"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

2/2 023 UNCLASSIFIED PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0115893

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REFINING ABILITY OF THE PROTECTIVE MEDIA USED IN HIGH TEMP. THERMAL TREATMENT WAS STUDIED AND ALSO THEIR EFFECT ON THE STRUCTURE AND MAGNETIC PROPERTIES OF TRANSFORMER STEEL. THE INVESTIGATED MEDIA WERE VACUUM IN THE RANGE 10 PRIME NEGATIVE3 MINUS 30 TORR, H, H AFTER PURGING WITH N 95PERCENT-H 5PERCENT, AND N 95PERCENT-H 5PERCENT. FOR THE ACHIEVEMENT OF GOOD MAGNETIC PROPERTIES THE THERMAL TREATMENT SHOULD BE CARRIED OUT AT A PRESSURE SMALLER THAN 10 PRIME NEGATIVE3 TORR. FACILITY: TSNIICHM IM. BARDINA, MOSCOW, USSR.

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

Thermodynamics

USSR

KAZADZH, L. B., MOLOTILOV, B. V., SUKHANOV, L. F., FRANTSENYUK, I. V. and SHAPOVALOV, A. P., Institute of Precision Alloys, Central Scientific Research Institute of Ferrous Metallurgy imeni I. P. Bardin, Novo-Lipetskiy Metallurgical Plant

"Effect of A High-Temperature Heat Treatment Medium on the Structure and Magnetic Properties of Transformer Steel"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, Vol. 34, No. 2, Feb 70, pp 262-266

Abstract: The refining ability of various media in high-temperature annealing in industrial dome furnaces was studied by optical microscopy methods, by measuring magnetic properties and by determining the chemical composition of transformer steel. Four different steel compositions were tested in the experiment and their concentrations of Si, C, S, N, O, Al, Mn, and H before and after annealing in a vacuum or in a hydrogen or nitrogen medium are given in tabular form. It was found that high-temperature annealing in dome vacuum and gas furnaces did not ensure the required degree of refinement of the steel from C, N, O, and S impurities. Raising the degree of evacuation under high-temperature heat treatment of the steel in the most improved industrial furnaces also had little effect in improving the refinement. It was concluded that in order to

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USSR

KAZADZH, L. B., et al, Izvestiya Akademii nauk SSSR, Seriya fizicheskaya, Vol. 34, No. 2, Feb 70, pp 262-266

lower specific losses and raise the output of high-grade transformer steels, heat treatment should be carried out under industrial conditions in a vacuum higher than 10^{-3} mm Hg or in dry hydrogen with a dew point $\leq$-40°C.

Card 2/2

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

USSR

UDC: 621.378.385

BALTAKOV, F. N., BARIKHIN, B. A., KORNILOV, V. G., MIKHNOV, S. A., RUBINOV, A. N., and SUKHANOV, L. V.

"Pulse Laser Using 6Zh Rhodamine Solution in Ethyl Alcohol with a Radiation Energy of 110 Joules"

Leningrad, Zhurnal Tekhnicheskoy Fiziki, vol 42, No 7, 1972, pp 1459-1461

Abstract: The laser described in this paper is pumped by a special lamp and uses a reflector space filled with MgO powder. Length of the ring-shaped discharge space is 45 cm, with a gap of 1 cm, and the space is filled with xenon at a pressure of 10 torr. A cross section of the laser as well as a cross section of the vessel serving as the inner wall of the laser are shown in diagram form. A filter of $NaCOOCH_3$ was used to absorb ultraviolet light shorter than 230 nm and thus weaken the tendency to decay of the 6Zh rhodamine solution under light, with resultant increase in radiational energy. Curves are plotted for the current and voltage of the pumping pulse and the oscillation pulse as functions of time. The brightness temperature of the discharge was computed at about 20,000° K. The wavelength of the radiation generated was 590 nm and the width of the oscillation line 20 nm. The authors are associated with the Physics Institute of the Belorussian Academy of Sciences at Minsk.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

USSR

UDC 621.382.2

SUKHANOV, S.

"Study of the Parameters of a Hall Element with a Ferrite Concentrator"

Ashkhabad, Izvestiya Akademii Nauk Turkmenskoy SSR, Seriya Fiziko-Tekhnicheskikh, Khimicheskikh i Geologicheskikh Nauk, No 5, 1971, pp 41-45

Abstract: Data are presented from a study of the parameters of a thin-crystalline Hall element between rectangular ferrite plates forming magnetic field concentrators. Graphs are presented of the voltage sensitivity of the Hall element with a concentrator as a function of the thickness of the concentrator plate, the voltage sensitivity of a Hall element with a concentrator and without it as a function of an intense magnetic field, and the voltage sensitivity of the Hall element with a concentrator and without it as a function of temperature.

The output of a Hall element can be increased by an order by means of small ferrite concentrators, and using a Hall element with a ferrite concentrator increases the effectiveness of the magnetic system of devices based on it. Hall elements with a concentrator must be used within the

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

USSR

SUKHANOV, S., Izvestiya Akademii Nauk Turkmenskoy SSR, Seriya Fiziko-Tekhnicheskikh, Khimicheskikh i Geologicheskikh Nauk, No 5, 1971, pp 41-45

limits of the magnetic field in which the amplification coefficient of the concentrator does not vary. The critical magnetic field is determined from the field dependence of the output voltage of the Hall element. The ferrite saturation begins with much smaller magnetic fields than those presented for a closed core.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

Recorders and Transducers

USSR UDC: 621.382.2

SUKHANOV, S., PETINOV, V. P., Physicotechnical Institute, Academy of Sciences of the Turkmen SSR

"Investigation of a Two-Channel Reproducer Based on a Hall Element"

Ashkhabad, Izvestiya Akademii Nauk Turkmenskoy SSR: Seriya Fiziko-Tekhnicheskikh, Khimicheskikh i Geologicheskikh Nauk, No 6, 1971, pp 23-29

