molecular effector in the irradiated seed; this effect was apparently produced because of radiation disruption of the metabolic processes. The heating of irradiated seeds lowers significantly the radiation damage in both morphological and biochemical

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USSR

KUZIN, A. M., Izvestiya Akademii Nauk SSSR, Seriya Biologicheskaya, No 4, 1971, pp 495-502

indicators by producing disappearance of free radicals and dissipation of reserve energy. Experiments with washing out of primary radiotoxins with two-percent urea solution in the first 12 hours of wetting irradiated seeds demonstrates the part played by radiotoxins formed in the radiation damage of a plant. This postradiation intervention almost fully restores growth, development, and chlorophyll synthesis, lowers the amount of chromosome abberrations, and normalizes enzyme activity. A study of water soluble radiotoxins resulted in the hypothesis, regarded at present as most probable, that polyphenols form the main group of substances producing water soluble radiotoxins.

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GAZIYEV, A. I., FOMENKO, L. A., SUKHORUCHKINA, L. V., and KUZIN, A. M.
Corresponding Member, Academy of Sciences USSR, Institute of Biophysics, Academy of Sciences USSR, Pushchino-na-oke

"Analysis of Internucleotide Breaks in Gamma-Irradiated DNA Reparable With Polynucleotide Ligase"

Moscow, Doklady Akademii Nauk SSSR, Vol 199, No 1, 1971, pp 216-218

Abstract: The purpose of the work was to study the quantitative relationships between phosphate breaks in DNA reparable and nonreparable by polynucleotide-(PN) ligase as a function of the irradiation dose. The analysis was carried out by quantitatively joining breaks in the phosphate bond with PN-ligase and by splitting off the free phosphorus with alkaline phosphatase. DNA with a radioactive label was obtained from a culture of Bacillus subtilis SECW grown on a medium containing P^{32}. The yield of breaks reparable and nonreparable by PN-ligase was in a linear relationship to the dose. The number of reparable breaks constituted 77 to 85% of the total. The large number of $5'PO_4 \sim 3'OH$ internucleotide breaks is ascribed to the oxidation of 3'C-desoxyribose and labilization of the 3'- O - P bond.

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1/2 024 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--EFFECT OF GAMMA IRRADIATION OF RATS DURING EMBRYOGENY ON THE ISOENZYME COMPOSITION OF LACTIC DEHYDROGENASE IN THE TISSUES

AUTHOR-(02)-VYGOVSKAYA, G.P., KUZIN, A.M.

COUNTRY OF INFO--USSR

SOURCE--RADIOBIOLOGIYA 1970, 10(2), 306

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--GAMMA IRRADIATION, RAT, EMBRYOLOGY, LACTATE DEHYDROGENASE, ISOENZYME, LIVER, SPLEEN, HEART

CONTROL MARKING--NO RESTRICTIONS

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2/2 024 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0139610

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. LACTIC ACID DEHYDROGENASE ISOENZYMES WERE ESTD. IN THE LIVER, SPLEEN, AND HEART OF NEWBORN, [illegible] 20 DAY OLD RATS. WHEN MOTHERS WERE IRRADIATED WITH 200 RAD BEFORE DELIVERY, THEIR OFFSPRING SHOWED FASTER DEVELOPMENT OF THE ISOENZYME PICTURE RESEMBLING INCREASED AGING RATES. FACILITY: MOSK. TEKHNOL. INST. MYAS MOLOCH. PROM., MOSCOW, USSR.

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1/3 036 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--RADIATION DISTURBANCE OF ATP SYNTHESIS IN THYMUS CELL NUCLEI -U-

AUTHOR-(02)-KUZIN, A.M., TARSHIS, M.A.

COUNTRY OF INFO--USSR

SOURCE--RADIOBIOLOGIYA 1969, 9(5), 755-7

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--THYMUS GLAND, RAT, RNA, DNA, NUCLEUS, RADIATION BIOLOGIC EFFECT, ADENOSINE TRIPHOSPHATE, BIOSYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/0433 STEP NO--UR/0205/69/009/005/0755/0757

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2/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--EFFECT OF GAMMA RADIATION ON THE RESPIRATION OF THYMOCYTE NUCLEI
-U-

AUTHOR-(02)-KUZIN, A.M., TARSHIS, M.A.

COUNTRY OF INFO--USSR

SOURCE--RADIOBIOLOGIYA 1970, 10(1), 116-19

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--GAMMA IRRADIATION, THYMUS GLAND, CELL PHYSIOLOGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/1848 STEP NO--UR/0205/70/010/001/0116/0119

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2/2 019 UNCLASSIFIED PROCESSING DATE--10OCT70

CIRC ACCESSION NO--AP0127258

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RATS WERE DECAPITATED, AND THEIR THYMOCYTE NUCLEI WERE SEPD. IN A GLUCOSE, NACL MEDIUM AND IN 0.25M SUCROSE PLUS 3 MM CACL SUB2 MEDIUM, IN 0.05M TRIS BUFFER, PH 7.4. LIVE RATS OR NUCLEI SUSPENDED IN SUCROSE-CACL SUB2 WERE GAMMA IRRADIATED (PRIME137 CS) WITH 1000 R AT 500 R-MIN. THE SUSPENDED NUCLEI IN VITRO WERE INCUBATED AT 37DEGREES WITH THE PERIODIC SHAKING. GAMMA IRRADN. STIMULATED NUCLEAR RESPIRATION 18PERCENT IN THE IRRADIATED RATS DURING THE INITIAL 30 MIN, BUT THEREAFTER IT WAS INHIBITED 44PERCENT BY 4 HR POSTIRRADN. NUCLEI IRRADIATED IN VITRO LOST THEIR ABILITY TO ABSORB O MUCH FASTER AND TO A GREATER EXTENT. IRRADN. OF THE NUCLEI AND INCUBATION IN BLOOD SERUM CONSIDERABLY DECREASED THE IRRADN. INJURY.

FACILITY: INST. BIOFIZ., PUSHCHINO, USSR.

