USSR

UDC: 621.316.721

LYSENKO, A. P., KUDRYAVTSEV, V. P., D'YAKOV, O. P., and NOVIKOV, I. V.

"Current Stabilizer"

USSR Author's Certificate No 296251, filed 3 Nov 69, published 14 Apr 71 (from RZh-Avtomatika, telemekhanika i vychislitel'naya tekhnika, No. 12, 1971, Abstract No 12A184P)

Translation: A current stabilizer is proposed, containing a sensitive element, a reference signal source, as well as a comparitor and an activating device. In order to improve the accuracy and speed, it uses as a sensitive element a "current-frequency" converter; and as the comparitor a frequency-comparison device and counter, while it uses a controlled voltage divider as the activating device. The output of the controlled divider is connected to the input of the "current-frequency" converter; the output of the latter is connected to the input of the frequency-comparison device, the second output of which is tied to the output of the reference signal source; while the output of the frequency comparitor is joined through the counter to the input of the controlled voltage divider. Resume.

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USSR UDC: 621.317.7.087.92-932

LYSENKO, A. P., KUDRYAVTSEV, V. B., RUMYANTSEV, B. I., KUDRYAVTSEV, F. I.

"A Method of Converting Alternating Harmonic and Square Voltages and Currents to Frequency"

USSR Author's Certificate No 252738, filed 26 Feb 68, published 11 Feb 70 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 11, Nov 70, Abstract No 11A168 P)

Translation: This Author's Certificate introduces a voltage-to-frequency converter which utilizes modulation of the spectral characteristics of masers. A peculiarity of optical masers (which are based on use of the phenomenon of optical double resonance in alkali metal vapors) is asymmetry of the resonance line, which makes it possible to convert and measure small and ultrasmall alternating voltages and currents with high precision. It is known that the frequency spectrum emitted by a spin system has a finite width. This is why quantum and nuclear devices such as quantum magnetometers with double optical resonance may have several distinct resonance frequencies, depending on the direction and magnitude of the vector of magnetic field intensity. To improve sensitivity and provide for preadjustment to the maximum spectral density of the resonance curve, it is proposed that a method be used which involves

LYSENKO, A. P. et al., USSR Author's Certificate No 252738

correcting the level of the constant component of the magnetic field in the quantum magnetometer zone or phase in the feedback circuit. In this regard, the level of the voltage to be converted may be considerably below the cutoff voltage of the best semiconductor rectifiers. One illustration. V. M.

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USSR

UDC 669.71:539.4

KOPAN', V. S., and LYSENKO, A. V., Kiev

"Some Physical and Mechanical Properties on Multilayer Al-Pb and Al-Graphite Composites"

Moscow, Fizika i Khimiya Obrabotki Materialov, Vol 4, Jul-Aug 73, pp 104-109

Abstract: The production and study of aluminum-base multilayer composites is reported where Al-Pd and Al-C (graphite) composites were produced with the idea of having the second component not soluble in aluminum. Al-Pb samples were made with more than 12 layers which were annealed at 200°C for 2-3 minutes and rolled with 30-50% reduction. This process was repeated several times. The Al-C samples were made by using Al foil, sprayed with graphite, with the foil weighed before and after spraying. The overall packet had 100-200 sprayed foils and the packet was pressed under 100 kG/mm^2 pressure and annealed at 550°C for 3-5 minutes in an air-free atmosphere. It was found that, in the Al-Pb samples, tensile strength was independent of average layer thickness when thickness was greater than 200 A. The annealed samples had a tensile strength greater than the additive strengths of the two materials while the unannealed samples were less strong. Increased Pb

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USSR

KUPAN, V. S., and LYSENKO, A. V., Fizika i Khimiya Obrabotki Materialov, Vol 4, Jul- Aug 73, pp 104-109

content causes reduced strength of the Al-Pb composite while in the Al-C composites an increase in graphite content up to about 23 at .% C is accompanied with increased tensile strength after which strength drops rapidly. It was also noted that, up to certain level of second component contents, the Al-C strength is six times greater than the additive strength and Al-Pb strength is only 1.5 times greater. Four figures, one table, and fifteen bibliographic references.

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The purpose of this article is to establish the dependence of microviscosity limits on the specific contribution of the inner surfaces in a multilayer Al-Sn composition (MLC) and to determine possible causes of observed phenomena. The authors establish that the tensile strength of MLC depends on the average thickness of a single layer (the critical thickness is 0.1 μm) and increases with increased inner surface area. The reinforcement is explained by changes in the dislocation structure on the metal interlayer surfaces. Earlier structural studies of the boundaries between the monocrystals of different elements established the existence of an incongruity dislocation lattice acting as an effective barrier for sliding dislocations. The effectiveness of this lattice possibly increases with the increased interlayer area and has a pronounced effect on the microviscosity limits. The existence of a single critical deformation amplitude indicates that the changes of the centers of the dislocation lattice on the interlayer boundary are probable causes of the collapse of the dislocation lattice in MLC layers. Tensile stress has a tendency to increase with a decrease of individual layer thickness. Experimental durability tests of Al-Sn MLC, as a function of time exposure to humidity, show a pronounced decrease of durability with increased exposure. The changes in density and mass of a test sample are explained by interlayer boundary corrosion. Soaking of the sample in distilled water resulted in its total dissolution within 24 hours, comprising non-metallic sediments. The solubility of the sample increased as its layer thickness decreased. The above phenomena are explained by the intensive corrosive processes which take place on the interlayer boundaries.

LYSENKO, A. V.

USSR

UDC: 621.762.014

KOPAN', V. S., and LYSENKO, A. V., Kiev State University imeni T. G. Shevchenko

"Application of the Effect of Dislocation Fixing of Solid Coatings for Obtaining Multilayer Compositions on Aluminum and Tin Base"

Kiev, Poroshkovaya Metallurgiya, No. 9, Sep 70, pp 52-56

Abstract: Involved in this study are multilayer-composition packets 12 to 13 microns thick, consisting of 100-12000 very fine alternating tin and aluminum foils, welded together by cold rolling. This pair of metals is of interest since both feature rather low mutual solubility in the solid state. Besides, these metals have different types of lattices contributing to a highly homogeneous dislocation density in layers when simultaneously deformed. A comparison is made between the properties of multilayer compositions and those of individual foils of the same thickness

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KOPAN', V. S., and LYSENKO, A. V., Poroshkovaya Metallurgiya, No 9, Sep 70, pp 52-56

and composition similar to those in multilayer-composition (MC) specimens. It is shown that the tensile strength of MC markedly increases with an increase in the mean thickness (h) to 200 Å; a further increase in the thickness does not affect the tensile strength. Based on the disagreement between the experimental values of resistivity of MC and the theoretical data, the conclusion is made that at h<500 Å, MC becomes a modification of a powder material and may be rolled without further thinning.

Mechanical Properties

USSR

UDC 539.4:539.216

KOPAN', V. S., and LYSENKO, A. V., Kiev State University

"The Mechanical Properties and Electrical Resistance of Multilayer Compositions Based on Aluminum and Cadmium"

Kiev, Metallofizika, No 31, 1970, pp 161-169

Translation: Materials representing packs from welded alternate layers of aluminum and cadmium were studied. The thickness of the layer h ranged from 1 to 0.02 microns. The total thickness of a pack was 12-13 microns. It is shown that the breaking stress σ increases as h decreases and reaches a maximum (27 kg/mm^2) with h = 200 Å. With a further reduction in h, σ and the specific electrical resistance do not depend on h, which is due to the appearance with $h \sim 200$ Å of a scaly structure of the multilayer compositions and their transformation into a variety of powder material. A breaking stress exceeding the maximum breaking stress of deformed initial foils, of which the pack was made, was attained through the use of the idea of lamination. Bibliography: 15 entries, 5 illustrations, 1 table.

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1/2 028 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--MECHANICAL PROPERTIES OF MULTILAYER COMPOSITIONS BASED ON ALUMINUM, COPPER, TIN, AND CADMIUM -U-

AUTHOR-(02)-KOPAN, V.S., LYSENKO, A.V.

COUNTRY OF INFO--USSR

SOURCE--FIZ. METAL. METALLOVED. 1970, 29(3), 663-4

DATE PUBLISHED--------70

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

TOPIC TAGS--MECHANICAL PROPERTY, ALUMINUM, COPPER ALLOY, TIN ALLOY, CADMIUM ALLOY, TENSILE STRENGTH, COLD ROLLING, BIMETAL, METAL FOIL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/0339 STEP NO--UR/0126/70/029/003/0663/0664

CIRC ACCESSION NO--AP0126095

UNCLASSIFIED

2/2 028 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0126095

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE SPECIMENS WERE PRODUCED BY COLD ROLLING A STACK OF FOILS OF VARYING THICKNESSES (200 ANGSTROM TO 4 MU). EACH SPECIMEN HAD THE SAME OVERALL THICKNESS, SOME WERE COMPOSED OF 12,000 LAYERS. THE FOLLOWING THICKNESS RATIOS WERE USED CU-AL EQUALS 1.4, CD-AL EQUALS 0.3, AND SN-AL EQUALS 1.0. TENSILE STRENGTH INCREASED RAPIDLY WITH DECREASING LAYER THICKNESSES. AT 200 ANGSTROM IT WAS FOR AL,CU 90, FOR AL,CD 27, AND FOR AL,SN 23 KG-MM PRIME2, WHILE VALUES CALCD. ADDITIVELY WERE 26, 10, AND 7 KG-MM PRIME2 RESP. THE RAPID INCREASE IN THE STRENGTH OF MULTILAYERED SPECIMENS STARTED WHEN THICKNESSES OF FOILS WERE SMALLER THAN 1 MU. HOWEVER, AT THICKNESSES SMALLER THAN 500 ANGSTROM THE FOILS WERE TORN DURING COLD ROLLING SO THAT THE INCREASE IN STRENGTH FOR MULTILAYERED SPECIMENS FROM FOILS SMALLER THAN 500 ANGSTROM THICK WAS CONSIDERABLY LESS THAN FOR 500-10,000 ANGSTROM THICKNESSES. THE MUTUAL SOLY. OF THE LAYERS DID NOT EXCEED 0.2 AT. PERCENT. FACILITY: KIEV. GOSUNIV. IM. SHEVCHENKO, KIEV, USSR.

UNCLASSIFIED

USSR

UDC 911.3:616.936

SERGIYEV, P. G., LYSENKO, A. Ya., NEMIROVSKAYA, A. I., and SEMASHKO, I. N.

V sb. Materialy Nauchn. konferentsii, posvyashch. 50-letiyu In-ta med. parazitol. i tropich. med., 1970 (Proceedings of the Scientific Conference Devoted to the 50th Anniversary of the Institute of Medical Parasitology and Tropical Medicine 1970 — collection of works), Moscow, 1970, pp 12-14 (from RZh-Meditsinskaya Geografiya, No 2, Feb 71, Abstract No 2.36.81)

Translation: The contemporary area of Plasmodium vivax was reduced to almost half its size in connection with advances made in the eradication of malaria. P. vivax in multiple foci of malaria disappears later than P. falciparum. Strains with a prolonged incubation (primarily a long latent period) were found to be more adaptable to sanitary measures than were strains with a short incubation period and a secondarily long latent period. In practically malaria-free territories, when malaria outbreaks occurred because of previous cessation of sanitary measures, these outbreaks started with 3-day malaria.

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USSR

UDC 911.3.616.928.6(47+57)

ASIYEVICH, A. M., STEPANISHCHEVA, Z. G., LYSENKO, A. Ya., MALKINA, A. Ya., AGARUNOVA, Yu. S., DARCHENKOVA, N. N., BARKOV, V. N., and MINSKER, O. B.