Abstract: The paper gives a description and the basic characteristics of a two-channel playback head based on an indium antimonide Hall element. The design of the device is shown in the accompanying figure. The base half of the magnetic circuit consists of two plates measuring 4 x 3 x 2 mm cemented together by EKS-1 adhesive so that the resultant plate measures 8 x 3 x 2 mm. The closing plates for each channel are separate with dimensions determined by the active section of the Hall elements -- 2.3 x 1.5 x 2 mm. After the Hall element is cemented to the ferrite base, it is ground off to a thickness

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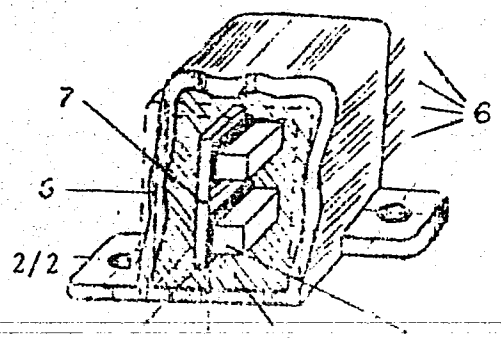
"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

USSR

SUKHANOV, S., PETINOV, V. P., IAN TurkmSSR: Ser. Fiz.-Tekhn., Khim. i Geol. Nauk, No 6, 1971, pp 23-29

of a few microns. The thickness of the Hall element and the width of the working gap are checked by microscope. After potting with epoxy resin, the working surface of the head is machined. Tests show that the semiconductor head has satisfactory parameters and certain advantages over other types of reproducers. The parameters of the head can be improved by effective utilization of the magnetic system and the Hall element, and by improved manufacturing techniques. The resolution of the unit could be increased by finishing the working gap to a width of 2 microns or less. Four figures, three tables, bibliography of four titles.



1--Hall element; 2--Main ferrite; 3--Closing ferrite; 4--Epoxy resin; 5--Shield; 6--Connecting leads; 7--Nonmagnetic gap.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

Recorders and Transducers

USSR

UDC 621.382.2

SUKHANOV, S., PETINOV, V. P.

"Study of a Two-channel Hall Element Reproducing Head"

Izvestiya Akademii Nauk Turkmenskoy SSR, Seriya Fiziko-tekhnicheskikh, Khimicheskikh i Geologicheskikh Nauk, No 6, 1971, pp 23-29

Abstract: A study was made of a two-channel InSb Hall element reproducing head. The design of the head and the process of manufacturing it are discussed. A two-channel transistorized amplifier to amplify the output signal of the head to the required value is also described. The results of testing the head under operating conditions are presented in a table, and its operating characteristics are discussed. The method of joint manufacture of the Hall element and the magnetic circuit was used in building the two-channel magnetic head. The magnetic material used for the magnetic circuit was ferrite, and the semiconductor material for the Hall element plate was indium antimonide. The amplifier was executed according to a symmetric circuit and encompassed deep negative feedback. Stabilization of the amplifier parameters was achieved by including resistors in the emitter circuit which improved the frequency characteristic by decreasing the dynamic capacitance.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

USSR

SUKHANOV, S., et al, Izvestiya Akademii Nauk Turkmenskoy SSR, Seriya Fiziko-tekhnicheskikh, Khimicheskikh i Geologicheskikh Nauk, No 6, 1971, pp 23-29

Two identical amplifiers on separate boards combined into a common unit are required for the two-channelhead. InSb with $n = 7.8 \cdot 10^{16}$ cm^{-3} was used in the Hall element to expand the temperature range. The Hall element operates stably up to 40° C. The head has satisfactory parameters and some advantages over heads of other types. The resolution can be expanded by making the width of the operating gap 2 microns and less.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

1/2 036 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--MATRIX PHOTOELECTRIC IMAGE CONVERTER -U-

AUTHOR-(03)-GOLOVIKHINA, V.P., ZOLOTAREV, V.F., SUKHANOV, S.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK TURKM. SSR, SER. FIZ.-TEKH., KHIM. GEOL. NAUK 1970, (2), 84-92

DATE PUBLISHED--------70

SUBJECT AREAS--NAVIGATION

TOPIC TAGS--PHOTOELECTRIC METHOD, CADMIUM SULFIDE, CADMIUM TELLURIDE, IMAGE CONVERTER, PHOTORESISTOR, TV CAMERA

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/1229 STEP NO--UR/0202/70/000/002/0084/0092

CIRC ACCESSION NO--AP0136640

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

2/2 036 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0136640

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. METHODS WERE DEVELOPED TO DESIGN THE MATRIX PHOTOELEC. CONVERTER TO BE USED AS A SOURCE OF VIDEO SIGNALS IN A TELEVISION CAMERA WITHOUT ANY VACUUM SYSTEM. THE MATRIX IS ASSUMED TO COMPRISE CONDUCTIVE RAILS OF TE, PERPENDICULAR TO AL RAILS, AND CDS PHOTORESISTORS, N,CDS,P,CDTE JUNCTIONS BEING PRODUCED AT THE CONTACTS OF TE AND CDS. HORIZONTAL AND VERTICAL SWEEP GENERATORS OF SIMILAR ELEMENTS ARE PROPOSED. CIRCUIT SCHEMES ARE GIVEN. THE RELATION BETWEEN THE MATRIX AND INDIVIDUAL ELEMENT PARAMETERS WAS DERIVED. AS AN EXAMPLE, A CAMERA WAS DESIGNED WHICH HAD A SENSITIVITY OF 1.5 TIMES 10 PRIME NEGATIVE3 LX, VIDEO SIGNAL VOLTAGE 4 MV, AND 625 LINES. HORIZONTAL AND VERTICAL SWEEP GENERATOR PARAMETERS ARE TABULATED.

FACILITY: FIZ.-TEKH. INST., ASHKHABAD, USSR.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

USSR

UDC 8.74

PLOTNIKOV, V. N., and SUKHANOV, V. A.

"Certain Problems in the Formation of Symbol Spaces in Pattern Recognition"

V sb. Avtomat. upr. i vychisl. tekhn. (Automatic Control and Computer Technology -- Collection of Works), No 10, Moscow, "Mashinostroyeniye," 1972, pp 229-240 (from RZh-Matematika, No 9, Sep 72, Abstract No 9V656)

Translation: Problems of forming independent symbols on the basis of an initial set of correlated parameters are discussed. A linear transformation is applied for this purpose which makes it possible to obtain parameters with particular statistical properties (minimal or maximal dispersions). This technique makes it possible to formulate a small number of new informative indicators. The informative value of the indicators is determined by an approximation formula. Authors abstract.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

USSR

UDC 8.74

PLOTNIKOV, V. N., SUKHANOV, V. A.