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USSR

SOLNTSEV, Yu. P., and KUZIN, A. V., (Editors)

"Optimizatsiya Metallurgicheskikh Protsessov" (Optimization of Metallurgical Processes), "Metallurgiya," Moscow, No 5, 1971, 448 pp

Translation of Foreword: The symposium, "Optimization of Metallurgical Processes," No 5, was compiled on the basis of papers presented at the Scientific-Technical Conference conducted by the "Bol'shevik" Plant together with the Leningrad District Administrations of the Scientific-Technical Society Mashprom and Ferrous Metallurgy, the Leningrad House of Scientific and Technical Propaganda, the Leningrad Polytechnic Institute imeni M. I. Kalinin, and the Northwestern Correspondence Polytechnic Institute, in May 1969. The works, presented by speakers of the Conference, were carried out both in laboratories of scientific-research institutes and universities and in laboratories and departments of plants of many cities in the Soviet Union. They cover a very wide range of problems. The symposium includes reports concerning the production of steel and alloys, foundry production, and heat reatment and shaping of metals. Intensive physico-mathematical analysis of investigation results is characteristic for the majority of reports. The method of mathematical statistics was selected by many authors of reports as a means of simplifying

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SOLNTSEV, Yu. P., and KUZIN, A. V., (Editors), "Optimizatsiya Metallurgicheskikh Protsessov" (Optimization of Metallurgical Processes), "Metallurgiya," Moscow, No 5, 1971, 448 pp

complex processes of metallurgical production. In addition to such types of statistical analysis as correlation, regression, and others, which have been used in processing investigation results, many authors made use of new achievements in the theory of mathematical statistics -- the method of planning the experiment and the random balance -- the application of which is rather recent in metallurgical investigations. The employment of such unique methods has made it possible to obtain the required results by methods requiring less time and material expenditures. This will certainly be an important contribution to our country in accelerating scientific-technical progress. In view of the limited space, not all materials presented at the Scientific-Technical Conference have been included. The Organizational Committee of the Conference presents its apologies to those speakers whose materials were not published in the present symposium.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

USSR

SOLNTSEV, Yu. P., and KUZIN, A. V., Editors, "Optimizatsiya Metallurgicheskikh Protsessov" (Optimization of Metallurgical Processes), "Metallurgiya," Moscow, No 5, 1971, 448 pp

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

USSR

SOLNTSEV, Yu. P., and KUZIN, A. V., Editors, "Optimizatsiya Metallurgicheskikh Protsessov" (Optimization of Metallurgical Processes), "Metallurgiya," Moscow, No 5, 1971, 448 pp

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

USSR

SOLNTSEV, Yu. P., and KUZIN, A. V., Editors, "Optimizatsiya Metallurgicheskikh Protsessov" (Optimization of Metallurgical Processes), "Metallurgiya," Moscow, No 5, 1971, 448 pp

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

USSR

SOLNTSEV, Yu. P., and KUZIN, A. V., Editors, "Optimizatsiya Metallurgicheskikh Protsessov" (Optimization of Metallurgical Processes), "Metallurgiya," Moscow, No 5, 1971, 448 pp

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USSR

SOLNTSEV, Yu. P., and KUZIN, A. V., Editors, "Optimizatsiya Metallurgicheskikh Protsessov" (Optimization of Metallurgical Processes), "Metallurgiya," Moscow, No 5, 1971, 448 pp

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

USSR

SOLNTSEV, Yu. P., and KUZIN, A. V., Editors, "Optimizatsiya Metallurgicheskikh Protsessov" (Optimization of Metallurgical Processes), "Metallurgiya," Moscow, No 5, 1971, 448 pp

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

USSR UDC: 621.385:530.145.6:62

SUMINOV, V. M., PROMYSLOV, Ye. V., SKVORCHEVSKIY, A. K., KUZIN, B. G.

"Effect Which Misalignment of the Mirrors in a Laser Cavity Has on the Accuracy of Geometric Parameters of Laser-Drilled Holes"

V sb. Obmen opytom v radiopromsti (Experience Pooling in the Radio Industry --collection of works), vyp. 1, Moscow, 1971, pp 26-29 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5D472)

Translation: The authors describe experimental studies carried out on specimens of Kh18N9T steel in which they determined the effect of cavity misalignment on the diameter and depth of laser-drilled holes and the change in weight of the metal removed during machining. It is shown that when the mirrors are misaligned, there are appreciable changes in the longitudinal and transverse shapes of finished holes. For all possible versions of mirror misalignment there is a change in the weight of the vaporized metal with an increase in the angle of misalignment. The amount of material removed during machining differs for all cases. Maximum hole parameters are observed with a certain displacement of the mirrors relative to the end surfaces of the active medium, rather than with perfect alignment. The most favorable case is that where the cavity mirrors are oriented in the same direction and shifted by the same angle. A. K.

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UDC 621.793:661.183.2:541.183

USSR

BULATOVA, R. F., KOGAN, V. S., KUZIN, I. A., and LOSKUTOV, A. I.

"Low-Temperature Adsorption on Metallized Carbon"

Leningrad, Zhurnal Prikladnoy Khimii, Vol XLIV, No 1, Jan 71, pp 217-219

Abstract: Metallizing of active carbon at room temperature and normal atmospheric pressure produces a considerable increase in its thermal conductivity, with only a slight deterioration in its adsorption capability.

SKT carbon with full and partial copper metallizing was tested under cryovacuum conditions to determine if the above effects appeared there as well.

It was found that partially metallized SKT carbon granules are the most effective for use in cryovacuum devices using any considerable thickness of sorbent. Time required for establishment of adsorption equilibrium remains practically constant with this type of carbon for layer thicknesses from 2 up to 30 mm. Adsorption capacity for $P = 1 \cdot 10^{-5}$ mm Hg and $T = 20.4°$ is independent of layer thickness.