"Three-Year Study of Histoplasmosis in the USSR"

V. sb. Materialy Nauchn. konferentsii, posvyashch. 50-letiyu In-ta med. parazitol. i trop. med. (Proceedings of the Scientific Conference Commemorating the 50th Anniversary of the Institute of Medical Parasitology and Tropical Medicine -- collection of works), Moscow, 1970, pp 61-63 (from RZh-36. Meditsinskaya Geografiya, No 1, Jan 71, Abstract No 1.36.124)

Translation: A total of 31 cases of histoplasmosis were recorded in the USSR by the beginning of 1970. Of these, 24 were in Western Siberia. A total of 690 soil specimens were examined, gathered from sites where histoplasmosis was recorded (Tyumenskaya oblast, Turkmen SSR and others) and from sites having no cases (Armenian SSR and the environs of Moscow). The agent of histoplasmosis was isolated from soil of the Turkmen SSR. In one out of 50 house mice (in Turkmen SSR) signs were found of histoplasmosis. Skin tests (176 in Tyumen oblast and 591 in Turkmenia) were made yielding positive results in 2% and 5.6% of the cases studied, respectively.

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1/2 018 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--DEPENDENCE OF THE ALPHA PHOSPHORESCENCE SPECTRA FOR ACRIDINE DYES ON ACTIVATOR CONCENTRATION -U-

AUTHOR-(03)-PONOCHOVNYY, V.I., LYSENKO, G.M., KISLYAK, G.M.

COUNTRY OF INFO--USSR

SOURCE--UKR. FIZ. ZH. 1970, 15(1), 158-60

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, MATERIALS

TOPIC TAGS--PHOSPHORESCENCE, SPECTRUM, ACRIDINE, DYE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1984/1711 STEP NO--UR/0185/70/015/001/0158/0160

CIRC ACCESSION NO--AP0100309

UNCLASSIFIED

2/2 018 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0100308

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PHOSPHORESCENCE SPECTRA OF ACRIDINE YELLOW WAS MEASURED FOR SAMPLES OF EQUAL CONCN. BUT OF DIFFERENT THICKNESS AND EXCITED AT 90DEGRESS ANGLE AND THROUGHOUT THE SAMPLE (KAPPA., ET AL., 1966). THE RESULTS INDICATE THAT THE CHANGES IN PHOSPHORESCENCE SPECTRA ARE DUE TO THE CHANGE IN CONCN. OF THE ACTIVATOR PI SYSTEM OF MOL.

USSR UDC 619:616.988.43-085.37:636

LYSENKO, I. L., Candidate of Veterinary Sciences, PANASENKO, A. K., Candidate of Economic Sciences, KONARZHEVSKII, K. E., Aspirant, Ukrainian Scientific Research Institute of Experimental Veterinary Medicine

"Use of Serum and Blood from Foot-and-Mouth Disease Convalescents"

Moscow, Veterinariya, No 5, May 71, pp 47-49

Abstract: The economic effectiveness of using serum and blood from convalescents in the prophylaxis of foot-and-mouth disease was studied. Observations were made on laboratory and production scales. The activity of 20 serum series and nine blood series, which had been prepared at different times and in nine different regions of the Ukraine, was studied. Tests were run with guinea pigs and piglets experimentally infected with the A_{22} variant of the foot-and-mouth disease virus; Calves and piglets were studied also under farming conditions favorable to this infection. The titer of experimental serum was not less than 1 ml (with the exception of one series in which it was 0.5 ml). The titers of various phenol-treated and citrate-treated blood sera was 1-2 ml. The activity of the sera studied was found to be nonuniform; this was explained not only by the different dates on which the sera had been prepared, but also by the different initial activity of the sera, which depends to a

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USSR

LYSENKO, I. L., Veterinariya, No 5, May 71, pp 47-49

large extent on the conditions under which the sera were prepared (composition of donors, the periods at which the blood was taken after the disease, etc. The results of the studies showed that in the six regions studied during the epizootic period, a total of 81.3 tons of serum and blood of convalescent animals was prepared. Of this amount, 46.4 tons was used in prophylaxis and treatment. Some 257.4 thousand calves and 442.4 thousand swine were treated. The disease incidence in passively immunized cattle was 5-9 times lower than in nonimmunized cattle; with swine, the disease incidence was 4-8 times lower in immunized animals. The studies also showed that immunization of suckling calves and piglets was an effective way of preventing foot-and-mouth disease economically. The best results were obtained by immunization of 3-month old calves with any one of the test sera. Further study and development of the industrial production of hyperimmune anti-foot-and-mouth disease sera is proposed. This would guarantee a higher serum activity than that found in sera obtained from convalescent animals. Such production should be coupled with an all-encompassing immunization program to curb the disease.

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USSR UDC 669.18:669.046.5

MELEZHIK, V. D., PETRICHENKO, A. G., KHITRIK, S. I., LYSENKO, I. V., and POLYANSKIY, V. I.

"Investigation of Ferrosilicon From Kaolins for Deoxidation of Pipe Steel"

Dnepropetrovsk, Metallurgicheskaya i Gornorudnaya Promyshlennost', No 5, Sep-Oct 70, pp 15-16

Abstract: Data are given on the use of ferrosilicon from kaolin for the deoxidation of low-carbon pipe steels. The procedure for the production of ferrosilicon from secondary kaolins from the Charkassk region of the Ukrainian SSR, and experimental meltings in 300-ton-capacity Martin furnaces using ferrosilicon for preliminary deoxidation reduce the expenditure of carbon ferromanganese and 45% ferrosilicon, thus reducing the cost of melting steel. In spite of the high phosphorus content in kaolin ferrosilicon (0)%), its use does not increase the phosphorus content in the metal. Steel deoxidation by kaolin ferrosilicon does not involve additional contamination by nonmetallic impurities.

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UDC 577.1:615.7/9

USSR

KURCHATOV, G. V., LYSENKO, N. M., MIZYUKOVA, I. G., and PETRUN'KIN, V. Ye.

"Relationship Between the Structure and Therapeutic Activity of Sulfur- and Nitrogen-Containing Compounds"

Fiziol. aktivn. veshchestva. Resp. mezhved. sb. (Physiologically Active Substances. Republic Interdepartmental Collection), 1972, No 4, pp 62-65 (from RZh-Biologicheskaya Khimiya, No 4, Feb 73, Abstract No 4 F1915 by D. M. Glukharev)

Abstract: Mice and rats received a single intragastic injection of industrial heptachlor (71%; LD_{50}), after which a study was made of the antitodal and therapeutic effect of thiols (aliphatic and fatty-aromatic series and their derivatives), ethanolamines (and their derivatives), and S-acyl- and S-alkyl derivatives of α-aminothiols administered subcutaneously or perorally 20 to 30 minutes before and secondarily immediately after poisoning in doses amounting to a double equimolar excess with respect to the poison. Several sulfur-containing compounds were tentatively included among the ethanolamine derivatives (mono- and diethanolamines). A total of 33 substances were investigated. Only the hydroxy derivatives of the S-acyl-α-aminothiols possessed a marked antitodal effect. Diethanolaminomethyl thioacetate was the most active.

UDC 577.1:615.7/9

USSR

LYSENKO, N. M., and SNITKOVSKAYA, T. M.

"Interaction of S-acetyl-a-aminothiols with Heptachlor"

V sb. Gigiyena primeneniya toksikol. pestitsidov i klinika otravl. (Hygiene of Use and Toxicology of Pesticides and Clinical Symptoms of Poisoning), No 8, Kiev, 1970, pp 156-160 (from RZh-Biologicheskaya Khimiya, No 10, May 71, Abstract No 10 F1691 by M. Shuster)

Translation: After incubation of a mixture of diethylaminomethylthioacetate (I) with heptachlor (II) at 20 to 22 and 37° and subsequent determination of the concentration of II in the mixture, it was found that I binds 50 to 70% of II. In the authors' view, I is of interest as a possible antitode for II.

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Pharmacology and Toxicology

UDC 615.917

USSR

KURCHATOV, G. V., LYSENKO, N. M., MIZYUKOVA, I. G., and PETRUN'KIN, V. YE., All-Union Scientific Research Institute of Hygiene and the Toxicology of Pesticides, Polymers, and Plastics

"Relationship Between the Structure and the Medicinal Properties of Sulfur- and Nitrogen-Containing Compounds"

Kiev, Fiziol. aktium. Veshch. Resp. mezhbed. sb. (Physiological Properties of Compounds, Republic Interscience Symposium), Vyp 4, 1972, pp 62-65 (from Referativny y Zhurnal -- Farmakologiya. Khimioterapevticheskiye Sredstva. Toksikologiya, No 1, 1973, Abstract No 1.54.747)

Translation: The medicinal properties of three types of compounds -- thiols, ethanolamines, and acyl- and alkyl-containing aminothiols -- were studied in order to search for antidotes for heptachor poisoning. It was determined that only the hydroxy-derivatives of acyl- and alkylaminothiols demonstrate a positive effect and they are more active than diethanolaminomethyl thioacetate.

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UNCLASSIFIED PROCESSING DATE--13NOV70

1/3 039

TITLE--CALCULATION OF PLASMOID MOTION IN AN AXIALLY SYMMETRIC, SPATIALLY -PERIODIC, ALTERNATING MAGNETIC FIELD -U-

AUTHOR-(05)-KALMYKOV, A.A., TERESHIN, V.I., CHEBOTAREV, V.V., KHIZHNYAK, N.A., LYSENKO, O.YE.

COUNTRY OF INFO--USSR

SOURCE--LENINGRAD, ZHURNAL TEKHICHESKOY FIZIKI, VOL. 40, NO. 3, MAR 70, PP 466-474

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--PLASMOID, PLASMA FLOW, MOTION EQUATION, COMPUTER CALCULATION, VELOCITY DISTRIBUTION, MAGNETIC FIELD EFFECT, PLASMA CONDUCTIVITY, MAGNETIC PERMEABILITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

STEP NO--UR/0057/70/040/003/0466/0474

PROXY REEL/FRAME--3004/1351

CIRC ACCESSION NO--AP0131782

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--13NOV70

2/3 039

CIRC ACCESSION NO--AP0131782

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE MOTION OF A PLASMOID IN A MAGNETIC FIELD PRODUCED BY A SYSTEM OF COILS WITH MUTUALLY OPPOSING CURRENTS IS CONSIDERED. THE ANALYSIS IS CONDUCTED WITHIN THE FRAMEWORK OF THE INTEGRAL MODEL OF A SMALL BUNCH, CONSIDERING THE EFFECTS OF DISSIPATION AND THE GAS KINETIC PRESSURE. THE PAPER IS AN EXTENSION OF EXPERIMENTAL WORK IN WHICH STABILIZATION AND FOCUSING OF A PLASMA MOVING IN A SPATIALLY PERIODIC, ALTERNATING, AXIALLY SYMMETRIC MAGNETIC FIELD WAS FIRST OBSERVED. THE EQUATIONS OF MOTION WERE INTEGRATED ON A COMPUTER FOR DIFFERENT PARAMETERS OF THE PLASMOID. THE FOLLOWING CONCLUSIONS WERE DRAWN FROM THE COMPUTATIONS: 1. THE INITIAL VELOCITY OF THE PLASMOID IS THE BASIC PARAMETER EFFECTING THE PASSAGE OF PLASMOIDS THROUGH THE SYSTEM. 2. FOR LARGE INITIAL VELOCITIES THERE EXISTS AN INTERVAL OF VALUES OF THE RATIO N-H PRIME2 SUBO UNDER WHICH PASSAGE OF THE PLASMOID THROUGH THE SYSTEM IS OBSERVED. AS THE INITIAL VELOCITY INCREASES, THE N-H PRIME2 SUBO INTERVAL BROADENS. 3. UPON REFLECTION OF THE PLASMOIDS THE PLASMA IS CAPTURED IN THE MAGNETIC CELL WITH SUBSEQUENT EMISSION THROUGH THE MAGNETIC SLIT. 4. WHEN BUNCHES WITH GOOD CONDUCTIVITY PASS THROUGH THE SYSTEM, CURRENTS ARE INDUCED IN THEM WHICH FULLY COMPENSATE THE APPLIED MAGNEITC FIELD SO THAT THERE IS NO FIELD INSIDE THE PLASMOID. 5. WHEN PLASMOIDS WITH POOR CONDUCTIVITY PASS THROUGH THE SYSTEM, A SHIFT IN PHASE OCCURS BETWEEN THE MAGNETIC FIELD AND THE INDUCED CURRENT. IN THIS CASE THE MAGNETIC FIELD PENETRATES THE PLASMOID. 6.