"Some Problems of the Formation of Attribute Space in Pattern Recognition"

V sb. Avtomat. upr. i vychisl. tekhn. (Automatic Control and Computer Engineering — collection of works), Vyp. 10, Moscow, Mashinostroyeniye Press, 1972, pp 229-240 (from RZh-Kibernetika, No 9, Sep 72, Abstract No 9V659)

Translation: A study was made of the problems of the formation of independent attributes on the basis of the initial set of correlated parameters. For this purpose, linear transformation is used which permits the parameters with special statistical properties (minimal or maximal dispersions) to be found. This procedure offers the possibility of formulating a small number of new informative attributes. The information value of the attributes is defined by an approximate formula.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

UNCLASSIFIED

TITLE--THE RELATION BETWEEN THE SPATIAL FREQUENCY SPECTRA OF A THREE DIMENSIONAL PHASE OBJECT AND ITS THREE DIMENSIONSAL HOLOGRAM -U-

PROCESSING DATE--18SEP70

AUTHOR-(02)-SUKHANOV, V.I., DENISUK, YU.N.

COUNTRY OF INFO--USSR

SOURCE--OPTIKA I SPEKTROSKOPIIA, VOL. 28, JAN. 1970, P 126-131

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--HOLOGRAM, HOLOGRAPHY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1979/1675

STEP NO--UR/0051/70/028/000/0126/0131

CIRC ACCESSION NO--AP0047993

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

2/2 014 UNCLASSIFIED

CIRC ACCESSION NO--AP0047993 PROCESSING DATE--18SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DEMONSTRATION THAT THE SPATIAL FREQUENCY SPECTRUM OF A THREE DIMENSIONAL HOLOGRAM OF A PHASE OBJECT IS THE PRODUCT OF THE THREE DIMENSIONAL SPATIAL FREQUENCY SPECTRUM OF THIS OBJECT TIMES A TRANSFER FUNCTION WHICH DEPENDS ON THE PARAMETERS OF THE INCIDENT RADIATION. THIS FUNCTION, CALLED THE SPATIAL FREQUENCY INTERACTION CHARACTERISTIC, IN THE CASE WHERE THE OBJECT IS ILLUMINATED BY A PLANE MONOCHROMATIC WAVE, IS REPRESENTED IN THE FREQUENCY SPACE BY TWO OSCULATING SPHERES THE RADII OF WHICH ARE EQUAL TO THE VALUE OF THE WAVE VECTOR OF THE INCIDENT WAVE. IT IS NOTED THAT WITH A BROADENING OF THE INCIDENT RADIATION SPECTRUM THE SPATIAL FREQUENCY SPECTRUM OF THE THREE DIMENSIONAL HOLOGRAM TENDS TO THE SPATIAL FREQUENCY SPECTRUM OF THE OBJECT, AND THUS IN THE LIMITING CASE THE THREE DIMENSIONAL HOLOGRAM BECOMES A COPY OF THE OBJECT.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

USSR

DENISYUK, Yu. N.; SUKHANOV, V. I.

"Relation between Space-Frequency Spectra of a Three-Dimensional Phase Object and Its Three-Dimensional Hologram"

Leningrad, Optika i Spektroskopiya; January, 1970; pp 126-31

Δ Δ Δ

ABSTRACT: It is shown that the space-frequency spectrum of a three-dimensional hologram of a phase object is the product of the three-dimensional space-frequency spectrum of the object and the transfer function varying with the parameters of the incident radiation. This function, called the space-frequency interaction characteristic for the case in which the object is illuminated by a flat monochromatic wave, is depicted in the space of frequencies of two spheres tangent to each other, whose radii are equal to the value of the wave vector of the incident wave. It is noted that with a broadening of the spectrum of the incident radiation the space-frequency spectrum of a three-dimensional hologram tends toward the space-frequency spectrum of the object and, thus, in the limiting case the three-dimensional hologram becomes a copy of the object.

The article includes 34 equations. There are three references.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

Acc. Nr. AP0048360

Abstracting Service: INTERNAT. AEROSPACE ABST 5-70

Ref. Code: 4R0293

A70-24308 Control of the angular motion of a deformable satellite with distributed masses. I (Upravlenie uglovym dvizheniem deformiruemogo sputnika s raspredelennymi massami. I). V. Iu. Rutkovskii and V. M. Sukhanov. *Kosmicheskie Issledovaniia*, vol. 8, Jan.-Feb. 1970, p. 71-79. In Russian.

Development of a method of formulating the differential equations for the angular motion of deformable earth satellites, the distinguishing feature of which is the presence of elastic elements with a distributed mass. According to this method, the mechanical system in question is broken down into separate parts, one of which is a solid body (taken as the main body), while the remaining parts are elastic elements with a distributed mass. The equation of motion of the solid body under the action of the external forces and moments of the coupling reactions applied to the main body by

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19800067

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AP0048360

arbitrarily repulsed elastic couplings is written. The problem of determining the forced vibrations of elastic elements with a distributed mass is formulated and solved. The solutions obtained are substituted into the known expressions for the forces and moments of the coupling reactions applied by the elastic elements to the main body, and the equation of motion of an elastic satellite is written in explicit form. By switching over from the integrodifferential equation thus obtained to an operator form, the transfer function of a deformable satellite as an automatic control plant is determined.

A.B.K.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

USSR

UDC 621.316.003.13

BELOUSOV, YU. F., SUKHANOV, V. S.