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UNCLASSIFIED PROCESSING DATE--23OCT70

1/2 012

TITLE--PREPARATION OF PHOSPHORYLATED ACTIVATED CARBON -U-

AUTHOR-(02)-KUZIN, I.A., KOEMETS, L.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(3), 695-8

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ACTIVATED CARBON, HYDROGEN FLUORIDE, ION EXCHANGE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/1538 STEP NO--UR/0080/70/043/003/0695/0698

CIRC ACCESSION NO--AP0120319

UNCLASSIFIED

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UNCLASSIFIED PROCESSING DATE--23OCT7

2/2 012
CIRC ACCESSION NO--AP0120319
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ACTIVATED CARBON WAS DEMINERALIZE
WITH HCL AND HF, DRIED AT 105DEGREES, AND THEN TREATED WITH PCL SUB3
VAPOR DURING 7 HR AT VARIOUS TEMPS., COOLED IN THE ABSENCE OF AIR,
WASHED WITH N HCL AND THEN WITH DISTD. WATER UNTIL NO CL PRIME NEGATIVE
COULD BE DETECTED IN THE WASHINGS, THEN DRIED AGAIN AT 105DEGREES. THE
HIGHEST AMT. OF PCL SUB3 WAS RETAINED BY THIS CARBON WHEN THE TREATMENT
WAS AT 800DEGREES. THE ION EXCHANGE CAPACITY OF PHOSPHORYLATED CARBON
TOWARDS NAOH IS ALSO MAXIMAL AFTER TREATMENT AT 800DEGREES. PROLONGED
CONTACT OF PHOSPHORYLATED CARBON WITH WATER AND ALK. OR ACIDIC SOLNS.
RESULTS IN CLEAVAGE OF SOME PHOSPHORIC ACID. THUS, TREATMENT OF
PHOSPHORYLATED CARBON WITH N NAOH DURING 1 HR RESULTS IN A DECREASE OF
CONTENT FROM 2.7 TO 2.5PERCENT. THERMAL STABILITY OF PHOSPHORYLATED
CARBON WAS DETD. LOSS OF P WAS OBSD. LARGER THAN 600DEGREES. A LINEA
DEPENDENCE BETWEEN ION EXCHANGE CAPACITY OF THIS CARBON AND P CONTENT
WAS OBSD.; THE DATA SUGGEST THAT ONE ACTIVE H (EXCHANGEABLE TO NA PRIME
POSITIVE) IS AVAILABLE FOR EACH P ATOM RETAINED BY CARBON.
FACILITY: LENINGRAD. TEKHNOL. INST. 'IM. LENSOVETA, LENINGRAD, USSR.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

UDC 59:616.981.455(574.52)

USSR

TYKIMBAYEV, M. A., KORNEYEV, G. A., KUNITSA, G. M., TLEUGABYLOV, M. K., TEYKIN, V. S., SKVORTSOVA, S. S., KUZIN, I. P., and SURMIN, V. M., Central-Asian Scientific Research Antiplague Institute, Alma-Ata

"A Tugai Focus of Tularemia in Dzhambulskaya Oblast in the Lower Chu Flow"

Moscow, Zoologicheskiy Zhurnal, Vol 50, No 10, 1971, pp 1595-1598

Abstract: Rhipicephalus pumilio, the tick which carries and transmits tularemia bacteria, can circulate the bacteria over a long time-span due to its ability to parasitige hares and other rodents at all stages of its development. The flooded fields in this region, on which cattle graze, create ideal conditions for the spread of the ixodid tick. Dermacentor daghestanicus is the dominant species because of its high percentage of infection by tularemia bacteria and because it preserves the bacteria in its body for a long period. Bacteriological studies were made of 117 mammals and 19,000 ticks of various species. In infected hares pathological-anatomic changes were manifested by enlargement of the spleen, in some cases by a change in the color and texture of the liver, and by the characteristic mound arrangement of cocci-bacteria in the spleen, liver, lungs, lymph nodes, and blood. 30 strains of Pasteurella tularensis were found in ixodid ticks and 7 strains, in the hare (Lepus tolai). These strains decompose glycerine and circulate in the tugai focus.

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UNCLASSIFIED PROCESSING DATE--02OCT70

1/2 015

TITLE--ELECTROCHEMICAL SEPARATION OF INDIUM CONTAINING POLYMETALLIC AMALGAMS IN A CHLORIDE TARTRATE ELECTROLYTE -U-

AUTHOR-(03)-KUZIN, L.F., DERGACHEVA, M.B., CHERNIY, G.M.

K

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(3), 560-7

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, CHEMISTRY

TOPIC TAGS--AMALGAM, ELECTROCHEMISTRY, INDIUM CONTAINING ALLOY, ELECTROLYSIS, CHLORIDE, ELECTROLYTE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/0741 STEP NO--UR/0080/70/043/003/0560/0567

CIRC ACCESSION NO--AP0111934

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UNCLASSIFIED PROCESSING DATE--03OCT70

2/2 015

CIRC ACCESSION NO--AP0111934

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ELECTROCHEM. BEHAVIOR OF METALLIC ADMIXTS. IS STUDIED FROM POLARIZATION CURVES. AS ANODE AND CATHODE, 10PERCENT IN AMALGAM IS USED. SIMULTANEOUS DISCHARGE OF IN WITH MORE ELECTRONEG. METAL ADMIXTS. (CD, GA, ZN) IS STUDIED BY INTRODUCTION OF METAL CHLORIDES INTO THE ELECTROLYTE AND DETG. THE DISTRIBUTION OF THE ADMIXTS. IN THE SYSTEM ELECTROLYTE IN AMALGAM (CATHODE). AFTER EACH EXPT., THE CATHODE AMALGAM IS DECOMPD. ELECTROLYTICALLY UP TO THE POTENTIAL OF PURE HG. THE METAL ADMIXTS. ARE DETD. COLORIMETRICALLY. THE POLARIZATION CURVES SHOW THAT SIMULTANEOUS ANODIC REACTIONS OF IN AND ACCOMPANYING ELEMENTS (CU, BI, PB, AND SN) AS WELL AS THE CATHODIC REACTIONS OF THE DISCHARGE OF TL, GA, CD, AND ZN IONS DO NOT TAKE PLACE. WITH USE OF A CALCN. ANAL. METHOD, PARTITION COEFFS. FOR PB IN, CD IN, AND ZN IN WERE 10 PRIME4, 1.9 TIMES 10 PRIME3, AND 1.8 TIMES 10 PRIME3, RESP. THE AMT. OF THE MORE ELECTRONEG. METAL ADMIXTS. MAY DECREASE DUE TO A SECONDARY REACTION BETWEEN THE IN IONS OCCURRING IN THE LAYER NEAR THE ELECTRODE, AND THE DISCHARGE METAL.

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USSR

KUZIN, L. T., YEROKHIN , YE. A. and SMOLYAKOV, V. A.