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3/3 039 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0131782

ABSTRACT/EXTRACT--PASMOIDS WITH POOR CONDUCTIVITY UNDERGO A STRONG RETARDATION IN THE SYSTEM WHICH IS PROPORTIONAL TO THE PHASE SHIFT BETWEEN THE MAGNETIC FIELD AND THE INDUCED CURRENT. PRELIMINARY ANALYSIS SHOWS THAT THESE RESULTS ARE IN GOOD AGREEMENT WITH EXPERIMENTAL DATA OF THE AUTHORS BUT A MORE COMPLETE COMPARISON WILL REQUIRE MORE DETAILED EXPERIMENTS. THIS WORK IS CURRENTLY BEING CONDUCTED AND THE RESULTS WILL BE PUBLISHED.

UNCLASSIFIED

USSR

KHIZHNYAK, N. A., and LYSENKO, O. Ye.

"Stability of an Incompressible Equilibrium Plasma Ellipsoid in the Field of a Traveling Electromagnetic Wave"

Leningrad, Zhurnal Tekhnicheskoy Fiziki, No 12, Dec 70, pp 2581-2582

Abstract: Ensuring the equilibrium and stability of plasmoids is called the most important problem in the practical achievement of radiation acceleration of plasmoids by the Veksler method. The problem of the equilibrium of a plasmoid in external monochromatic high-frequency fields was the subject of previous studies in which it was shown that if a plasmoid ($a/\lambda < 1$ and $a/\delta < 1$, where a is the size of the plasmoid, λ is the wavelength of the external high-frequency field, and δ is the depth of the skin layer) is placed on the axis of a cylindrical waveguide for slow waves and a traveling wave of the type E_{01} propagates in the waveguide, equilibrium with the external field is achievable by rotation of the bunch as a whole with a certain equilibrium frequency ω_0 around the axis of symmetry. This paper discusses the stability of such configurations with respect to lower deformation modes. Stability of an ellipsoidal plasmoid in external high-frequency fields is understood to

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USSR

KHIZHNYAK, N. A., and LYSENKO, O. Ye., Zhurnal Tekhnicheskoy Fiziki, No 12, Dec 70, pp 2581-2582

mean stability of the boundaries of the equilibrium ellipsoid with respect to small perturbations of its surface. Since equilibrium and stability are ensured by the mean square force, only perturbations with a frequency $\Omega \ll \omega$ is the frequency of the external field, are suppressed. This imposes certain limitations on the results obtained. One would expect that these limitations are not force limitations, since equilibrium configurations occur only for $\Omega_0 \omega < 1$. The problem of the stability of the surface of the plasmoid can be solved if terms of the order $(a/\lambda)^2$ and higher are taken into account in the expansion of the external focusing fields. It is shown that incompressible equilibrium ellipsoids will be stable for which $\Omega^2 > 0$ over entire surface of the ellipsoid.

$$x^2 + y^2/a^2 + z^2/b^2 = 1.$$

The analytical expression for Ω^2 is not given. A figure is provided showing the relief of the region of the possible existence of stable equilibrium configurations of an incompressible plasmoid with a surface equation of the above form.

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USSR

KHIZHNYAK, N. A.; LYSENKO, O. Ye.

"Scattering of Electromagnetic Waves by Ellipsoidal Plasma Formations in the Atmosphere"

Leningrad, Journal of Technical Physics; March, 1970; pp 475-81

Abstract: The authors solve the problem of the scattering of electromagnetic waves by ellipsoidal formations with arbitrary electrical and magnetic anisotropy. It is shown that if the internal fields are expanded with respect to the parameter $\frac{a}{\lambda} < 1$ (a is the dimensions of the ellipsoid; λ is the length of of the wave scattered by it), the determination of the coefficients in the expansion leads to the solution of a system of linear algebraic equations. A method is worked out for deriving these equations.

Expressions accurate to and including the $\left(\frac{a}{\lambda}\right)^2$ terms are obtained for the internal fields and fields in the wave band. An expression for the differential scattering cross section is obtained. The basic terms have the

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KHIZHNYAK, N. A.; LYSENKO, O. Ye., Journal of Technical Physics; March 1970; pp 475-81

same form as with wave scattering by a sphere. The ellipticity of the formation is manifested in terms on the order of $\left(\frac{a}{\lambda}\right)^2$.

The article includes 13 equations and two figures. There are four bibliographic references.

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USSR

UDC 533.9.07

KALMYKOV, A. A., TERESHIN, V. I., CHEBOTAREV, V. V., KHIZHNYAK, N. A. and LYSENKO, O. YE.

"Calculation of Plasmoid Motion in an Axially Symmetric, Spatially Periodic, Alternating Magnetic Field"

Leningrad, Zhurnal Tekhnicheskoy Fiziki, Vol. 40, No. 3, Mar 70, pp 466-474

Abstract: The motion of a plasmoid in a magnetic field produced by a system of coils with mutually opposing currents is considered. The analysis is conducted within the framework of the integral model of a small bunch, considering the effects of dissipation and the gas kinetic pressure. The paper is an extension of experimental work in which stabilization and focusing of a plasma moving in a spatially periodic, alternating, axially symmetric magnetic field was first observed. The equations of motion were integrated on a computer for different parameters of the plasmoid. The following conclusions were drawn from the computations: 1. The initial velocity of the plasmoid is the basic parameter effecting the passage of plasmoids through the system. 2. For large initial velocities there exists an interval of values of the ratio N/H_0^2 under which passage of the plasmoid through the system is observed. As the initial velocity increases,

KALMYKOV, A. A., et al, Zhurnal tekhnicheskoy fiziki, Vol. 40, No. 3, Mar 70, pp 466-474

the N/H_0^2 interval broadens. 3. Upon reflection of the plasmoids the plasma is captured in the magnetic cell with subsequent emission through the magnetic slit. 4. When bunches with good conductivity pass through the system, currents are induced in them which fully compensate the applied magnetic field so that there is no field inside the plasmoid. 5. When plasmoids with poor conductivity pass through the system, a shift in phase occurs between the magnetic field and the induced current. In this case the magnetic field penetrates the plasmoid. 6. Plasmoids with poor conductivity undergo a strong retardation in the system which is proportional to the phase shift between the magnetic field and the induced current. Preliminary analysis shows that these results are in good agreement with experimental data of the authors but a more complete comparison will require more detailed experiments. This work is currently being conducted and the results will be published. The interest of B. G. Safronov in this work is acknowledged.

1/2 036 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--SCATTERING OF ELECTROMAGNETIC WAVES ON ELLIPSOIDAL PLASMA FORMATIONS IN THE ATMOSPHERE -U-

AUTHOR-(02)-LYSENKO, O.YE., KHIZHNYAK, N.A.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL TEKHNICHESKOI FIZIKI, VOL. 40, MAR, 1970, P. 475-481

DATE PUBLISHED----MAR70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--ELECTROMAGNETIC WAVE SCATTERING, ELLIPTICAL BODY, MAGNETIC PERMEABILITY, ALGEBRAIC EQUATION, ATMOSPHERIC ELECTROMAGNETIC EFFECT, SCATTERING CROSS SECTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/0981 STEP NO--UR/0057/70/040/000/0475/0481

CIRC ACCESSION NO--AP0115002

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--04DEC70

2/2 036

CIRC ACCESSION NO--AP0115002

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INVESTIGATION OF THE SCATTERING OF ELECTROMAGNETIC WAVES ON ELLIPSOIDAL OBJECTS CHARACTERIZED BY CERTAIN ARBITRARY VALUES OF THE PERMITTIVITY AND MAGNETIC PERMEABILITY TENSORS. IF THE INTERNAL FIELDS ARE EXPANDED WITH RESPECT TO THE PARAMETER A-L (WHERE A IS THE SIZE OF THE ELLIPSOID, L IS THE WAVELENGTH, AND A-L IS SMALLER THAN ONE), IT IS SHOWN THAT THE DETERMINATION OF THE EXPANSION COEFFICIENTS CAN BE REDUCED TO THE SOLUTION OF A SYSTEM OF LINEAR ALGEBRAIC EQUATIONS. A METHOD OF CONSTRUCTING THESE EQUATIONS IS DESCRIBED, AND EXPRESSIONS ARE DERIVED FOR THE INTERNAL FIELDS AND FOR THE FIELD IN THE WAVE ZONE WITH AN ACCURACY UP TO THE (A-L) SQUARED TERMS, INCLUSIVELY. AN EQUATION IS GIVEN FOR THE DIFFERENTIAL SCATTERING CROSS SECTION. THE MAIN COMPONENTS HAVE THE SAME FORM AS IN THE CASE OF WAVE SCATTERING ON A SPHERE.

UNCLASSIFIED

1/2 043 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--EQUILIBRIUM OF THE PLASMA ELLIPSOID IN AN EXTERNAL HF FIELD -U-

AUTHOR-(02)-KHIZHNYAK, N.A., LYSENKO, O.YE.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL TEKHNICHESKOI FIZIKI, VOL. 40, APR. 1970, P. 673-680

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--EQUILIBRIUM FLOW, ELLIPSOIDAL SHELL STRUCTURE, PLASMOID, HIGH FREQUENCY CURRENT, ROTATIONAL FLOW

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1318 STEP NO--UR/0057/70/040/000/0673/0680

CIRC ACCESSION NO--AP0124969

UNCLASSIFIED

CIRC ACCESSION NO--AP0124969

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXAMINATION OF THE EQUILIBRIUM OF AN ELLIPSOIDAL PLASMOID SUBJECTED TO AN EXTERNAL HF FIELD, USING CERTAIN SIMPLIFYING ASSUMPTIONS. IT IS SHOWN THAT FOR ENSURING THE EQUILIBRIUM, THE PLASMOID SHOULD BE SUBJECT TO A ROTATION AROUND ITS SYMMETRY AXIS. THE ROTATION RATE AND EFFECTIVE POTENTIAL ENERGY NECESSARY FOR EQUILIBRIUM ARE CALCULATED. THE PLASMOIDS IN EQUILIBRIUM ARE FOUND TO ADOPT THE SHAPE OF OBLATE ELLIPSOIDS OF REVOLUTION.

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002201830010-4"

USSR

UDC 533.6.013.42

LYSENKO, P. Ye., POPOV, M. A.

"On Oscillations of Gates in Pressure Water Conduits"

V sb. Dinamika gidrotekhn. sooruzh. (Dynamics of Hydraulic Engineering Equipment -- Collection of Works), Moscow, 1972, pp 117-120 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3V410)

Translation: The problem of oscillations of gates caused by oscillations of its support structures is considered. The problem is solved in the linear formulation within the framework of the theory of small oscillations of a viscous incompressible liquid considering the wave character of the propagation of perturbations in walls of the water duct and also considering hydrodynamic pressure at the input to the water duct that arises due to oscillations of the structure of the hydraulic equipment. Simplified formulas are proposed for calculating oscillations of gates that are suitable for engineering calculations. R. A. Shipov.

1/1

USSR

UDC: 535.376

GOL'DMAN, A. G., KOROL'KO, B. N., LYSENKO, S. F., and STEPANCHENKO, E. S.