"Problems of Electric Power Economy in Municipal Networks"

V sb. Tekhn. progress v elektrosnabzh. gorodov (Technical Progress in Electric Power Supply of the Cities -- collection of works), Leningrad, Energiya Press, 1970, pp 17-19 (from RZh-Elektrotekhnika i Energetika, No 4, Apr 71, Abstract No Ye 4 289)

Translation: Measures for reducing the electric power losses inside the municipal networks are analyzed. Measures of an operational nature not requiring large capital expenditures, and, in part, measures connected with capital construction and redesign of the network are investigated. The bibliography has 5 entries. [Volgograd Electric Power Network]

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

1/2 050 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--THE PROBLEM OF ATTENUATION OF LASER RADIATION IN THE ATMOSPHERE -U-

AUTHOR-(04)-SAFRONOV, YU.P., SUKHANOV, YA.A., POLUARSHINOV, V.A., MAKSIUTOV, I.B.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL PRIKLADNOI SPEKTROSKOPII, VOL. 12, MAR. 1970, P. 450-454

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, ATMOSPHERIC SCIENCES

TOPIC TAGS--ATTENUATION, LASER RADIATION, ATMOSPHERE, ATMOSPHERIC TRANSPARENCY, HELIUM NEON LASER, AEROSOL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/1021 STEP NO--UR/0368/70/012/000/0450/0454

CIRC ACCESSION NO--AP0107535

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

2/2 050

UNCLASSIFIED

CIRC ACCESSION NO--AP01G7535 PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RESULTS OF EXPERIMENTAL STUDIES OF THE FINE STRUCTURE OF THE ATMOSPHERIC SPECTRAL TRANSPARENCY IN VERTICAL DIRECTIONS IN THE RADIATION WAVELENGTH RANGES OF RUBY (6943 A) AND HE-NE (6328 A) LASERS AT VARIOUS ZENITH SIGHTING ANGLES. IT IS SHOWN THAT ATTENUATION OF THE RADIATION OF THESE LASERS OCCURS MAINLY AS A RESULT OF SCATTERING BY GAS MOLECULES AND AEROSOLS. THE TRANSMISSION OF RUBY LASER RADIATION THROUGH THE ENTIRE THICKENSS OF THE ATMOSPHERE AMOUNTS TO A VALUE NO LESS THAN 0.8, WHILE THE CORRESPONDING VALUE FOR AN HE-NE LASER IS 0.6.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

USSR UDC 539.562:669.27:62-426

BANAS, F. P., NATAPOVA, A. B., SHEGAY, A. A., and SUKHANOV, YU. V., Zaporozh'ye Machine- Building Institute imeni V. L. Chubarya

"Tungsten Wire as a Reinforcement for Heat-Resistant Composite Materials"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 7, 1973, pp 45-46

Abstract: The strengths of VA, VT7, and VT15 alloys and of composite materials based on them were experimentally investigated. The results are presented in diagrams showing the temperature dependence of short-duration strength of tungsten wires and reinforced plates and the recrystallization of VT7 alloy wires. The wire of VA brand recrystallizes in the composite after 120-150 hr aging at 1100°C. In wires of VT7 alloy, a partial recrystallization takes place after 500-hr aging at 100°C. The 20-50 hr aging at 1200°C of the composite with tungsten reinforcement VA and VT7 results in complete collecting recrystallization in the wires. In wires of VA, VT7, and VT15 alloys, the process of collecting recrystallization begins at 1300°C after 6-7 hr aging. Two figures, two tables.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

USSR

UDC 669.245'26'27:539.4.014.13

GAYDUK, V. V., LAVRENKO, A. S., SUKHANOV, Yu. V., Zaporozh'ye Machine Building Institute

"Dilatometric Method of Evaluating Temperature Stresses in Nichrome-Tungsten Compositions"

Kiev, Problemy Prochnosti, No 9, Sep 72, pp 108-111

Abstract: A method is outlined for determining the internal heat stresses in compositions with a matrix of EI435 alloy and tungsten wire. The procedure is based on analysis of dilatometric curves of expansion. It is shown that the matrix is subjected to tensile stresses at low temperatures and compressive stresses at high temperatures. It is found how mechanical stresses influence the properties of the matrix as a whole. It is shown that the magnitude and sign of the internal stresses in the matrix must be taken into consideration when making parts from composition sheet material by bending or stamping.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

USSR

UDC 621.373:530.145.6

DYATLOV, M. K., MAL'KOVA, G. I., NOVIKOVA, V. A., SUKHANOV, V. A., SUKHANOVA, G. A.

"Service Life of a Helium-Cadmium Laser"

Elektron. tekhnika. Nauch.-tekhn. sb. Gazorazryadn. pribory (Electronic Technology. Scientific and Technical Collection. Gas-Discharge Devices), 1971, vyp. 1(21), pp 77-82 (from RZh-Radiotekhnika, No 7, Jul 71, Abstract No 7D134)

Translation: Processes are studied which affect the service life of a helium-cadmium laser with emission on a wavelength of 4416 A. It is shown that the principal cause for termination of the service life of this laser is the sorption of helium as cadmium vapor condenses from the discharge onto the cold sections of the discharge tube. Resume.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

UNCLASSIFIED

TITLE--NATURE OF THE RADIATION OF METAL VAPORS IN A HOT, HOLLOW CATHODE DISCHARGE -U-

PROCESSING DATE--23OCT70

AUTHOR-(02)-SUKHANOVA, G.B., SEMENOVA, O.P.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., FIZ. 1970, 13(2), 99-102

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS, CHEMISTRY

TOPIC TAGS--METAL VAPOR, CATHODE, SPARK DISCHARGE, ALUMINUM, CALCIUM, SILVER, SPECTRUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/1400

STEP NO--UR/0139/70/013/002/0099/0102

CIRC ACCESSION NO--AT0120193

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

2/2 025 UNCLASSIFIED

CIRC ACCESSION NO--AT0120193 PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RESULTS OF INVESTIGATIONS OF A DISHCARGE IN A HOT, HOLLOW CATHODE IN PRESENCE OF AL, CA, AG, AS WELL AS ADDNL. DATA ON EMISSION OF CU VAPOR ARE PRESENTED. IN COMPARING D.C. ARC DISCHARGE SPECTRUM WITH A SPARK DISCHARGE IN AIR, IT IS SEEN THAT SPECTRA OF AL AND CA BASICALLY ARE OF AN ARC TYPE. HOWEVER, A DISCHARGE SPECTRUM WITH AL VAPORS PRESENTS A GROUP OF ION LINES AL II WITH AN EXCITATION ENERGY OF 16.5-17.9 EV, AND CONTAIN IN A DISCHARGE SPECTRUM WITH CA VAPORS ION LINES CA III, WHICH WERE NOT OBSD. IN AN ARC DISCHARGE. THE STUDIED RESONANT CHARACTER OF IONIZATION PROVES THAT THE VAPOR SPECTRA OF CA, AL, AND FE IN A DISCHARGE IN A HOT, HOLLOW CATHODE IS OF AN ARC DISCHARGE TYPE.