"A Linguistic Model of the Organization of a Certain Class of Motions"

Inzh. Mat. Metody v Fiz. i Kibernet. [Engineering Mathematics Methods in Physics and Cybernetics -- Collection of Works], No 2, Moscow, Atomizdat Press, 1973, pp 92-98 (Translated from Referativnyy Zhurnal Kibernetika, No 10, 1973, Abstract No 10V789)

Translation: The creation of cybernetic devices capable of performing complex functions without direct participation by man is related to the problem of creation of artificial intelligence. The imitation of motions, in particular, is one component of this problem. This work studies the possibility of solving the problem of control of a mechanical manipulator using the apparatus of Khomskiy structural linguistics. As a manipulator, a three-link mechanism is studied, in which the first link has two degrees of freedom, the second link has one and the third link has three. At the end of the third link is a device for clamping of the target, which is fixed in space by two angles and the distance from the origin of the coordinates. The structural plan of the solution of the problem includes a linguistic model of the control of motion and the algorithmic portion of the construction of motion. A grammar is constructed for solution of this problem. The set of symbols form-

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USSR

KUZIN, L. T., YEROKHIN, YE. A. and SMOLYAKOV, V. A., Inzh. Mat. Metody v Fiz. i Kibernet., No 2, Moscow, Atomizdat Press, 1973, pp 92-98

ing the terminal dictionary (set of elementary motions) and nonterminal dictionary is defined: the initial symbol; the group of symbols corresponding to inscription of the basic actions; the group of symbols corresponding to complex motions. The rules of the grammar are presented. An example of performance of the action "tranfer" is described.

A. Doroshenko

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

UDC: 681.3.06:51

USSR

KUZIN, L. T., PREOBRAZHENSKIY, A. B., VOLCHENKOV, N. G.

"A Methematical Model for Construction of a Certain Class of Three-Dimensional Structures"

V sb. Inzh.-mat. metody v fiz. i kibernet. (Engineering-Mathematics Methods in Physics and Cybernetics--collection of works), Moscow, Atomizdat, 1971, pp 38-44 (from RZh-Kibernetika, No 11, Nov 71, Abstract No 11V845)

Translation: The paper deals with a method of creating a grammar for propositions which will be descriptions of possible three-dimensional structures of a certain class. A fairly extensive class of structural elements made up of parts from an Erector Set is considered. The terminology vocabulary is made up of the symbols used to code the various parts which occupy a given position in the preselected coordinate system. The following assumptions are made with respect to the coordinates and the arrangement of the parts: 1) only discrete, whole-number values of the coordinates of objects are considered; 2) all parts with the sole exception of type l (flat plates) are arranged in such a way that their edges are parallel to the coordinate axes; 3) a part of type l is arranged in such a way that its

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USSR

KUZIN, L. T. et al., Inzh.-mat. metody v fiz. i kibernet., Moscow, Atomizdat, 1971, pp 38-44

plane is parallel to one of the three planes of the Cartesian coordinate system, and orientation in the given plane has one of 12 different values. V. Mikheyev.

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UDC: 8.74

USSR

KUZIN, L. T., YEROKHIN, Ye. A., SMOLYAKOV, V. A.

"Linguistic Model of Organization of a Certain Class of Movements"

Moscow, Inzh. mat. metody v fiz. i kibernet.--sbornik (Engineering Mathematics Methods in Physics and Cybernetics--collection of works), vyp. 2, Atomizdat, 1973, pp 92-98 (from RZh-Matematika, No 10, Oct 73, abstract No 10V789 by A. Doroshenko)

Translation: The creation of cybernetics devices which could perform complicated functions without the direct participation of man involves the problem of creating an artificial intelligence. Simulation of movements is one of the specific components of this problem. The paper examines the possibility of solving the problem of controlling mechanical manipulators by using Chomsky's structural linguistics apparatus. The manipulator considered is a three-link mechanism in which the first link has two degrees of freedom, the second has one, and the third has three. On the end of the third link is an attachment for grasping a target which is positioned in space by two angles and the distance from the coordinate origin. The flowchart for solution of the problem includes a linguistic model of movement control and the algorithmic part of movement plotting. A grammar is

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

USSR

KUZIN, L. T. et al., Inzh. mat. metody v fiz. i kibernet., vyp. 2, Atomizdat, 1973, pp 92-98

constructed for solution of the given problem. The authors define a set of symbols which form the terminal vocabulary (aggregate of elementary movements) and the nonterminal vocabulary: the initial symbol; the group of symbols corresponding to the list of main actions; the group of symbols corresponding to compound motions. The rules of the grammar are presented. An example of derivation of the action "Transfer" is described.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

UDC: 51:155.001.517:518.9

USSR

KUZIN, L. T., PREOBRAZHENSKIY, A. B.

"The Problem of Creating Artificial Intelligence"

V sb. Inzh.-mat. metody v fiz. i kibernet. (Engineering-Mathematical Methods in Physics and Cybernetics--collection of works), Moscow, Atomizdat, 1971, pp 29-38 (from RZh-Kibernetika, No 11, Nov 71, Abstract No 11V885)

Translation: The authors discuss the premises of development of the problem of creating artificial intelligence. Three approaches to creation of artificial intelligence are considered. The first consists in synthesizing a "neuron network" which would display properties of a nervous system. The second approach involves construction of a mathematical model which could be algorithmized and programmed on a digital computer. The third approach is based on using linguistic methods, and consists in the following: 1) a dictionary is compiled for the language in which behavior is described; 2) grammars are determined for this language; 3) a unit is constructed for translation from the created language to the language of a specific machine with the aid of some metalanguage such as REFAL. Bibliography of 20 titles. V. Mikheyev.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

UDC: 681.325.6

USSR

GERASIMOV, V. F., KUZIN, L. T., LETUNOV, Yu. P., CHERNYATIEV, V. V., Moscow Engineering Physics Institute

"A Device for Simulating the Random Distribution of Priorities in Queueing Systems"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 27, 1970, Soviet Patent No 280064, Class 42, Filed 28 May 69, p 133

Abstract: This Author's Certificate introduces: 1. A device for simulating the random distribution of priorities in queueing systems. The device contains groups of diodes and delay lines and an interrogation flip-flop. As a distinguishing feature of the patent, the functional possibilities of the device are extended by using a (1-n)-terminal network in the form of series connected kipp oscillators with variable time delay, the outputs being connected to the controlling inputs of the diodes in the channels. The controlling input of the (1-n)-terminal network is connected to the one state of the interrogation flip-flop, which determines the priority of an application. 2. A modification of this device distinguished by the fact that provision is made for functional readjustment of the probability (1-n)-terminal network by using channel flip-flops whose "zero" outputs are connected to the controlling inputs of the