"Effect of Cobalt on the Electroluminescence of ZnS-Cu and the Infrared Electroluminescence of CdS-Cu, Co"

Minsk, Zhurnal Prikladnoy Spektroskopii, Vol. 13, No. 3, September 1970, pp 464-467

Abstract: In this short article, the authors report an increase in the number of electrons in traps to a depth of 0.2-0.4 ev in the electroluminophores ZnS-Cu by the addition of small quantities of cobalt, at a concentration of 10^{-6} g-atoms per g-mole of ZnS, with a consequent increase in the intensity of their emitted phosphorescence. They found also that a somewhat larger amount of cobalt added to CdS also increased the electron concentration in the traps and led to a maximum infrared electroluminescence at 0.8 μ. Their specimens of ZnS and CdS were activated by copper from a

USSR

KAZANSKAYA, N. A., et al., Optika i Spektroskopiya, Vol 28, No 6, Jun 70, pp 1150-1158

$\frac{k_t}{\int_0}$. There was found to be a correlation between long-wave displacement of the absorption band of Tb^{3+} $^7F_6 \rightarrow {}^5D_4$ in the complexes, corresponding to growth of covalency of the oxygen-rare earth ion bond, and the value of $\frac{k_t}{\int_0}$. It is shown that the absence of luminescence in a number of Eu^{3+} and Sm^{3+} complexes is due to the appearance of a new long-wave absorption band -- a band of electron transfer from the organic part to a rare earth ion, with reduction of the latter to a doubly charged state.

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UDC 621.314.56

USSR

PETROV, YA. V., KOMALTILOV, M.S., LYSENKO, S.N.

"Investigation With The Help Of An Analogue Machine Of Transients During Short-Circuit In The Circuit Of A Compensated Ferromagnetic Frequency Tripler"

Izv. Tomsk. politekhn. in-ta (Bulletin Of The Tomsk Polytechnical Institute), 1970, 211, pp 43-47 (from RZh--Elektronika i yeye primeneniye, No 2, February 1971, Abstract No 2B561)

Translation: Danger of a short circuit in a ferromagnetic frequency tripler involves overvoltages of the capacitors and windings of the converters. Consequently, for computation of the insulating strength of the windings and choice of the magnitude of the working voltage of the capacitors, it is necessary to know the potential limiting currents for a short circuit of the tripler. For analysis of a short-circuit regime, expressions are obtained for currents of transient and steady regimes. A block diagram of the device is shown. Results of analysis show that currents of a 3-phase short circuit exceed the currents of a 2-phase short circuit by 1.1--1.5 times. 3 ill. 2 ref. V.Sh.

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USSR

UDC 576.8.095.15

IMSHENETSKII, A. A., LYSENKO, S. V., SOTNIKOV, G. G., ABYZOV, S. S.
(Institute of Microbiology, USSR Academy of Sciences)

"Effect of Very Low Temperatures on the ATP of Microorganisms"

Moscow, Mikrobiologiya, 1973, Vol 42, No 4, pp 651-654

Abstract: Very low temperatures were shown to have a stabilizing effect on ATP. Microorganisms (Serratia marcescens, Sarcina flava, Bacillus simplex, Zygosaccharomyces vini, Candida tropicalis) kept at -196°C (liquid nitrogen) showed no loss of ATP. In non-spore-forming bacteria and yeasts stored at +5°C the ATP was largely consumed. Bacillus simplex spores contain a relatively small amount of ATP, which was not used up during storage at either -196 or +5°C. The ATP was released from the cells by boiling and was detected by the chemiluminescent reaction.

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002201830010-4"

USSR UDC 582.282.23.095

PARINA, O. V., PATRIKEYEV, V. V., and LYSENKO, S. V., Institute of Microbiology, Academy of Sciences USSR, Moscow

"Survival and Physiological Activity of Some Yeast Strains Studied After a Prolonged Storage in Silica Gel"

Moscow, Mikrobiologiya, Vol 41, No 1, Jan/Feb 72, pp 164-167

Abstract: Yeast cultures of Candida guilliermondii, C. tropicalis, and C. lypolitica were used in the study. The 24-hour cultures of yeast were mixed with silica gel or with silica gel containing one of the following compounds: 10 milligrams/liter of $FeSO_4.7\ H_2O$ or $MnSO_4.7\ H_2O$, or 6 milligrams/liter of $ZnSO_4.7\ H_2O$, $CoCl_2.6\ H_2O$, NH_4NO_3, or $(NH_4)_2MoO_4$. The mixtures were dried and stored in sealed ampules for 1, 6 or 12 months at room temperature. The yeast survived in all mixtures, but the mixtures of silica gel containing $FeSO_4$ or $MnSO_4$ gave the best survival and retained best their capability to oxidize carbohydrates even after one year of storage, which indicated that their oxidizing function was preserved.

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USSR

UDC 577.150.3:576.8

IMSHENETSKIY, A. A., LYSENKO, S. V., and SOTNIKOV, G. G., Institute of Microbiology, academy of Sciences USSR

"The Effect of a High vacuum on the Activity of Ferroporphyrin Enzymes in Microorganisms"

Moscow, Mikrobiologiya, No 2, 1971, pp 289-292

Abstract: Four-day-old cultures of Sarcina flava, Serratia marcescens, Bacillus simplex, and Zygosaccharomyces vini were exposed to a vacuum (10^{-8} to 10^{-9} mm Hg) for 72 hours. The ferroporphyrin enzymes after exposure were more active in the vacuum-resistant B. simplex and S. flava cultures than in S. marcescens and Z. vini. However, the activity of the ferroporphyrin enzymes studied at the subcellular level was virtually the same in both vacuum-resistant and nonvacuum-resistant microorganisms. For example, S. marcescens cultures that died after 3 days in a high vacuum had the same enzymatic activity as the B. simplex spores which survived the exposure. Two important facts were revealed by the experiments. First, the activity of ferroporphyrin enzymes was higher at the cellular level in all the microorganisms that in a cell homogenate. Second, enzymatic activity was greater in vacuum-resistant microorganisms than in nonresistant ones.

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1/2 024 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--UMWEGANREGUNG IN HOLOGRAPHY -U-

AUTHOR-(04)-ARISTOV, V.V., LYSENKO, V.G., SHEKHTMAN, V.SH., TIMOFEEV, V.B.

COUNTRY OF INFO--USSR

SOURCE--PHYS. LETTERS, NETHERLANDS, VOL. 31A, NO. 4, P. 169-70, 23 FEB. 1970

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--HOLOGRAPHY, POTASSIUM CHLORIDE, OPTIC SPECTRUM, EXCITATION ENERGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/0502 STEP NO--NE/0000/70/031/004/0169/0170

CIRC ACCESSION NO--AP0111695

UNCLASSIFIED

2/2 024 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0111695

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN EXPERIMENTAL SCHEME HAS BEEN CONSTRUCTED FOR PRODUCING THE RENNINGER EFFECT IN THE OPTICAL RANGE. COLORED KCL CRYSTALS HAVE BEEN USED AS PHOTOSENSITIVE ELEMENTS. THE UMWEGANREGUNG WAVE HAS BEEN REGISTERED IN THIS EXPERIMENT.

FACILITY: ACAD. SCI. USSR, CHERNOGOLOVKA.

UNCLASSIFIED

1/2 026 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--RESOLUTION OF A THREE DIMENSIONAL HOLOGRAM AS AN OPTICAL IMAGING SYSTEM -U-

AUTHOR-(04)-ARISTOV, V.V., LYSENKO, V.G., TIMOFEYEV, V.B., SHEKHTMAN, V.SH.

COUNTRY OF INFO--USSR

SOURCE--AKADEMIIA NAUK SSSR, DOKLADY, VOL. 191, APR. 1, 1970, P. 795-798

DATE PUBLISHED--01APR70

SUBJECT AREAS--PHYSICS, METHODS AND EQUIPMENT

TOPIC TAGS--HOLOGRAM, ELECTROMAGNETIC WAVE DIFFRACTION, OPTIC IMAGE, PHOTOSENSITIVITY, MAGNETIC RECORDING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1800 STEP NO--UR/0020/70/191/000/0795/0798

CIRC ACCESSION NO--AT0125412

UNCLASSIFIED

2/2 026 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AT0125412

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CONSIDERATION OF THE PROCESS OF RECORDING ON A THREE DIMENSIONAL PHOTOSENSITIVE ELEMENT THE WAVE FIELD FROM AN OBJECT LOCATED IN THE FAR FIELD. IT IS SHOWN THAT DURING THE "READING" OF A THREE DIMENSIONAL HOLOGRAM THE RESOLUTION IN THE IMAGE OF THE OBJECT POINTS IS DETERMINED BY BOTH THE TRANSVERSE DIMENSIONS AND THE THICKNESS OF THE PHOTOSENSITIVE LAYER. THE PROCESS OF RECONSTRUCTION OF THE IMAGE OF AN OBJECT POINT IS REDUCED TO THE DIFFRACTION OF THE "READING" WAVE, WHICH OCNVERGES AT A CERTAIN POINT ON THE CORRESPONDING HARMONIC BLACKENING DISTRIBUTION. ACORDINGLY, THE INTENSITY DISTRIBUTION IN THE IMAGE OF AN OBJECT POINT CAB BE CALUCLATED ON THE BASIS OF THE THEORY OF ELECTROMAGNETIC WAVE DIFFRACTION BY THREE DIMENSIONAL PERIODIC STRUCTURES. FACILITY: AKADEMIIA NAUK SSSR, INSTITUT FIZIKI TVERDOGO TELA, CHERNOGOLOVKA, USSR.

UNCLASSIFIED

USSR UDC 661.872.2+847+856:669.092.5.539.27

KORNEYEVA, A. N., LYSENKO, V. P., IYELVLEV, V. M., and VORONTSOV, YE. S., Voronezh Polytechnic Institute

"Structural Changes of Colored Oxide Films on Iron, Nickel, and Copper During Their Reduction by Hydrogen and Carbon Monoxide"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy -- Chernaya Metallurgiya, No 8, Aug 73, pp 21-26

Abstract: An attempt was undertaken to carefully study the structural changers occurring in colored films on Fe, Ni, and Cu during their reduction by hydrogen and carbon monoxide. Samples of armco iron and electrolytic nickel and copper were oxidized at certain temperatures and the color changes noted: for iron the color of the oxide film changed from blue to violet to yellow when reduced at 400°C with hydrogen and 450°C with Cu; color changes for the oxide film on nickel changed from blue to violet to yellow when reduced at 300°C in hydrogen and 350° -- in carbon monoxide; and for copper -- blue to red to orange when reduced in hydrogen at 300°C and in Cu at 350°C. Analysis of the results showed that the growth of film thickness is accompanied by an increase in crystal size and their perfection.
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USSR

KORNEYEVA, A. N., et al., Izvestiya Vysshikh Uchebnykh Zavedeniy -- Chernaya Metallurgiya, No 8, Aug 73, pp 21-26

The oxide film on Fe is independent of its thickness and consists primarily of alpha-Fe_2O_3 and a small amount of Fe_3O_4; the oxide film on nickel is NiO; and on copper, according to the degree of film thickening, the content of tenorite CuO is increased and the amount of cuprite Cu_2O is diminished.

The nickel oxide film is not altered by the reduction process. It was shown from electronographic analysis that the structural changes of a film during its reduction and ion migration can cause some rearrangement of the crystal lattice from the higher oxide to the lower. From a thermodynamic viewpoint, the extraction of oxygen from the oxide film leads to the formation of a supersaturated solid solution of the metal in the oxide. From the molecular viewpoint, the mechanism of reduction takes into account the action of the electrical field within the film and the reduction mechanism is just the opposite of the oxidation process. Two figures, nine bibliographic references.