SIB. FIZ. TEKH. INST. IM. KUZNETSOVA, TOMSK, USSR.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

006 UNCLASSIFIED PROCESSING DATE--[illegible]70

TITLE--ALKYLATION OF PHENOL BY ISOBUTYL ALCOHOL ON THE MACROPOROUS CATION EXCHANGER KU,2-12P -U-

AUTHOR-(05)-ISAGULYANTS, V.I., MELIKYAN, V.R., GUZIK, V.S., QVORTSOVA, V.M., SUKHANOVA, N.A.

COUNTRY OF INFO--USSR

SOURCE--KHIM. PROM. (MOSCOW) 1970, 46(5), 389

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ALKYLATION, PHENOL, BUTANOL, CATION EXCHANGE RESIN/(U)KU2 12P ION EXCHANGE RESIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/0883 STEP NO--UR/0064/70/046/005/0389/0389

CIRC ACCESSION NO--AP0137911

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

272 006 UNCLASSIFIED

CIRC ACCESSION NO--AP0137911 PROCESSING DATE--27NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE ALKYLATION OF PHOH BY ISO,BUOH, THE CATALYTIC ACTIVITY OF THE MACROPOROUS CATION EXCHANGER KU,2-12P (STATIC EXCHANGE CAPACITY 4.85 MG EQUIV.-G, SP. SURFACE 30-40 M PRIME2-G, AND PARTICLE SIZE 0.355-2.0 MM) WAS CLOSE TO THAT OF THE UNMODIFIED RESIN KU,2-8 FROM WHICH IT WAS DERIVED. AT 150DEGREES WITH 30PERCENT KU,2-12P AND A PHOH ALC. RATIO OF 1:0.8, THE PRODUCT MIXT. CONTAINED 32PERCENT PHOH, 3PERCENT O AND 65PERCENT P,TERT,BUC SUB6 H SUB4 OH.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

UNCLASSIFIED

TITLE--HYDRAULIC RESISTANCE OF A LAYER OF HYDROLYZED LIGNIN -U-

PROCESSING DATE--11SEP70

AUTHOR--KOROTOV, S.YA., OPARINA, L.V., SUKHANOSKIY, S.I., AKHMINA, YE.I.

COUNTRY OF INFO--USSR

SOURCE--GIDROLIZ. LESOKHIM. PROM. 1970, 23(1) 11-12

DATE PUBLISHED-------70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--LIGNIN, GLUCOSE, INDUSTRIAL WASTE TREATMENT, CARBON PRODUCT, HYDRAULIC RESISTANCE, HYDROLYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/0211

STEP NO--UR/0328/70/023/001/0011/0012

CIRC ACCESSION NO--AP0106867

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

272 015

UNCLASSIFIED

CIRC ACCESSION NO--AP0106867 PROCESSING DATE--11SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE HYDRAULIC PROPERTIES WERE DETD. EXPTL. OF THE UNCOMPRESSED LAYERS OF HYDROLYZED HCL LIGNIN (WASTE PRODUCT OF GLUCOSE MANUF.), HYDROLYZED H SUB2 SO SUB4 LIGNIN, AND CHARCOAL MADE FROM LIGNIN. AL MATERIALS WERE EITHER GRANULATED OR POWD. IN THE LAMINAR FLOW REGION, THE EQUATION DELTAP EQUALS (W PRIME2-2) LA-D SUBE R SUBE AND IN THE TURBULENT FLOW RANGE, THE EQUATION DELTAP EQUALS (W PRIME2-2 (LA-D SUBE) (A-R SUBE PLUS B) WERE OBEYED; DELTAP IS THE PRESSURE DROP (HYDRAULIC RESISTANCE) THROUGH A LAYER OF THICKNESS L, W IS THE AV. FLOW VELOCITY, RHO IS THE D. OF THE FLOWING GAS, T SUBE IS THE REYNOLDS NO. RELATED TO A IN THE LAMINAR FLOW RANGE BY A EQUALS LAMBDAR SUBE AND IN THE TURBULENT FLOW RANGE BY LAMBDA EQUALS A-R SUBE PLUS B, AND D SUBE IS THE EQUIV. DIAM. OF THE FREE SPACES (CANALS) OF THE SOLID LAYER. ALL THE PARAMETERS OF THESE EQUATIONS WERE DETD. IN THE 5-800 R SUBE RANGE, AND THE CRIT. R SUBE VALUES WERE DETD.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

USSR

UDC 547.756.816

ZHUNGIYETU, G. I., and SUKHANYUK, B. P., Institute of Chemistry, Academy of Sciences, Moldavian SSR, Kishinev

"Pyrylium/2,3-b/indole Salts"

Riga, Khimiya Geterotsiklicheskikh Soyedineniy, No 8, Aug 72, pp 1030-1032

Abstract: Oxindole and 1-methyloxindole condense with hydroxymethylene ketones in presence of HCl forming pyrilium/2,3-b/indoles. The reagents taken in methanol solution were saturated under sooling with dry HCl yielding: 1-oxonium-2,3-tetramethylenecarbazole chloride, m.p. 190-192°; 1-oxonium-2,3-tetramethylene-9-methylcarbazole chloride m.p. 141°; 3-methoxy--12-methyl-5,6-dihydro-13-oxoniumindole/3,2-b/-phenanthrene chloride, m.p. 236°; and 2-(1-methyloxindolyl-3-methylene)indanone, m.p. 151°. Reacting 1-oxonium-2,3-tetramethylene-9-methylcarbazole chloride with phenylhydrazine gave 1-phenyl-3,4-tetramethylene-5-(1-methyloxindolyl-3)- Δ^2-pyrazoline, m.p.232°, while a reaction with hydroxylamine produced 3,4-tetramethylene--5-(1-methyloxindolyl-3)- Δ^2-isoxazoline, m.p. 144°.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