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

USSR

GERASIMOV, V. F., et al, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 27, 1970, Soviet Patent No 280064, Class 42, Filed 28 May 69, p 133

corresponding kipp oscillators, while the "one" outputs are connected to the controlling inputs of the diodes connected to the inputs of diodes tied to the following kipp oscillators in the circuit. 3. A modification of this device distinguished by the fact that provision is made for functional coupling to the channels connected to the device. The inputs are connected through a shaper amplifier and a delay line to the "zero" inputs of the corresponding channel flip-flops and to the "one" input of the interrogation flip-flop, and through diodes to the "one" inputs of the channel flip-flops and to the "zero" output of the interrogation flip-flop, and also through a resistor to the voltage supply. 4. A modification of this device distinguished by the fact that provision is made for determining whether channels are free (busy). The output of the channel diodes is connected to the delay line, and the output of the delay line is connected to the main channel diode output.

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USSR K UDC 615.212.015.2:615.214.27.015.[illegible]
089.5: 615.212+615.214.2-07:[illegible]

KUZIN, M. I., [illegible]IPOVA, N. A., YEFIMOVA, N. V., and [illegible], [illegible], Chair of Faculty Surgery, First Moscow Medical School imeni I. ... Sechenov

"Effect of Phentanyl and Dehydrobenzperidol on the Human Central Nervous System"

Moscow, Khirurgiya, No 1, 1970, pp 95-101

Abstract: Changes in the bioelectrical activity of the [illegible] vary with the depth of neuroleptic analgesia (NA). [illegible] characterized by the dominance and decreased frequency [illegible] rhythm; deep NA, by the dominance of the slow delta [illegible] thus. The absence of desynchronization in the [illegible] and [illegible] galvanic reaction to light and pain suggest that the [illegible] of afferent conduction is effectively blocked during NA. The [illegible] of dehydrobenzperidol produced only minor changes in the [illegible] and total electrical activity. Phentanyl caused a shift toward the low-frequency range, with the delta- and theta-waves [illegible] [illegible] of more increase in the total electrical activity.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

USSR

KUZIN, L. [illegible], et al., Moscow, Khirurgiya, No 1, [illegible], [illegible]

Reorganization of the [illegible] waves in response to [illegible] light stimulation ceased under the influence of dehydrobenzperidol [illegible] combined with phentanyl. Phentanyl promoted assimilation of high frequencies of light flashes and blocked the effect of dehydrobenzperidol previously administered. This indicates that phentanyl has a central activating influence.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

Acc. Nr: AP0044853 K Ref. Code: UR0531

PRIMARY SOURCE: Khirurgiya, 1970, Nr 1, pp 95-101

ON THE EFFECT OF PHENTANYL AND DEHYDROBENZPERIDOL ON THE HUMAN CENTRAL NERVOUS SYSTEM

Kuzin, M. I.; Osipova, N. A.; Yefimova, N. V.; Bogdanova, S. A.

The results of analysis of the spontaneous bioelectric activity, frequency composition of the elecroencephalogram, electroencephalographic and dermogalvanic reactions to pain and rhythmic light stimuli testify to inhibition in the system of afferent conduction with extinguishing of cortical and dermogalvanic reactions to external stimuli in this type of anesthesia.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

UNCLASSIFIED PROCESSING DATE--04DEC70

1/2 020

TITLE--PYRROMECAINE ANESTHESIA DURING INSTRUMENTAL DIAGNOSTIC INVESTIGATIONS IN PATIENTS WITH PULMONARY PATHOLOGY -U-

AUTHOR-(05)-KUZIN, M.I., PRYANISHNIKOVA, N.T., OSIPOVA, N.A., KHADZHYEVA, S.N., GUZNOV, G.I.

COUNTRY OF INFO--USSR

SOURCE--KHIRURGIYA, 1970, NR 6, PP 58-62

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ANESTHETIC, DIAGNOSTIC METHODS, RESPIRATORY SYSTEM DISEASE, LUNG

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----F070/605003/009 STEP NO--UR/0531/70/000/006/0058/0062

CIRC ACCESSION NO--AP0139541

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

UNCLASSIFIED PROCESSING DATE--04DEC70

2/2 020

CIRC ACCESSION NO--AP0139541

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CLINICAL TRIALS OF PYRROMECAINE, A NEW SOVIET MADE LOCAL ANESTHETIC, EFFECTED IN 102 PATIENTS WITH SURGICAL PULMONARY PATHOLOGY DEMONSTRATED THIS PREPARATION CAPABLE OF PRODUCING AN EFFECTIVE ANESTHESIA OF THE RESPIRATORY TRACT, ENSURING PERFORMANCE OF COMPLICATED DIAGNOSTIC PROCEDURES (BRONCHOGRAPHY, BRONCHOSPIROGRAPHY). AS REGARDS ITS POTENCY AND QUICKNESS OF ANESTHETIC ACTION PYRROMECAINE IS SUPERIOR TO NOVOCAINE AND IS EQUAL TO DICAINE. SIDE EFFECTS OF THE PREPARATION ARE INSIGNIFICANT.

FACILITY: KAFEDRA FAKUL'TETSKOY KHIRURGII I MII I. M. SECHENOVA, INSTITUT FARMAKOLGII, MOSKVA.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

1/2 025 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--THE RESULTS OF THE SURGICAL TREATMENT OF CANCER OF UPPER REGIONS OF THE STOMACH -U-

AUTHOR-(03)-KUZIN, M.I., RYABTSEV, V.G., BAYANDIN, L.P.