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USSR

UDC: None

(15)

PLAKHOV, A. M., CHERNENKO, O. D., MALKOV, A. I., KOSTYUCHENKO, V. I., LYSENKO, V. S., SURKOV, N. I., KIRPICHNIKOV, V. A., SMIRNOV, I. A., and SAVCHENKO, L. I.

"A Device for Ultrasonic Defectoscopy"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obrastsy, tovarnye znaki, No 4, 1973, p 98, No 363912

Abstract: The distinctive system in this device is one in which the sensor searching for the defects is mounted between rollers fixed to the lower side of the transmitting device, and is thus free to move around the workbench. A diagram of the mechanical arrangement, which improves the productivity of the device and its control, is given.

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UDC 621.315.592:546.28

USSR

LITOVCHENKO, V.G., LYSENKO, V.S., PRIKHODENKO, V.I., SHUL'MAN, A.YE., KAZAROV, R.YE., STADNIK, A.V.

"Effect Of Structural Factors Of Monocrystalline Silicon Films On Their Surface Properties"

Poluprovodn. tekhn. i mikroelektronika. Resp. mezhved. sb. (Semiconductor Technology And Microelectronics. Republic Interdepartmental Collection), 1972, Issue 7, pp 38-40 (from RZh:Elektronika i yeye primeneniye, No 9, Sept 1972, Abstract No 9B82)

Translation: A comparative study is made of a number of volumetric characteristics which depend on the defectiveness of the volume of Si films grown on sapphire substrates (mobility of charge carriers and others), and of the surface-sensitive characteristics (bending of zones, density of fast traps, and others). It is shown that the electrical properties of the surface of strongly defective films depend on the volume structure. 4 ref. Summary.

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USSR

UDC: 539.216.22:546.28

LITOVCHENKO, V. G., LYSENKO, V. S., PRIKHODENKO, V. I., SHUL'MAN, A. Ye., KAZAROV, R. Ye., STADNIK, A. V., Institute of Semiconductors, Academy of Sciences of the UkrSSR

"Effect of Structural Factors of Single-Crystal Silicon Films on Their Surface Properties"

Kiev, Poluprovodnikovaya Tekhnika i Mikroelektronika, Resp. Mezhved. Sb., No 7, 1972, pp 38-40

Abstract: A comparative study is made of a number of volumetric characteristics which depend on the volumetric imperfection of silicon films grown on sapphire substrates (mobility of the charge carriers, etc.), as well as surface-sensitive characteristics (zone flexure, density of fast traps, etc.). It is shown that the electrical properties of the surface of strongly imperfect films depend on the volumetric structure.

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USSR

UDC: 621.315.592

LYSENKO, V. S., LITOVCHENKO, V. G., KORNYUSHIN, S. I., CHERNOPISKIY, V. P., Institute of Semiconductors, Academy of Sciences of the UkrSSR

"Effect of Gamma Irradiation on the Electrical Properties of a Real Germanium Surface"

Kiev, Poluprovodnikovaya Tekhnika i Mikroelektronika. Resp. Mezhved. Sb., No 7, 1972, pp 47-51

Abstract: The paper gives some results of a study of radiation defects induced by exposure to gamma quanta on the surface and in the space charge region in germanium. Thin specimens of N-type (ρ = 20, 43, 50 $\Omega \cdot$cm) and P-type (ρ = 30 $\Omega \cdot$cm) were studied. The results of the research showed an appreciable increase in the rate of surface recombination, especially in the region of positive potentials, with a new recombination level on curves for surface recombination rate as a function of initial potential in this region. Specimens with an elevated oxygen content showed an increase in the density of fast shielding states throughout the potential range, whereas oxygen-free specimens showed practically no change in the concentration of such states. The initial potential was shifted toward the N-side after ex-

1/2

LYSENKO, V. S. et al., Poluprovbdn. Tekh. i Mikroelektron. Resp. Mezhved. Sb., No 7, 1972, pp 47-51

posure in all specimens. The maximum displacement was accompanied by a reduction in the density of "slow" states. The stability of the new centers was shown by the fact that the surface characteristics of irradiated specimens were not altered by exposure to the atmosphere for two months. Very brief treatment in hydrogen peroxide (about 4 s) almost completely restored the surface potential to the values observed in specimens before irradiation. This indicates that the potential displacement observed is due to alteration of the chemical structure of the surface oxide phase.

1/2 059 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--OPTICAL CHARACTERISTICS OF VACUUM CONDENSATES IN THE 0.22 TO 1.3 MU SPECTRAL RANGE -U-
AUTHOR--LYSENKO, V.S.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. SPEKTROSK. 1970, 12(1) 161-3

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, NAVIGATION, PHYSICS

TOPIC TAGS--VACUUM, OPTIC PROPERTY, METAL FILM, ALUMINUM, SPECIFIC HEAT, IR DETECTION MATERIAL, IR MEASUREMENT, HIGH PURITY METAL, GOLD, SILVER, LIGHT ABSORPTION, LIGHT REFLECTION, CARBON PRODUCT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1983/0930 STEP NO--UR/0368/70/012/001/0161/0163

CIRC ACCESSION NO--AP0053854

UNCLASSIFIED

2/2 059 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0053854

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TRANSMISSION AND REFLECTANCE OF LOW VACUUM CONDENSATES OF AG, AU, PD, AND BI AS WELL AS OF C WERE MEASURED IN THE VISIBLE AND UV REGION (0.22 TO 1.3 MU). THE METAL CONDENSATES WERE OBTAINED IN THE FORM OF THEIR BLACKS (99.99PERCENT PURITY) ON THE SURFACE OF QUARTZ PLATES AND AL OR CELLULOSE NITRATE FILMS AT 2.7 TORR IN A N ATM. THE CARBON BLACK LAYERS WERE OBTAINED BY THE COMBUSTION OF TURPENTINE. THE TRANSMISSION MAX. FOR THE BI, AG, AND AU BLACKS DEPOSITED ON AL FILMS WERE AT 0.26, 0.321, AND 0.5 MU, RESP., WHEREAS THE TRANSMISSION OF THE C AND PD BLACK COATINGS SHOWED A MONOTONIC INCREASE WITH INCREASING WAVELENGTH. IN SOME CASES, THE MAX. ABSORPTION OF THE INCIDENT LIGHT WAS 98-9PERCENT. OWING TO AN INCREASED TRANSMISSION, A CONSIDERABLE REFLECTANCE WAS OBSD. WITH AG BLACK ON AL FILMS IN THE 0.30 TO 0.34 MU REGION. THE COEFFS. OF DIFFUSIONAL REFLECTANCE WERE MEASURED FOR SAMPLE ON QUARTZ PLATES AND ON AL FILMS. THE SURFACE DS. AND SP. HEATS PER UNIT SURFACE OF THE ABSORBING COATINGS WERE DETD. FOR SUCH LAYERS OF THE RESPECTIVE BLACKS ON AL FILMS WHICH GIVE REFLECTANCE IS LESS THAN OR EQUAL TO 8-10PERCENT IN THE WHOLE SPECTRAL REGION STUDIED. THESE COATINGS CAN BE USED AS DETECTORS FOR IR MEASUREMENT, THE USE OF AU BLACK BEING PREFERABLE TO THE USE OF OTHER BLACKS INVESTIGATED.

UNCLASSIFIED

USSR UDC 669.293.5.295.018.58

BYCHKOVA, M. I., KOZLOVA, N. D., LYSENKO, Ye. N., BARON V. V., SAVITSKIY, Ye. M., TUREVSKIY, V. M.

"Screening Properties of Alloys in the Niobium-Titanium System"

Probl. Sverkhprovodyashch. Materialov [Problems of Superconducting Materials -- Collection of Works], Moscow, Nauka Press, 1970, pp. 166-172. (Translated from Referativnyy Zhurnal Metallurgiya, No. 5, 1971, Abstract No. 5 I783 by the authors).

Translation: The distribution of the magnetic field in superconducting magnets for quantum paramagnetic amplifiers using screening plates of Nb-Ti alloys is studied. It is demonstrated that screens of NT-1 alloy can partially screen the field and significantly improve its homogeneity. With a magnetic field intensity of 4,000 oe, a homogeneity of 10^{-3} was produced in a volume of 5×8×120 mm. 5 figs; 1 table; 13 biblio refs.

1/1

USSR UDC: 537.312.62

BYCHKOVA, M. I., KOZLOVA, N. D., LYSENKO, Ye. N., BARON, V. V., SAVITSKIY, Ye. M., TUREVSKIY, V. M.

"Shielding Properties of Alloys in the Niobium-Titanium System"

V sb. Probl. sverkhprovodyashch. materialov (Problems of Superconducting Materials--collection of works), Moscow, "Nauka", 1970, pp 166-172 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5D569)

Translation: The authors study the distribution of the magnetic field in superconducting magnets for quantum paramagnetic amplifiers with the use of shielding plates made from niobium-titanium alloy. It is shown that shields of NT-1 alloy can partially screen the field and appreciably improve field homogeneity. At a magnetic field strength of 4,000 oersteds, a uniformity of 10^{-3} is obtained in a volume of 5 × 8 × 120 mm. Five illustrations, one table, bibliography of thirteen titles. Resumé.

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USSR UDC 537.312.62:669.293

BYCHKOVA, M. I., KOZLOVA, N. D., LYSENKO, Ye. N., BARON, V. V., SAVITSKIY, Ye, M., and TUREVSKIY, V. M.

"Screening Properties of Alloys in the Niobium-Titanium System"

Problemy Sverkhprovodyashchikh Materialov [Problems of Superconducting Materials -- Collection of Works], Moscow, Nauka Press, 1970, pp 166-172

Translation: The distribution of the magnetic field in superconducting magnets was studied for quantum paramagnetic amplifiers using screening plates of niobium-titanium alloy. It was shown that shields of NT-1 alloy can partially screen a field and significantly improve its homogeneity. With a magnetic field intensity of 4,000 oe, a homogeneity of 10^{-3} was produced in a volume of 5 x 8 x 120 mm.

5 figures, 1 table, 13 biblio. refs.

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USSR

UDC 681.332.65

LYSENKO, YE. V., All-Union State Planning, Surveying, and Scientific Research Institute of Power Systems and Electric Power Networks

"Rectangular Pulse Train Delay Device"

USSR Author's Certificate No 311331, Cl. H 02 h 3/28, filed 2 Apr 70, published 23 Sep 71 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 5, May 72, Abstract No 5B179P)

Translation: The invention is related to systems which provide rectangular pulse train delay and contain a recording unit, storage unit, and reproducing unit. Well-known rectangular pulse train delay devices, which make the length of the input and output pulses equal, use magnetic tapes or drums; the distance along the magnetic carrier between the recording and reproducing units, with allowance for the travel speed of the magnetic tape, determines the delay between output and input pulses. To simplify the device and regulate the delay, as well as to make it possible to convert the pulse length, the storage unit uses a univibrator, to two inputs of which are connected inhibit elements; the input of one of these is connected via the delay element to a monostable flip-flop, to whose input is connected the input of the second inhibit element; the inputs

USSR

LYSENKO, YE. V., USSR Author's Certificate No 311331

of the inhibit elements are connected to the inputs of the AND element, whose output is connected to one input of the output OR element, to whose second input is connected the output of the storage unit.