USSR

UDC 547.759.1

ZHUNGIYETU, G. I., SUKHANYUK, B. P., Institute of Chemistry, Academy of Sciences Moldavian SSR, Kishinev

"Formation of Diindolylmethane Derivatives From Indole Derivatives and Schiff Bases"

Riga, Khimiya Geterotsiklicheskikh Soyedineniy, No 9, Sep 71, pp 1209-1210

Abstract: Aromatic aldimines react with indole to give diindolylmethane derivatives. The reaction proceeds during prolonged boiling of components in toluene or at 20° in acetic acid. The formation of diindolylmethane derivatives by the reaction of Schiff bases with indole and its homologs does not depend on the reaction temperature, since the authors obtained the very same compounds at 20° (in acetic acid) and at -50° (in an ether-acetic acid solution).

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

USSR

UDC 576.851.45.097.2.083.1

SUKHAR', V. V. Rostovskiy-na-Donu Antiplague Institute

"Isolation of A-Antigen of F. Tularensis"

Moscow, Zhurnal Mikrobiologii Epidemiologii i Immunobiologii, No 1, 1973, pp 41-47

Abstract: An antigen, designated by the letter A, was isolated from a microbial mass of the virulent strain No 128 of F. tularensis holarctica killed with acetone. The extract was repeatedly purified by gel-filtration through Sephadex G-100 and chromatography on columns with DEAE-Sephadex borate. Analyses revealed that the A-antigen in the purified and homogeneous preparation was specific of virulent and vaccinal tularemia strains. It is a neutral polysaccharide or lipopolysaccharide free of proteins and nucleic acids, with a molecular weight somewhat smaller than 100,000. However, repeated intravenous injections of the purified preparation into rabbits failed to induce immunity. Thus, in the purified preparation, A-antigen is present as a haptene. Since live bacteria are immunogenic and dead bacteria are not, the haptenization is not caused by the process of isolation but is associated with death of the bacteria.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

UNCLASSIFIED

...ATION OF CHARGE FEEDING FOR CUPOLA MELTING -U- PROCESSING DATE--09OCT70

AUTHOR-(04)-TRESHCHALIN, V.V., SUKHARCHUK, YU.S., BLAGONRAVOV, B.P., NIKITIU, P.A.

COUNTRY OF INFO--USSR

SOURCE--LITEINOE PROIZVOD. 1970, 2, 8-10

DATE PUBLISHED--------70

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

TOPIC TAGS--CAST IRON, TECHNICAL STANDARD, METAL MELTING, AUTOMATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/1379

STEP NO--UR/0128/70/002/000/0008/0010

CIRC ACCESSION NO--AP0116828

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

ACCESSION NO--AP0116828 UNCLASSIFIED

PROCESSING DATE--09OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE VARIATIONS IN THE CHEM. COMPN. OF THE CHARGE COMPONENTS (AS ALLOWED BY GOVERNMENT STDS.) HAS A MUCH LARGER EFFECT ON VARIATIONS IN THE CHEM. COMPN. OF THE CAST IRON MELTED, THAN THE VARIATIONS IN WEIGHING OF THE COMPONENTS WITH ERRORS SMALLER THAN OR EQUAL TO 10-15PERCENT. THE AUTOMATED WEIGHING OF CHARGES TO THE CUPOLA SHOULD NOT BE TOO ELABORATE AND A SIMPLE ARRANGEMENT WITH THE ACCURACY OF 10-15PERCENT IS QUITE SATISFACTORY, PROVIDED A LARGE INTERMEDIARY STORAGE IS PROVIDED IN WHICH THE VARIATIONS IN CHEM. COMPN. ARE EQUALIZED.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

USSR

UDC 619:616.9-022.7+636.2+636.3+636.4+636.52/;58

SUKHARENKO, S. N.

"Experience in Use of the Method of Variation Statistics to Determine the Extent of Infection of Farm Animals With Brucellosis"

Tr. In-ta Krayev. patol. KazSSR (Works of Institute of Regional Pathology of the Kazakh SSR), No 20, 1970, pp 169-171 (from RZh-58. Zhivotnovodstvo i Veterinariya, No 4, Apr 71, Abstract No 4.58.633)

Translation: For a comparative study of the distribution of brucellosis among different animal species, it is necessary to study the ratio of the infected cattle to infected sheep and goats. In the calculation of the degree of infection with brucellosis of livestock in a definite territory, it is expedient to use a threefold mean error index.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

USSR

UDC 621.396.668

ZHODZISHSKIY, M. I., SUKHAREV, A. D., SUSLOV, N. V., KURBATOV, A. V., ANTSIBOR, N. M.

"Obtaining a Stable, Smoothly Tunable Frequency Using a System With Phase Type Automatic Frequency Control With a Mixer and a Phase Detector in the Form of a Coincidence Stage"

Tr. Mosk. aviats. in-ta (Works of the Moscow Aviation Institute), 1969, Vol 188, pp 39-62 (from RZh-Radiotekhnika, No 4, 1970, Abstract No 4D41)

Translation: The authors analyze and experimentally study a system with phase type automatic frequency control with a converter in the feedback loop and using a pulsed phase detector in the form of a coincidence stage. Oscillations in the controlled generator with the frequency f_r are compared in the converter with the fixed frequency f_0 of the reference oscillation. In steady-state operation, the oscillation frequency at the converter output is usually equal to the frequency F of the tunable generator oscillation: $f_r = f_0 \pm F$. Voltage from the phase detector output, after 1/2

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

USSR

ZHODZISHSKIY, M. I., et al, Tr. Mosk. aviats. in-ta, 1969, Vol 188, pp 39-62

filtration by a low-frequency filter, tunes the controlled generator. Automatic frequency control makes it possible to obtain the combination fo and F at a low level of parasitic components in the output oscillation spectrum. If special measures are not taken, then it is possible that the controlled generator be tuned to a mirror frequency or to a fo ± m E type frequency. Methods are proposed for avoiding mirror tuning and for combatting the effect of high-frequency components at the converter output. Original article: 6 bibliographic entries. N.S.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

SUKHAREV, A. G.