COUNTRY OF INFO--USSR

SOURCE--KHIRURGIYA, 1970, NR 5, PP 47-52

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--SURGERY, STOMACH, CANCER, CARCINOMA, SUTURE, HEART, LUNG, METASTASIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/0137 STEP NO--UR/0531/70/000/005/0047/0052

CIRC ACCESSION NO--AP0129393

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

2/2 025 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0129393

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AT THE N. N. BURDENKO FACULTY SURGICAL CLINIC BETWEEN 1948-1967 3704 PATIENTS WERE TREATED FOR CANCER OF THE STOMACH. OF THIS NUMBER IN 1375 CASES #37.6PERCENT) THE TUMOR WAS LOCATED IN THE UPPER REGIONS OF THE STOMACH. DURING THIS PERIOD OF TIME 300 GASTRECTOMIES AND 134 PROXIMAL RESECTIONS OF THE STOMACH WERE PERFORMED. POSITIVE RESULTS OF OPERATIONS WERE RECORDED. DURING THE LAST YEARS THERE WAS A SIGNIFICANT INCREASE OF OPERABLE PATIENTS WITH GASTRIC CARCINOMA (FROM 63.4PERCENT TO 80.1PERCENT), AS WELL AS THE RESECTABILITY (FROM 40.9PERCENT TO 49PERCENT). AMONG RADICAL OPERATIONS FOR GASTRIC CANCER TOTAL GASTRECTOMY WAS MORE OFTEN PERFORMED (FROM 13PERCENT TO 20.2PERCENT). THERE WAS A PRONOUNCED DROP OF THE POSTOPERATIVE LETHALITY AFTER GASTRECTOMY (FROM 30PERCENT TO 11.4PERCENT) AND AFTER PROXIMAL RESECTIONS (FROM 29PERCENT TO 13.3PERCENT). REDUCTION OF THE POSTOPERATIVE LETHALITY DEPENDED UPON DECREASE OF THE NUMBER OF SUCH POSTOPERATIVE COMPLICATIONS AS FAILURE OF ANASTOMOTIC SUTURES AND CARDIOPULMONARY COMPLICATIONS. THE REMOTE RESULTS DEPEND ON THE STAGE OF THE DISEASE, METASTASIZATION AND FORM OF THE TUMOR. A FIVE YEAR PERIOD AFTER GASTRECTOMY SURVIVED 18.2 PER CENT, A TEN YEAR PERIOD, 15 PERCENT OF PATIENTS. AFTER PROXIMAL RESECTION OF THE STOMACH 24.3 PERCENT OF CASES SURVIVED A FIVE YEAR PERIOD.

FACILITY: FAKUL'TETSKAYA KHIRURGICHESKAYA KLINIKA I MMI IM. I. M. SECHENOVA.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

USSR

LEVITIN, Ye. I., SEREBRYANIK, Ye. B., ZAYDEL', I. N., SHEKHEYSTER, Ye. I., KUZIN, N. I., OSOKIN, G. V., BARANOVA, G. M.

"Method of Production of Photoelectron Devices"

USSR Author's Certificate No 274247, filed 13 Nov 67, published 24 Sep 70 (from RZh--Elektronika i yeye primeneniye, No 5, May 1971, Abstract No 5A185P)

Translation: A method is patented for production of a photoelectron device with a multialkaline photocathode. Maximum sensitivity is assured by inclusion of multiple heatings in the process of producing the photoelectron device. Sensitizing of the photocathode by oxygen is performed after each heating. The operations are repeated until a steady value of the sensitivity of the photocathode is obtained. T. P.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

1/2 023 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--HIGH PRESSURE SCALE -U-

AUTHOR-(04)-VERESHCHAGIN, L.F., SEMERCHAN, A.A., KUZIN, N.N., SADKOV, YU.A.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(3), 557-60

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--HIGH PRESSURE EFFECT, BISMUTH ALLOY, LEAD ALLOY, IRON ALLOY, COBALT CONTAINING ALLOY, ELECTRIC RESISTANCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/0565 STEP NO--UR/0020/70/191/003/0557/0560

CIRC ACCESSION NO--AT0126312

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

2/2 023 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AT0126312

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DEPENDENCE OF THE ELEC. RESISTANCE ON PRESSURE, P, OF BI AND PB, BI AND FE PLUS 5PERCENT CO, AND PB AND FE PLUS 5PERCENT CO WAS DETD. P FOR THE TRANSITION OF FE PLUS 5PERCENT CO ON THE 1968 SCALE WAS 145 PLUS OR MINUS 5, ON THE SCALE OF LOREE, ET AL. (1966) IT WAS 140, WHEREAS ON THE BUNDY SCALE (1967) IT WAS 165 KILOBARS.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

1/2 023 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--PLASTIC BENDING OF BEAMS UNDER A LOCAL DYNAMIC LOAD -U-

AUTHOR-(02)-KUZIN, P.A., KUZINA, Z.N.

COUNTRY OF INFO--USSR

SOURCE--IZVESTIIA, SERIIA FIZIKO MATEMATICHESKAIA, VOL. 8, JAN.-FEB. 1970, P. 29-37

DATE PUBLISHED--------70

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

TOPIC TAGS--METAL BENDING, BOX BEAM, DYNAMIC SYSTEM, PLASTIC DEFORMATION, IMPACT LOAD

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0010 STEP NO--UR/0361/70/008/000/0029/0037

CIRC ACCESSION NO--AP0119006

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

2/2 023 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0119006

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STUDY OF THE SYMMETRICAL BENDING OF A FREELY SUPPORTED BEAM UNDER THE ACTION OF A TRANVERSE LOCAL PULSED LOAD (A RECTANGULAR PULSE). THE MOTION OF THE BEAM IS DIVIDED INTO TWO STAGES: LOADING AND UNLOADING. FOUR DIFFERENT CASES OF DEFORMATION ARE POSSIBLE IN THE LOADING STAGE, DEPENDING ON THE INTENSITY OF THE APPLIED LOAD AND THE LOADING AREA. THE UNDOADING STAGE CONSISTS OF FOUR PHASES, IN EACH OF WHICH THE DEFLECTION VELOCITY FIELDS ARE SIMILAR TO THE VELOCITY FIELDS IN THE LOADING STAGE. FACILITY: AKADEMIIA NAUK KAZAKHSKOI SSR.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

USSR UDC 629.195.3/54+621.386.86

KUZIN, R. A., and YURGOV, V. V.

Radiatsionnyy Bar'yer na Puti v Kosmos (The Radiation Barrier on the Path Into Space), Moscow, "Atomizdat," 1971, 136 pp

Translation: Annotation: In this book, the problem of radiation safety during spaceflight is discussed in an interesting and understandable form.

The book acquaints readers with modern ideas on the nature of space radiation and its effect on living organisms under spaceflight conditions. A great deal of attention is given to questions of protecting the cosmonaut against the harmful action of space radiation.