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1/2 021 UNCLASSIFIED PROCESSING DATE--11DEC70

TITLE--THE SENSITIVE ELEMENTS FOR MEASURING ORGANS OF RELAY PROTECTION AND AUTOMATION -U-

AUTHOR--LYSENKO, YE.V.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, ELEKTRICHESTVO, NO 3, 1970, PP 26-32

DATE PUBLISHED--------70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--PROTECTIVE EQUIPMENT, ELECTRONIC SIGNAL, AUTOMATION, ELECTRIC RELAY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1202 STEP NO--UR/0105/70/000/003/0026/0032

CIRC ACCESSION NO--AP0123168

UNCLASSIFIED

2/2 021 UNCLASSIFIED PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AP0123168

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ON THE BASIS OF CLASSIFICATION OF COMPARISON METHODS ACCORDING TO CHARACTERISTICS OF THE OUTPUT SIGNAL A GROUP IS SINGLED OUT IN WHICH THE CRITERION OF THE ZONE OF OPERATION IS THE SIGN OF DIRECT COMPONENT OF THE INPUT SIGNAL, WHEREAS IN THE SECOND GROUP THE OUTPUT SIGNAL IS PRESENT ONLY IN THE ZONE OF COVERAGE. UPON COMPARING ABSOLUTE VALUES OF QUANTITIES SUPPLIED THE PARAMETERS OF THE OUTPUT SIGNAL MAKE IT POSSIBLE TO ANALYZE THE BASIC METHODS OF INDICATION OF THE DIRECT COMPONENT IN THE SIGNAL CURVE, THEIR QUICK OPERATION, REGRESSION COEFFICIENT, AND THE COMPLEXITY OF REALIZATION OF THE SCHEME. EXAMPLES ARE GIVEN OF THE REALIZATION OF INDICATION METHOD.

UNCLASSIFIED

1/2 015 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--A SUGGESTED TYPE OF A SPARK QUENCH CIRCUIT -U-

AUTHOR--LYSENKO, YE.V., KOKURKINA, T.I.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, ELEKTRICHESKIYE STANTSII, NO 4, 1970, PP 80-81

DATE PUBLISHED-------70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--SPARK DISCHARGE, RC CIRCUIT, DIODE CIRCUIT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1987/1672 STEP NO--UR/0104/70/000/004/0080/0081

CIRC ACCESSION NO--AP0104894
UNCLASSIFIED

2/2 015 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0104894

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MATERIALS ARE PRESENTED CONCERNING A METHOD OF INCREASING PERMISSIBLE BREAKING CAPACITY OF THE CONTROL CONTACT BY USING A SPARK QUENCH RC CIRCUIT WITH A DIODE, WHICH MAKES POSSIBLE BREAKING A HIGH INDUCTIVE LOAD PRACTICALLY WITHOUT THE OCCURRENCE OF AN ARC AT CONTACTS. THE USE OF THE SUGGESTED SPARK QUENCH CIRCUIT CAN INCREASE THE CAPACITY OF CONTACTS 2-3 TIMES WITH RESPECT TO THE DATA OF MANUFACTURING PLANTS. ONE ILLUSTRATION.

UNCLASSIFIED

UDC: 8.74

USSR

LYSENKOVA, V. G.

"On Organizing the Operation of Two Digital Computers"

Moscow, Sist. raspredeleniya inform.--sbornik (Information Distribution Systems--collection of works), "Nauka", 1972, pp 33-35 (from RZh-Kibernetika, No 10, Oct 72, abstract No 10V633 [author's résumé])

Translation: A queuing system made up of two single-line subsystems with limited queues is considered. Coming into each of the subsystems is a simple stream of customers with intensity λ_i, $i = 1, 2$. In the case of overflow of one subsystem, the arriving customers are transferred to the second subsystem. The customers of any stream are lost only in the case where both subsystems are busy. Recurrent formulas are derived for computing the stationary distribution of probabilities of the state of the system.

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USSR

UDC: 519.2

BASHARIN, G. P., LYSENKOVA, V. T.

"On Serving Several Nonhomogeneous Streams in a Completely Accessible Bundle with a Limited Queue"

Moscow, Sist. raspredeleniya inform.--sbornik (Information Distribution Systems--collection of works), "Nauka", 1972, pp 3-16 (from RZh-Kibernetika, No 10, Oct 72, abstract No 10V84 [authors' abstract)

Translation: A queuing system is considered which is made up of c servers and r waiting spots. Coming into the system are k simple streams of customers with an overall probability Λ given by $\Lambda = \sum_{i=1}^{k} \lambda_i$. The i-th customer arriving at the system (i = 1,... ...,k) is sent for service to any free server. Customer service time is distributed in accordance with an exponential law with parameter μ_i and does not depend on the server handling the given customer. If all servers are busy at the time of arrival of the customer, he stands in a line which is common to the customers of

1/2

UDC: 519.2

USSR

VOLKOV, V. I., LYSENKOVA, V. T.

"A Queuing System With Two Sequentially Arranged Groups of Servers"

Moscow, Sist. raspredeleniya inform.--sbornik (Information Distribution Systems--collection of works), "Nauka", 1972, pp 161-166 (from RZh-Kibernetika, No 10, Oct 72, abstract No 10V87 [authors' abstract])

Translation: A queuing system is considered which is made up of two multiple-line subsystems with limited queues. Coming into the system is a simple stream of customers. The customers are initially served by the first subsystem, and the excess stream is directed from the first subsystem into the second for service. An algorithm is derived for calculating the stationary distribution of probabilities.

1/1

USSR

UDC 621.395:519.152

LYSENKOVA, V. T.

"Organizing the Operations of Two Digital Computers"

Moscow, Institut problem peredachi informatsii, Akademiya Nauk SSSR, Sistemy raspredeleniya informatsii, 1972, "Nauka," pp 33-35

Abstract: A queuing system is described by treating it as a system of two electronic digital computers in joint operation, each computer servicing individual information lines. The work of these two subsystems is organized such that if one is saturated with claims for service, the other one will take over the servicing task. It is stipulated that the claim for any line may be lost only in the event both subsystems are completely busy. The Markov process describing the system operation is obtained in terms of the number of claims in the first computer and the number of claims in the second, and a system of algebraic equations is derived for the steady-state probabilities of the queuing system. The equations are solved. It is noted that if the steady-state probabilities of the system are known, all the required characteristics such as the probability of losses, the probability of waiting, and the average length of priorities can be determined.

1/1

USSR UDC 621.395:519.152

BASHARIN, G. P. and LYSENKOVA, V. T.

"Servicing Several Heterogeneous Lines by Available Beams With Limited Priority"

Moscow, Institut problem peredachi informatsii, Akademiya Nauk SSSR, Sistemy raspredeleniya informatsii, 1972, "Nauka," pp 3-16

Abstract: A discussion is given of the problem of servicing several incoming heterogeneous information lines of the simplest kind by a completely open c-line system with limited priority. The solution is to be applicable to computing the capacitance of the buffer memory as well as several other cases. The authors begin their analysis by considering a system consisting of c identical devices and r points of expectation. Input to the system are k service claims, and the i-th claim applied to the system is directed to any free communication instrument. The Markov process describing the operation of the system is obtained. All the instruments are assumed identical, and the state of the system is therefore a function only of the number of claims to the various service forms. A lexicographic ordering of all possible system states is set up.
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USSR

BASHARIN, G. P., et al, Institut problem peredachi informatsii, Akademiya Nauk SSSR, Sistemy raspredeleniya informatsii, "Nauka," pp 3-16

A system of equilibrium equations is derived and an algorithm for solving the system is sought. Results of the computation show that the probability of losses with a constant load falls off rapidly with increasing r and that an increase in r leads, in turn, to an increase in the average time the instruments are busy.

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UDC 612.1-06:612.865/.867

USSR

NAVAKATIKYAN, A. O., KUNDIYEV, Yu. I., LYSINA, G. G., TOMASHEVSKAYA, L. I., DERKACH, V. S., KAPSHUK, A. P., KOVALEVA, A. I., STANISLAVSKAYA, TS. D., OSINSKAYA, L. S., and PARLYUK, A. F., Kiev Institute of Industrial Hygiene and Occupational Diseases

"Effect of Mental Work Accompanied by Nervous and Emotional Stress of Varying Degrees on the Cardiovascular System"

Moscow, Kardiologiya, No 3, 1973, pp 50-56

Abstract: In addition to making a statistical analysis of 1,585 cases of myocardial infarction among Kiev workers, the authors ran physiological studies on engineers, typesetters, mathematicians, and neurosurgeons. They found that the effects of mental work on the cardiovascular system vary with the degree of nervous tension and some other factors. The manifestations range from incipient functional disturbances of regulation to severe pathology. Moderate tension elevates blood pressure, the increase in systolic and diastolic pressures being related. Great tension, however, tends to disrupt the relationship probably because the centers regulating vascular tonus become uncoordinated. Intense nervous and emotional strain increases the heart beat as well as the "slow" waves among the periodic constituents of the correlation function of

USSR

NAVAKATIKYAN, A. O., et al., Kardiologiya, No 3, 1973, pp 50-56

the cardiac rhythm, an indication of an intensification of central neuroendocrine influences on cardiac activity. As the tempo of work and degree of emotional stress increase, the amount of catecholamines and 17-hydroxycorticoids excreted with urine also gradually increases. Thus, tense mental work markedly affects the cardiovascular system. The resulting changes correlate with the functions of the sympathico-adrenalin system and adrenal cortex.

2/2

UDC 612.13-07:577.15.031

USSR

LYSINA, G. G., and PAPLYUK, A. F., Kiev Scientific Research Institute of Labor Hygiene and Occupational Diseases

"Hemodynamic Changes Caused by General Low-Frequency Jerky Vibrations"

Kiev, Vrachebnoye Delo, No 1, 1973, pp 124-128

Abstract: Hemodynamic changes were studied in 33 female bridge crane operators with 10 and more years of service. Early pathological signs in the nervous system were observed in 24, and late pathological signs in 9 operators. Data obtained with mechanical and cardiographic methods revealed several homodynamic changes. Among them, a decrease in the maximal, lateral, pulse, and stroke pressure. The minimal pressure was low at the outset of the disease but it increased with the severity of clinical symptoms and the length of occupation. A general peripheral resistance of precapillarics to the blood flow and propagation rate of the pulse wave was much higher (compared with controls) in operators with more than 10 years of service. This condition was indicated by the greater tone of small and intermediate blood vessels that is characteristic for hypertension. A decreased maximal, pulse, and stroke blood pressure indicated the presence of disturbances in the regulatory mechanisms which appeared in the form of an angiodystonic syndrome (asymmetry and disturbance in

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USSR

LYSINA, G. G., and PAPLYUK, A. F., Vrachebnoye Delo, No 1, 1973, pp 124-128

normal ratios of arterial pressure in different parts of the blood vessel system, thermoasymmetry, and several other vegetative shifts).

2/2

USSR

UDC 621.373.826:57

KIRICHINSKIY, B. R., SHEPELEV, V. N., MEDVEDOVSKAYA, TS. P., LYSINA, G. G., LOGANOVSKIY, N. G., SOLETSKAYA, A. S., VOL'FOVSKAYA, R. M.

"Effect of Laser Emission on the Organism of Industrial Workers"

V sb. Ispol'z. optich. kvant. generatorov v sovrem. tekhn. i med. Ch. 2-3 (Utilization of Lasers in Modern Engineering and Medicine. Parts 2-3 -- collec- of works), Leningrad, 1971, pp 108-110 (from RZh-Radiotekhnika, No 1, 1972, Abstract No 1D651)

Translation: A report is presented on examination of 40 people working 3.4 years on the average with laser emission (200-200 bursts per week with a pulse duration of 20-40 nanoseconds and an energy of 1-10 joules and up to 1 joule in the continuous mode). It was calculated that the radiation level on the cornea was $5 \cdot 10^{-6}$-$5 \cdot 10^{-7}$ joules, which is approximately 2 orders higher than the levels which the majority of authors recommend as the maximum allowable and approaches the threshold values (causing minimum damage to the retina). For people with low seniority, pronounced shifts in autonomic vascular regulation was often detected with some lowering of visual function and liability of composition of peripheral blood. This has the nature of functional-dynamic shifts.