UDC 518.9

"Some Games on a Unit Square"

Kibernetiku -- na Zluzhbu Kommunizmu. T. 6 [Cybernetics in the Service of Communism, Vol 6 -- Collection of Works], Moscow, Energiya Press, 1971, pp 202-206, (Translated from Referativnyy Zhurnal, Kibernetika, No 10, 1971, Abstract No 10 V668 by A. Mikhaylova).

Translation: The win function of a game on a unit square is defined as follows: 1) two functions are fixed in area $0 \leq x \leq y \leq 1$, $0 \leq y \leq x \leq 1$; 2) is a continuous function with continuous partial derivatives in the area of the diagonal; 3) is concave-convex in the assigned area; 4) a function equal to the difference of values on the diagonal of the partial derivatives with respect to x of the functions fixing the wind function, changes its sign in the interval (0, 1) a finite number of times. The spectra of the optimal strategies of both players are described. Several particular cases are studied.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

UNCLASSIFIED

TITLE--HEAT FROM DEPTH AT THE BIBIEYAT OIL AND GAS FIELD

PROCESSING DATE--13NOV70

AUTHOR-(03)-SUKHAREV, G.M., TARAKHUNA, YU.K., VLASOVA, S.P.,

COUNTRY OF INFO--USSR

SOURCE--AKAD. NAUK SSSR DOKLADY, V. 190, NO. 1, P. 176-179, ILLUS., TABLE, 1970

DATE PUBLISHED-------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, MATERIALS

TOPIC TAGS--GEOGRAPHIC LOCATION, NATURAL GAS, CRUDE OIL, PETROLEUM DEPOSIT, GEOGRAPHIC LOCATION, GEOTHERMAL GRADIENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/2006

STEP NO--UR/0020/70/190/001/0176/0179

CIRC ACCESSION NO--AT0133841

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

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CIRC ACCESSION NO--AT0133841 UNCLASSIFIED

PROCESSING DATE--13NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RESULTS OF GEOTHERMAL MEASUREMENTS IN 15 WELLS IN DIFFERENT PARTS OF THE BIBIEYAT OIL AND GAS FIELD (SOUTHWEAST COAST OF THE APSHERON PENINSULA) ARE TABULATED. AVERAGE GEOTHERMAL GRADIENTS RANGE FROM 0.0266DEGREES TO 0.434DEGREES PER METER. HEAT FLOW IS HIGHEST IN THE CREST OF THE STRUCTURE, AS EXPECTED, AND IS PARTICULARLY INTENSIVE IN THE VICINITY OF THE MUD VOLCANO. THESE RESULTS USPPORT AN EARLIER CONCLUSION (1965) THAT IT MIGHT BE POSSIBLE TO PROSPECT FOR STRUCTURES AND FAULTS BY INVESTIGATING HEAT FLOW EVEN IN RELATIVELY SHALLOW WELLS.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

USSR

VOVK, L.M., Engineer, SUKHAREV, I.P., Candidate of Technical Sciences

UDC:620.10

"Investigation of Stresses Around Reinforced Holes by a Method of Optically Inactive Patches"

Moscow, Izvestiya Vysshykh Uchebnykh Zavedeniy, Mashinostroyeniye, No 3, 1970, pp 5-9

Abstract: Stresses in a plate, around symmetrically reinforced holes by means of optically inactive patches have been investigated. The plate specimen was made of an optically active OASO plastic, and the patches of an optically inactive SO-95 plastic. The reinforcing patches in the shape of rings (see Fig. 1), or rings with two milled segments (see Fig. 1c) were cemented to the plate. So prepared specimens were subjected to tensile stresses. On the basis of previous studies it was established that the optimum reinforcement is provided by a patch of an oval shape (see Fig. 1b). However, reinforcement of this shape is hard to machine. The experiments showed that a reinforcement patch shown on Fig. 1c is much simpler and still its characteristics are close to those of an oval patch. The study also showed that the coefficients of the concentration of stresses practically do not depend on

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

VOVK, L.M., et al., Izvestiya Vysshykh Uchebnykh Zavedeniy, Mashinostroyeniye, No 3, 1970, pp 5-9

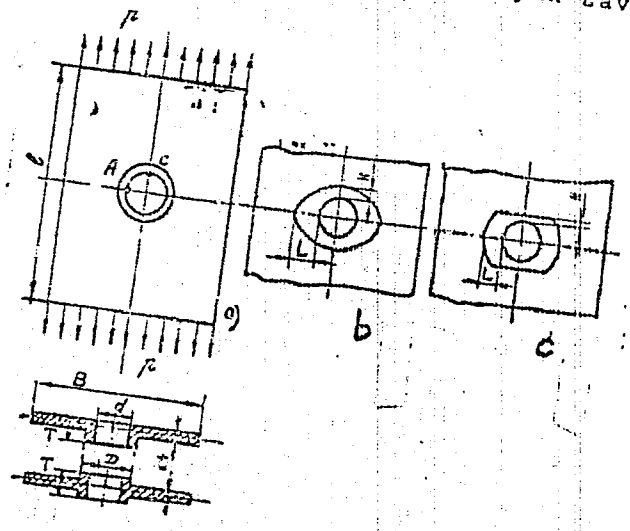

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Fig. 1

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VOVK, L.M. et al., Izvestiya Vysshykh Uchebnykh Zavedeniy, Mashinostroyeniye, No 3, 1970, pp 5-9

the width H (see Fig. 1c). There was no increase of stresses around the hole even when the ratio L/H was increased five times, thereby reducing its weight by 40% as compared with a ring-shaped reinforcing patch.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

UNCLASSIFIED PROCESSING DATE--23OCT70

1/2 032

TITLE--THIN FILM FIELD EFFECT TRANSISTOR WITH ISOLATED GATE ON THE BASIS OF ZINC TELLURIDE -U-

AUTHOR-(02)-KOROHKOV, V.P., SUKHAREV, YU.G.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, RADIOTEHKNIKA I ELEKTRONIKA, NO 3, MAR 70, PP 638-639