In this book the reader will find information on the history of the conquest of space, on prospects for mastering the universe, and on ways of overcoming the difficulties involved with space radiation.

A special section of the book is devoted to the question of modeling the radiation effects of space radiation under earth conditions using charged particle accelerators and isotope devices.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

USSR

KUZIN, R. A., and YURGOV, V. V., Radiatsionnyy Bar'yer na Puti v Kosmos (The Radiation Barrier on the Path Into Space), Moscow, "Atomizdat," 1971, 136 pp

The book has many diagrams and pictures which make it easier to grasp the material.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

UDC 621.173:535

USSR

ARISTOV, A. V., KUZIN, V. A., and CHERKASOV, A. S.

"Generation of Stimulated Radiation by Solutions of Anthracene Derivatives"

Leningrad, Optika i Spektroskopiya, Aug 73, pp 330-335

Abstract: An investigation was made of the relationship of the yield threshold of generation (I_{thr}) to the yield-quantum of fluorescence (Y) in toluol solutions of 27 anthracene derivatives. A sharp difference was found to exist. Generation was excited by the second harmonic of a ruby laser (energy 0.03 joules, pulse duration 20 nanoseconds) with the resonator in a transverse position (resonator base 5 cm, reflection of the mirrors 98%). It was established that the decrease of Y as a result of luminescence quenching (intramolecular, concentration, by oxygen) is accompanied by an approximately equal increase of I_{thr}, and when $Y \approx 0.5$, a cutoff of the generation is observed. This is explained by the origination of induced triplet-triplet absorption. Satisfactory agreement is shown between the experimental relationship of I_{thr} to Y, and a calculated relationship is derived under the assumption that the triplet molecules responsible for the induced absorption are formed with a yield-quantum of (1 - Y). Two figures, one table, 11 references.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

UDC 535.37 + 539.196

USSR

ARISTOV, A. V., BAKHSHIYEV, N. G., KUZIN, V. A., and PITERSKAYA, I. V.

"Effect of Orientational Intermolecular Relaxation on Stimulated Emission Spectra of Organic Phosphors"

Leningrad, Optika i Spektroskopiya, Vol 30, No 1, Jan 71, pp 143-147

Abstract: The article suggests a method for a controlled decrease in the mean time spent by molecules in an excited state (t_f) by intensification of stimulated radiative deactivation of excited molecules in a generation mode . The value of t_f is a direct functional of the pump level. This opens up the possibility of reducing the lifetime of excited molecules by intensification of radiative transitions, which differs fundamentally from the method of increasing the probability of radiationless deactivation, and opens up new avenues for the interpretation of

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USSR

ARISTOV, A. V., et al., Optika i Spektroskopiya, Vol 30, No 1, Jan 71, pp 143-147

certain spectroscopic and generational phenomena as well as for obtaining new information on the properties of molecules and molecular systems. The new method was used by the authors to study the relationship between the position of the generation spectrum maximum and the extent to which the pump power of the second harmonic of a neodymium giant pulse exceeds the threshold power in glycerol solutions of 3-dimethylamino-6-monomethylamino-N-methylphthalimide in a -65 to + 35° C temperature range. The results confirm the fact that orientational intermolecular relaxation in relaxation times commensurable with the mean time spent by phosphor molecules in an excited state has the same effect on the character of luminescence spectra variation both in a spontaneous and in a stimulated regime. In a subsequent article the authors

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

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ARISTOV, A. V., et al., Optika i Spektroskopiya, Vol 30, No 1, Jan 71, pp 143-147

intend to consider the effect of translational intermolecular relaxation on generation spectra.

The authors thank V. I. SHIROKOV and T. V. VESELOVA for fluorometric measurements of τ_f (mean lifetime of molecules in excited singlet state in a spontaneous emission mode).

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

1/2 032 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--PLANE DEFORMATION OF AN ANISOTROPIC BODY -U-

AUTHOR-(03)-TOLOKONNIKOV, L.A., YAKOVLEV, S.P., KUZIN, V.F.

COUNTRY OF INFO--USSR

SOURCE--PRIKLADNAIA MEKHANIKA, VOL. 6, APR. 1970, P. 86-92

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--ANISOTROPY, STRESS ANALYSIS, DEFORMATION RATE, PLASTIC FLOW, NUMERIC INTEGRATION, COLD DRAWING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1181 STEP NO--UR/0195/70/006/000/0086/0092

CIRC ACCESSION NO--AP0124835

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

2/2 032 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124835

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ANALYSIS OF THE PLANE STRAIN STATE EQUATIONS FOR STRESSES AND RATES OF STRAINING OF AN ANISOTROPIC RIGID PLASTIC NONSTRAIN HARDENABLE MATERIAL, UNDER THE ASSUMPTION THAT HILL'S (1956) YIELD CONDITION AND ASSOCIATED FLOW LAW ARE VALID. THE PROBLEM OF THE DRAWING OF AN ANISOTROPIC STRIP THROUGH A WEDGE SHAPED DRAW HOLE IS SOLVED, WITHOUT AND WITH ALLOWANCE FOR FRICTION, BY NUMERICAL INTEGRATION OF THE CHARACTERISTIC EQUATIONS. FACILITY: TUL'SKII POLITEKHNICHESKII INSTITUT, TULA, USSR.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

USSR UDC: 621.372.54

MOSTYAYEV, V. A., IVANOV, A. D., ABRAMOVICH, M. I., KUZIN, V. I., YAROSLAVSKIY, M. I.

"Low-Frequency Quartz Resonators With Vibrators Mounted by the Pressure Welding Method With Indirect Pulse Heating"

Elektron. tekhnika. Nauch.-tekhn. sb. Radiokomponenty (Electronic Technology. Scientific and Technical Collection. Radio Components), 1970, vyp. 5, pp 26-30 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5V381)

Translation: The authors consider parameters of low-frequency quartz resonators with contour and bending vibrations in which the leads are fastened to the piezoelectric elements by pressure welding with indirect pulse heating. It is shown how these resonators have advantages over those in which the leads are fastened to the piezoelectric elements by soft solder. Authors' abstract.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

UNCLASSIFIED PROCESSING DATE--13NOV70

1/2 008

TITLE--REACTIONS OF BENZENE WITH IODINE-125 AND ASTATINE-211 FORMED IN NOBLE GASES AS A RESULT OF K CAPTURE -U-

AUTHOR-(05)-NEFEDOV, V.D., TOROPOVA, M.A., KHALKIN, V.A., NORSEYEV, YU.V., KUZIN, V.I.