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UDC 534.21:539.3

USSR

LUKASHEV, A.A., LYSKO, YE.M., VEREMEYENKO, S.V., VOZHEVSKAYA, S.M., LOSHCHININ, V.F. (Kishinev), All-Union Scientific Research Institute for the Development of Non-Destructive Methods and Facilities for Quality Control of Materials.

"Distribution of Elastic Waves in a Solid For a Four-Constant Elastic Model of a Continuous Medium"

Kiev, Prikladnaya Mekhanika, No 3, 1972, pp 32-35

Abstract: Equations are obtained for the velocity of sound in a nonlinear four-constant model of a continuous elastic medium. Change of the velocities of the longitudinal waves with pressure is described by a combination of second- and third-order elastic constants. Change of the velocities of the transverse waves is determined only by second-order elastic constants (geometrical nonlinearity). It is shown that the numerical values of second-order elastic constants obtained at zero pressure and at uniaxial compression differ by a factor of several units. 1 table, 4 bibliographic entries.

1/1

1/2 007 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--THE RPS,2 PULVERIZATION AND BALING MACHINE -U-

AUTHOR-(02)-VALKOV, YU.I., LYSKOV, B.A.

COUNTRY OF INFO--USSR

SOURCE--SBORNIK TRUDOV SEVERNOGO NAUCHNO-ISSLEDOVATEL'SKOGO INSTITUTA REFERENCE--REFERATIVNYY ZHURNAL, VODNYY TRANSPORT, NO 3, 1970 ABSTRACT NO DATE PUBLISHED-------70

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

TOPIC TAGS--MATERIAL HANDLING EQUIPMENT, PACKAGING MACHINERY/(U)RPS2 MATERIAL HANDLING EQUIPMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3003/0013 STEP NO--UR/0000/70/000/001/0230/0236

CIRC ACCESSION NO--AR0129313
UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--27NOV70

2/2 007

CIRC ACCESSION NO--AR0129313

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DESIGN OF THE RPS 2 MACHINE IS DESCRIBED, AND ITS TECHNICAL CHARACTERIZATION IS GIVEN.

UNCLASSIFIED

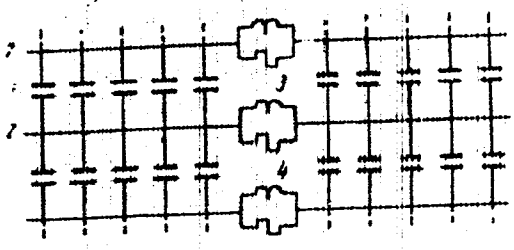
Yu. I. LYSKOV

AA 0044287

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent, 3/70

243699 CAPACITOR BANK is made more reliable. The arrangement enables to reduce the magnitude of energy developed in a damaged capacitor and attenuates the discharge current in case of a short-circuit by employing networks of parallel-connected inductors (3) and resistors (4) which separate the capacitor bank (2) into sections. The magnitude of inductance is between 0.5-0.05 mH which shorts the resistance at industrial frequency. During a short circuit the frequency of current oscillation is 5-10 kHz so the current is forced through the resistor.



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9.1.68 as 1208633/24-7. YU.I.LYSKOV . YU.S.EMMA.
"ENERGOSET'PROEKT" PLANNING (9.10.69.) Bul 17/14.5.69
Class 21d^2, 21c. Int.Cl.G 05f. H 02j.

Vsesovuznyy Gosudarstvennyy Proyektno-Izyskatel'skiy i Nauchno-Issledovatel'skiy Institut "Energoset'proyekt"

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19770829

1/2 009 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--ABSORPTION SPECTRA OF CADMIUM HALIDE CRYSTALS -U-

AUTHOR-(04)-LYSKOVICH, A.B., ZHEREBETSKIY, S.K., CHORNIY, Z.P., PENTSAK, G.M.

COUNTRY OF INFO--USSR

SOURCE--UKR. FIZ. ZH. (RUSS. ED.) 1970, 15(4), 606-10

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--CADMIUM COMPOUND, HALIDE, BROMIDE, CRYSTAL ABSORPTION SPECTRUM, CADMIUM CHLORIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/0469 STEP NO--UR/0185/70/015/004/0606/0610

CIRC ACCESSION NO--AP0135932

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--04DEC70

2/2 009

CIRC ACCESSION NO--AP0135932

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AT 90DEGREESK, THE ELECTRONIC ABSORPTION SPECTRA OF CRYST. COCL SUB2 AND COBR SUB2 SHOWED PRESENCE OF IMPURITIES. IN COCL SUB2, BR IMPURITIES SHIFTED ABSORPTION MAX. TO LONGER WAVELENGTH AND THE PRESENCE OF I CAUSED A LAMBDA SUBMAX AT 246 MMU. ALL INVESTIGATED COBR SUB2 SAMPLES CONTAINED SOME I IMPURITIES GIVING LAMBDA SUBMAX AT 274 MMU. THE PRESENCE OF PB PRIME2POSITIVE IN COCL SUB2 AND COBR SUB2 CAUSES APPEARANCE OF LAMBDA SUBMAX AT 284 AND 315 MMU, RESP. FACILITY: L'VOV. GOSUNIV. IM. FRANKO, LVOV, USSR.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--CLINICO LABORATORY PARALLELS IN CHOLESTATIC FORMS OF INFECTIOUS HEPATITIS AND JAUNDICE OF NEOPLASTIC ORIGIN -U-

AUTHOR-(02)-LYSKOVTSEV, M.M., BUBLIY, V.P.

COUNTRY OF INFO--USSR

SOURCE--LINKICHESKAYA MEDITSINA, 1970, VOL 48, NR 3, PP 46-49

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HEPATITIS, JAUNDICE, BLOOD SERUM, NEOPLASM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/0102 STEP NO--UR/0497/70/048/003/0046/0049

CIRC ACCESSION NO--AP0125925
UNCLASSIFIED

2/2 021 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AP0125925
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ARTICLE SETS FORTH DATA OF THE COMPARATIVE STUDY OF CLINCO LABORATORY INDICES IN CHOLESTATIC FORMS IN INFECTIOUS HEPATITIS (32 CASES) AND OBSTRUCTIVE JAUNDICE (35 CASES). ALONG WITH A NUMBER OF SIMILAR SYMPTOMS IN THE REFERRED TO DISEASES DIFFERENCES ALSO EXIST: A RELATIVE SHORT PREICTERIC PERIOD (1-2 WEEKS), ARTHRALGIA, LEUKOPENIA, LYMPHOMONOCYTOSIS, REDUCTION OF ESR AND PROTRACTED ICTERIC PERIOD (8-10 WEEKS TO 5 MONTHS). NEOPLASTIC JAUNDICE IS CHARACTERIZED BY A PROLONGED PREICTERIC PERIOD (FROM 3-12 AND MORE WEEKS), PROGRESSION OF JAUNDICE, PERSISTENT ITCHING OF THE SKIN, A POSITIVE COURVASIER'S SINDROME, ACCELERATION OF ESR AND ANEMIZATION. OF THE BIOCHEMICAL INDICES THE AUTHORS GIVE PREFERENCE TO THE DIFFERENTIAL DIAGNOSIS OF IRGLE'S TEST AND DETERMINATION OF THE BLOOD SERUM SEROMUCOID. IN CHOLESTATIC HEPATITIS THERE IS COMMONLY NOTED A NORMAL OR REDUCED SEROMUCOID LEVEL IN A NEGATIVE IRGLE'S TEST. IN OBSTRUCTIVE JAUNDICE ASSOCIATED WITH NEOPLASMS THERE IS USUALLY OBSERVED A HIGH SEROMUCOID CONTENT AND POSITIVE IRGLE'S TEST. THE PREDNISOLONE TEST IS ALSO OF A DEFINITE DIAGNOSTIC IMPORTANCE. IN CHOLESTATIC HEPATITIS IT IS USUALLY POSITIVE (81.4PERCENT) AND IS ALWAYS NEGATIVE IN OBSTRUCTIVE JAUNDICE. FACILITY: KHAR'KOVSKOGO MEDITSINSKOGO INSTITUTA.

UNCLASSIFIED

USSR

UDC 621.52:541.183

LYSOGOROV, G.S., YEVSEYEVA, L.I.

"Kinetics Of Absorption Of Hydrogen By Compacted Titanium Powder"

Elektron. tekhnika. Nauchno-tekhn. sb. Elektron SvCh (Electronic Technology. Scientific-Technical Collection. Microwave Electronics), 1970, No 3, pp 58-65 (from RZh--Elektronika i yeye primeneniye, No 7, July 1970, Abstract No 7A52)

Translation: The kinetics are investigated of the sorption of hydrogen by compacted titanium powder in a region of reduced temperature and high concentration of absorbed gas (to 150 cm^3 . atm/g). It is established that the rate of sorption in conditions distant from saturation of the specimen by gas, depends little on the temperature of the titanium. At room temperature the rate of absorption in the pressure range of 10^{-7}--10^{-3} mm of mercury is proportional to the pressure of the hydrogen. The activity of the porous titanium increases in proportion to its saturation by hydrogen. The possibility is shown of using porous titanium in high-performance vacuum sorption pumps for evacuation of hydrogen. A method of investigation is described which makesit possible over a long period of time to conduct measurements under conditions of an ultrahigh vacuum. Summary.

1/1

LYSOV, B. S.

Steel + Alloys

DEVICE FOR OBTAINING MIXTURES OF METAL CHLORIDE VAPORS

[Article by B. S. Lysov, A. M. Tumanov, Moscow Steel and Alloys Institute, Department of High-Temperature Materials; Orzhonikidze, Izvestiya Vysshikh Uchebnykh Zavedeniy, Tsvetnaya Metallurgiya, Russian, No 5, 1971, submitted 22 January 1971, pp 122-124]

UDC 536.423.1.669.8.121.669.294:669.27

The process of deposition of metals from vapors of their halides is used as the method of obtaining metals or for deposition of coatings made of them on various materials. In the published literature there is a description of certain devices used in laboratory practice for these purposes [1]. From the experience of working with such devices it is known that one of the most complex assemblies of the device is the halide compound evaporator [2], especially in cases where the evaporation point does not exceed the melting point of the halide. This is typical for widely used compounds. The problem is still more complicated if it is necessary to perform joint precipitation of two or more metals (when obtaining coatings made of compounds or alloys).

Various means of solving this problem are possible. One of the most prospective means is the creation of a device with separate evaporation of the halide compounds and mixing their vapors before input to the reaction zone.

In the described device there are two evaporators each of which is a tube with a boat with chloride placed in it (Figure 1). The inside diameter of the evaporator is 60 mm, and the length of the boat with the metal chloride is 500 mm. The evaporators are joined by a mixer tube having a flange for attachment to the reaction chamber. The installed valves permit the use of any evaporator independently of the other. All the flanges and valves are arranged so that the removable thermostating furnaces will have a simple design. Tubular furnaces are installed on the evaporators, and a two-reaction removable heater is installed on the mixer tube. The removable heaters greatly simplify the assembly and adjustment of the device. All the separable joints (flanges, valves, thermocouple inputs) are executed with polyfluoroethylene packing; therefore, the thermostating temperatures should not exceed 200-250 degrees.

The gas carrier (argon, hydrogen, and so on) can be passed through the evaporators or, bypassing them, directly through the mixer. The concentration

LYSOV, B. S.

JPRS 55592
6 MAR 72

UDC 536.421.1.661.8.321.669.294:669.27

DEVICE FOR OBTAINING MIXTURES OF METAL CHLORIDE VAPORS

[Article by B. S. Lysov, A. Ye. Tumanov, Moscow Steel and Alloys Institute, Department of High-Temperature Materials; Ordzhonikidze, Izvestiya Vysshikh Uchebnykh Zavedeniy, Tsvetnaya Metallurgiya, Russian, No 5, 1971, submitted 22 January 1971, pp 122-124]

The process of deposition of metals from vapors of their halides is used as the method of obtaining metals or for deposition of coatings made of them on various materials. In the published literature there is a description of certain devices used in laboratory practice for these purposes [1]. From the experience of working with such devices it is known that one of the most complex assemblies of the devices is the halide compound evaporator [2], especially in cases where the evaporation point does not exceed the melting point of the halide. This is typical for widely used compounds. The problem is still more complicated if it is necessary to perform joint precipitation of two or more metals (when obtaining coatings made of compounds or alloys).

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The gas carrier (argon, hydrogen, and so on) can be passed through the evaporators or, bypassing them, directly through the mixer. The concentration

USSR

UDC 621.793:669.8

ANDREYEV, YU. YA., KOLOBOV, G. A., LYSOV, B. S., and RYCHKOVA, N. S., Moscow Institute of Steel and Alloys, Department of High-Temperature Materials

"Process of Producing Electrolytic Coatings by Titanium-Vanadium Alloys"

Ordzhonikidze, Tsvetnaya Metallurgiya, No 6, 1970, pp 82-86

Abstract: An investigation of the process of obtaining Ti-Va alloy coatings was conducted on the basis of the results obtained by the authors in a study of the precipitation of dense titanium and vanadium deposits. A new procedure for obtaining electrolytic titanium-vanadium coatings is suggested. It consists in maintaining in an argon atmosphere at 900° for 10-12 hours a melt based on an equimolecular KCl-NaCl composition containing approximately 5 wt % Ti in the form of chlorides. Electrolysis using ferrous, molybdenum, and titanium-vanadium cathodes, was conducted at 800 and 900° in order to obtain Ti-Va coatings at various current densities. A comparison of results shows the effect of temperature on the rate of coating growth. The results also show that the high rate of coating growth with significant

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002201830010-4"

USSR

ANDREYEV, YU. YA., et al., Ysvetnaya Metallurgiya, No 6, 1970, pp 82-86

vanadium content (22 wt %) is obtained by using the Ti + 25% Va alloy as the anode at 800° C with a 0.2 a/cm^2 current density. The vanadium content decreases rapidly with current density, and the dependence of coating growth rate on current density represents an extremum characteristic. A 100-micron coating can be obtained on an Fe cathode at 800° and 0.2 a/cm^2 current density in 15 minutes.

USSR

UDC 533.99

LYSOV, G.V.

"Microwave Plasmatron"

USSR Author's Certificate No 304714, filed 28 Nov 69, published 7 July 71 (from RZh:Elektronika i yeye primeneniye, No 2, Feb 72, Abstract No 2A415P)

Translation: The microwave plasmatron consists of a section of circular waveguide with a dielectric gas-discharge tube coaxially located within it. With the object of increasing the uniformity of the degree of ionization of the plasma in the gas-discharge tube, a delay system is installed along the axis of the latter, e.g., in the form of a ribbed bar [sterzhen].

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Vacuum Tubes

UDC 621.384.6

USSR

LYSOV, G. V.

"Superhigh Frequency Plasmatron"

USSR Author's Certificate No 304714, filed 28 November 1969, published 24 May 1971, (from Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 17, 1971, No H 05h 1/18)

Translation: A superhigh frequency plasmatron consisting of a segment of a circuit or waveguide with a coaxial dielectric gas discharge tube inside is introduced. The plasmatron is distinguished by the fact that in order to improve the uniformity of the degree of ionization of the plasma in the gas discharge tube, a decellerating system, for example, in the form of a finned rod is installed along the tube axis.

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UDC: 533.9.07:541.196.138

USSR

BLINOV, L. M., LYSOV, G. V., PETROV, Ye. A.

"A High-Frequency Plasmatron"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 11, 1970, Author's Certificate No 266105, filed 26 Feb 68, pp 74-75

Abstract: This author's certificate introduces: A high-frequency plasmatron which contains a quartz tube with a fitting for tangential or axial gas supply, and a system for excitation of an electromagnetic field. As a distinguishing feature of the patent, the device is designed for producing a continuous ionized flow of nonequilibrium plasma with a gas temperature of 200-500°C. Coaxial with the quartz tube is a circular waveguide to the outside of which a rectangular waveguide is connected through a lead-in aperture in such a way that its wide wall is perpendicular to the axis of the circular waveguide for excitation of the E_{01} mode from an SHF pulse oscillator. A second rectangular waveguide is similarly connected with its wide wall parallel to the axis of the circular waveguide for excitation of the H_{11} mode from a continuous SHF oscillator. 2. A modification of this plasmatron in which the distinguishing features are channel matching and wave reduction. Both rectangular waveguides are located a certain distance from

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USSR

BLINOV, L. M., et al. Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 11, 1970,

one another lengthwise on the same side of the circular waveguide, the input apertures are covered by metal wires to prevent cross influence of the waves, and identical waveguide sections with matched water loads [sic] are symmetrically connected to the opposite side of the circular waveguide.

2/2

USSR UDC 539.374

LYSOV, M. I., SAMOKHVALOV, Yu. A.

"Elastic-Plastic Bending of Billets with Initial Curvature"

Tr. Kazan. Aviats. In-ta. [Works of Kazan' Aviation Institute], No 140, 1972, pp 60-69, (Translated from Referativnyy Zhurnal, Mekhanika, No 11, 1972, Abstract No 11 V461 by the author's).

Translation: The stress-strain state is studied with sign-changing bending. The peculiarities of bending of curved blanks are emphasized. The dependence between stress and deformation follows a linear-exponential rule. Analytic expressions for deformations and stresses through the height of the transverse cross section of an element consider the peculiarities of bending. Formulas are produced for the relationships between bending moment and curvature, for calculation of springing and residual curvature during bending of curved blanks with complex cross section. The formulas produced are used to study straightening of circular blanks by sign-changing bending by the method of flexible rolling. Possible plans for straightening and experimental dependences for determination of the number of passes in each step of straightening are presented.

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USSR UDC: 621.396.6.017.7

RVACHEV, V. L., SLESARENKO, A. P., KRAVCHENKO, V. F., LYSOV, V. P.

"On the Theory of Automating the Calculation of Heat Fields in Designing Radio Electronic Devices"

Pribory i sisteny avtomatiki. Resp. mezhved. nauch.-tekhn. sb. (Devices and Systems for Automation. Republic Interdepartmental Scientific and Technical Collection), 1971, vyp. 18, pp 102-106 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6V291)

Translation: A number of relationships are derived which can be used as convenient algorithms in calculating the heat fields of radio electronic equipment on computers. Consideration is given to the possibility of automatic computer design of radio electronic equipment since computers are a component part of the fundamental equipment for electronic design. Bibliography of two titles. Resumé.

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USSR UDC 576.858.5.095.383

SELIVANOV, A. A., KOVALEVA, T. P., AKSENOV, O. A., YURLOVA, T. I., LYSOV, V. V., KRYLOV, V. A., and SMORODINTSEV, A. A., All-Union Scientific Research Institute of Influenza, Ministry of Health USSR, Leningrad

"Anti-Interference Effect of Adenoviruses"

Moscow, Voprosy Virusologii, No 5, Sep/Oct 72, pp 574-577

Abstract: Crude adenoviruses, serotype 1, 4, and 7 adenoviruses heated to 56°C for 30 min, and purified pentone antigen of serotype 4 suppress induction of interferon by influenza A2 Hong Kong Virus and inhibit interference between influenza A2 virus and vesicular stomatitis virus in chick embryo fibroblasts. Adenoviruses treated with trypsin, fibrantigen, and hexone-antigen no longer have this capacity. There is a good direct correlation between the cytotoxic, anti-interference, and anti-interferon-inducing capacities of the above-mentioned strains of adenoviruses. None of these strains stimulates reproduction of vesicular stomatitis virus. It is postulated that anti-interference is due not only to inhibition of interferon production but also to reduction of the activity of previously produced interferon.

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USSR

UDC 576.858.5.095/.097

KOVALEVA, T. P., YURLOVA, T. I., BOLDASOV, V. K., LYSOV, V. V., RUDENKO, L. G., AKSENOV, O. A., and SELIVANOV, A. A., All Union Scientific Research Institute of Influenza, Ministry of Health USSR, Leningrad

"Biological Properties of Two Strains of Adenovirus Serotype 4"

Moscow, Voprosy Virusologii, No 6, Nov/Dec 71, pp 700-703

Abstract: A comparative study of normal and attenuated strains of adenovirus serotype 4 revealed a number of significant differences.. While at the optimum culture growth temperature of 37°C, both strains reproduce at the same rate, at 28°C the attenuated strain proliferates much faster and at 40°C much slower than the parent strain. While both strains are almost equally sensitive to human leukocytic interferon, the attenuated strain is significantly more sensitive to nonspecific thermolabile inhibitors, and has a much higher interferon-stimulating and interference activity and a much lower cytotoxic activity. After experimental inoculation of human subjects, both strains cause a rapid, fourfold increase in serum antibody concentration. However, the disease induced by the attenuated strain is considerably less severe and of shorter duration than that induced by the parent strain.

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USSR UDC 576.858.5.06:576.858.5.097.39].083.1

SELIVANOV, A. A., LYSOV, V. V., YURLOVA, T. I., and AKSENOV, O. A., All-Union Scientific Research Influenza Institute, Ministry of Health USSR, Leningrad

"A Comparison of Two Methods of Titrating Adenoviruses"

Moscow, Voprosy Virusologii, No 5, 1971, pp 600-603

Abstract: While there is a linear relationship between the titer of adenovirus and incubation time, the ambiguity of the results makes it difficult to compare the strain properties of the agent. Experiments with adenoviruses serotypes 1 and 2 adapted in different degrees to low incubation temperatures in guinea pig kidney tissue culture showed that such comparison can be conveniently made by approximating the titer-incubation time relationship from the sum of the least squares. The accurately reproducible results of the approximation, the regression coefficient of cytopathogenic and cytotoxic activities, correlate with other biological properties and can be used as markers to differentiate adenovirus variants of the same serotype.

1/2 018 UNCLASSIFIED PROCESSING DATE--13NOV70

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AUTHOR--LYSOV, YE.S.

COUNTRY OF INFO--USSR

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ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ABSOLUTE WEIGHT OF THE BIG PECTORAL MUSCLE (MUSCULUS (M.) PECTORALIS) INCREASES DURING THE POSTEMBRYONIC PERIOD 300 FOLD IN TURDUS PILARIS, AND 250 FOLD IN A SMALL T. MUSICUS. THE RELATIVE WEIGHT OF M. PECTORALIS IN FLEDGLINGS AMOUNTS TO 1.3-1.6PERCENT OF THE BODY WEIGHT AT THE MOMENT OF HATCHING, 7.41-8.07PERCENT AT THE MOMENT OF LEAVING THE NEST, AND 17-20PERCENT IN ADULTS. THE ABSOLUTE WEIGHT OF M. PECTORALIS IS FLEDGLINGS AT THE MOMENT OF LEAVING THE NEST AMOUNTS, ON THE AVERAGE, TO ABOUT 26PERCENT OF THE WEIGHT OF M. PECTORALIS IN ADULT BIRDS. FACILITY: DEP. ZOOL., LENINGRAD AGR. INST. LENINGRAD, USSR.

UNCLASSIFIED

USSR

UDC 621.385.633.14

KIRICHENKO, A.YA., LYSOVA, L.A., SUVOROV, A.N.

"Experimental Investigation Of A Slow-Wave Structure Of The Ring-Plane Type"

Kiev, Izvestiya Vuzov SSSR--Radioelektronika, Vol XIV, No 10, 1971, pp 1234-1236

Abstract: The results are described of an experimental investigation of a slow-wave structure of the ring-plane type with two supporting planes in the 3-cm range. The purpose of the "hot" tests was to determine the possibility of modeling this system in the millimeter range. Received by editors 7 Dec 60. 6 ref. 3 fig.

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