COUNTRY OF INFO--USSR

SOURCE--RADIOKHIMIYA 1970, 12(1), 194-5

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--IODINE ISOTOPE, ASTATINE ISOTOPE, BENZENE, XENON ISOTOPE, RADON ISOTOPE, CHEMICAL REACTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1227 STEP NO--UR/0186/70/012/001/0194/0195

CIRC ACCESSION NO--AP0128643

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

2/2 008 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0120643

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PRIME125 I AND PRIME211 AT FORMED AS A RESULT OF K CAPTURE IN PRIME125 XE AND PRIME211 XN, RESP., IN CONTACT WITH DEGASSED C SUB6 H SUB6 AT ROOM TEMP. AND IN THE LIGHT, REACT WITH THE C SUB6 H SUB6; THE ONLY REACTION PRODUCTS ARE PHI AND ASTATOBENZENE, RESP., BUT IS SIMILAR TO 30PERCENT OF THE AT REMAINS IN THE AT PRIME(0) FORM AND CANNOT BE EXTD. FROM THE C SUB6 H SUB6 BY N H SUB2 SO SUB4 OR N H SUB2 SO SUB4 SATD. WITH SO SUB2.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

USSR

UDC: 621.317.799(088.8)

BEKETOV, V. I., KUZIN, V. L.

"A Method of Measuring the Input Impedance of an Ultrashort-Wave Receiver"

USSR Author's Certificate No 253185, filed 19 Dec 67 (from RZh-Radiotekhnika, No 11, Nov 70, Abstract No 11D115 P)

Translation: This Author's Certificate introduces a high-precision method for measuring the input impedance of a receiver at low signal levels. The method is based on premeasurement of the modulus of the reflection factor for the receiver with respect to minimum and maximum mismatch losses, for instance through the use of a reactive line of variable length, and on measurement of the coefficient of reflection from the internal resistance of the measurement oscillator. A transformer is used to establish that the input impedance of the receiver is conjugate with the output impedance of the transformer with respect to the minimum of the introduced mismatch losses. The transformer output impedance is measured separately at an arbitrary signal level by some conventional method such as by using a measurement line. N. S.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201710006-2

UDC 621.382.002

USSR

KUZIN, V. V., ZAICHENKO, V. I.

"An Etchant for Semiconductor Materials"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 21, Jul 71, Author's Certificate No 308470, Division H, filed 15 Dec 69, published 1 Jul 71, p 196

Translation: This Author's Certificate introduces an alkali-acid etchant for semiconductor materials. As a distinguishing feature of the patent, the etchant is designed to reveal the interpenetration boundary of an epitaxial film of gallium arsenide on a gallium arsenide substrate of the same conductivity type. The substance contains $3HNO_3 + HF + 5\ H_2O$ and $6NaOH + H_2O_2$ in a ratio from one to five parts by weight of the first component per part by weight of the second component.

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UNCLASSIFIED PROCESSING DATE--13NOV70

1/2 012

TITLE--DETERMINATION OF THE ACTIVITY OF ISOENZYMES BY AGAR GEL ELECTROPHORESIS -U-

AUTHOR-(04)-SURINOV, B.P., KASHKIN, K.P., BOCHKOVA, O.N., KUZINA, A.A.

COUNTRY OF INFO--USSR

SOURCE--LAB. DELO 1970, (4), 240-3 (RUSS)

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ISOENZYME, AGAR, ELECTROPHORESIS, RAT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/0966 STEP NO--UR/0099/70/000/004/0240/0243

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ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HORIZONTAL AGAR GEL ELECTROPHORESIS OF RAT LIVER TISSUE YIELDED 9 BANDS OF ESTERASE, 4 OF ACID PHOSPHATASE, AND 2 OF ASPARTATE AMINOTRANSFERASE, AND RAT BLOOD SERUM YIELDED 12 BANDS OF PROTEIN AND 3 BANDS OF ALK. PHOSPHATASE. THE 3 ALK. PHOSPHATASE BANDS WERE VERY CLOSE TOGETHER AND WERE PROBABLY NOT ISOENZYMES BUT ARTIFACTS. FACILITY: LAB. RADIATS. IMMUNOL., INST. MED. RADIOL., OBNINSK, USSR.

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UNCLASSIFIED PROCESSING DATE--13NOV70

1/2 027

TITLE--EFFECT OF IONIZING RADIATION ON THE LEVEL OF HISTONES AND DNA IN PLANT CELL NUCLEI -U-

AUTHOR-(03)-KUZIN, A.M., MALTSEV, A.V., SEYSEBAYEV, A.T.

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SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--GAMMA RADIATION, RADIATION BIOLOGIC EFFECT, PLANT PHYSIOLOGY, DNA, PHOTOMETRY

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DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0244 STEP NO--UR/0205/70/010/001/0103/0105

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CIRC ACCESSION NO--AP0119240

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SEEDS DRIED IN AIR WERE IRRADIATED WITH PRIME137 CS GAMMA RAYS IN DIFFERENT DOSES ACCORDING TO DIFFERENT RADIOSENSITIVITIES OF INDIVIDUAL PLANTS: VICIA FABA 0.1 AND 10 KR; TRIFOLIUM PRATENSE 10 AND 200 KR. THE IRRADIATED SEED WERE KEPT IN WATER FOR 24 HR AT ROOM TEMP. DNA AND HISTONES WERE DETD. IN SHELLS OF SEEDS BY A CYTOPHOTOMETRIC METHOD. THE AMT. OF DNA IN NUCLEI AFTER THE STIMULATING DOSES DID NOT DIFFER FROM THAT IN CONTROLS, WHEREAS THE LEVEL OF HISTONES WAS DECREASED BY 9PERCENT. AFTER IRRADN. WITH WITH LETHAL DOSES, STRONG DEPRESSIONS WERE OBSERVED IN BOTH HISTONE AND DNA LEVELS (20 AND 15PERCENT, RESP.). FACILITY: INST. BIOFIZ., PUSHCHINO, USSR.

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