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS, ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--THIN FILM SEMICONDUCTOR, FIELD EFFECT TRANSISTOR, ZINC TELLURIDE, LAMINATED STRUCTURE, VOLT AMPERE CHARACTERISTIC, HALL EFFECT, RESISTIVITY, THERMAL EMF, CARRIER DENSITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED STEP NO--UR/0109/70/000/003/0638/0639

PROXY REEL/FRAME--1987/1463

ACCESSION NO--AP0104758 UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

2/2 032 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0104758

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE THIN FILM FIELD EFFECT TRANSISTORS (FET) DISCUSSED IN THIS PAPER WERE PREPARED BY THE METHOD OF VACUUM DEPOSITION. FOR INVESTIGATION OF THIN LAYERS OF ZINC TELLURIDE, THE FOLLOWING ELEMENTS WERE SIMULTANEOUSLY CONSTRUCTED ON ONE SUBSTRATE WITH TWO FET: 1) DIODE STRUCTURES OF METAL SEMICONDUCTOR METAL AND METAL DIELECTRIC SEMICONDUCTOR METAL. 2) FIXED CAPACITANCE CAPACITORS. 3) PHOTOCONDUCTIVE CELL. 4) HALL PICKUP. 5) SEMICONDUCTOR LAYERS FOR DETERMINATION OF THE COEFFICIENT OF THE THERMOELECTROMOTIVE FORCE, AND FOR OPTICAL MEASUREMENTS. ON THE SPECIMENS PREPARED, MEASUREMENTS WERE CONDUCTED BY STANDARD METHODS OF THE STATIC CURRENT VOLTAGE CHARACTERISTICS OF THE FET AND THE DIODE STRUCTURE. THE VOLTAGE CAPACITANCE CHARACTERISTICS WERE MEASURED BY THE BRIDGE METHOD. FROM INVESTIGATION OF THE HALL EFFECT, THE RESISTIVITY, AND THE THERMOELECTROMOTIVE FORCE OF THESE SAME SPECIMENS, THE CONCENTRATION AND MOBILITY OF THE BASIC CURRENT CARRIERS WERE DETERMINED. THE CONCENTRATION OF THE BASIC CURRENT CARRIERS WAS ON THE ORDER OF 10 PRIME18 CM PRIME NEGATIVE3, THE RESISTIVITY OF THE FILM WAS (2-8) TIMES 10 PRIME4 (? FIGURE INDISTINCT, TRANS) OM TIMES CM, AND THE EFFECTIVE HALL MOBILITY WAS (5-8) CM PRIME2--V.SEC. THE COEFFICIENT OF THE THERMOELECTROMOTIVE FORCE AMOUNTED TO 100-200 MICROVOLT-DEGREE. THE AUTHORS BELIEVE THAT IT IS POSSIBLE ON THE BASIS OF P ZONC TELLURIDE TO CREATE EFFECTIVE FIELD EFFECT TRANSISTORS WITH INJECTING OF CONTACTS.

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USSR

KORCHKOV, V. P., et al, Radiotekhnika i Elektronika, Vol 15, No 3, 1970, pp 638-639

Abstract:

vacuum sputtering. For low electric field voltages, the volt-ampere characteristics of the diodes follow Ohm's Law; for high voltages, the current is approximately equal to the square of the voltage, apparently the consequence of the current being limited by the space charge. The data obtained from experiments with these transistors show that efficient transistors can be made from zinc telluride with injecting contacts.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

USSR UDC 546.834'185-386

SUKHAREV, Yu. I., YEGOROV, Yu. V., and PUSTOVALOV, N. N.

"Synthesis and Composition of Niobium Phosphate Ion Exchange Resins"

Moscow, Zhurnal Neorganicheskoy Khimii, Vol 16, No 4, Apr 71, pp 1026-1030

Abstract: The material was synthesized by a rapid mixing of an acid solution of sodium phosphate and basic solution of potassium niobate. The amount of concentrated HCl added to the solution of disubstituted sodium phosphate was governed by the optimal pH required at the equilibrium point. In the applicational synthesis the applicator was added in the amount needed to reach equilibrium in respect to the agent being applied. To prevent precipitation of Ce''', Fe''' and Cr''' phosphates, the coprecipitation was carried out in a medium in which these phosphates could not precipitate. To prevent coprecipitation of the applicator phosphate with niobium phosphate, the third component was added after precipitation of niobium phosphate. The gel obtained was left overnight for completion of the process. Then the material was decanted, filtered, dried and milled, the 0.1-0.2 mm fraction being collected. The applicator was then washed out with 0.5 N HCl until a negative test was obtained for the applicator ions.
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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

USSR

SUKHAREV, Yu. I., et al., Zhurnal Neorganicheskoy Khimii, Vol 16, No 4, Apr 71, pp 1026-1030

Finally the exchange resin was washed with acid for a period of 6-8 weeks. The applicational synthesis gave material with considerably higher phosphorus content in the solid phase of hydrated niobium phosphate. Structures for the material obtained by the two methods have been proposed.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

USSR

UDC: 681.142.07

SITNIKOV, O. P., SUKHAREV, Yu. P., Ural Polytechnical Institute imeni S. M. Kirov

"A Device for Generating Pseudorandom Signals"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 6, Feb 72, Author's Certificate No 328442, Division G, filed 24 Jun 69, published 2 Feb 72, p 151

Translation: This Author's Certificate introduces a device for generating pseudorandom signals. The device contains a binary counter based on flip--flops, mod-2 adders, DC amplifiers, kipp oscillators, and switches. As a distinguishing feature of the patent, in order to generate signals with a uniform, broad, discrete spectrum, one input of each mod-2 adder is connected to the output of the flip-flop for the least significant digit of the counter, the two other inputs are connected to the outputs of the flip-flops for the two most significant digits of the counter, and the outputs of the mod-2 adders are connected to the inputs of the corresponding switches. The other inputs of the switches are connected to the corresponding source of DC voltage, and the switch outputs are connected to

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

USSR

SITNIKOV, O. P., SUKHAREV, Yu. P., USSR Author's Certificate No 328442

the input of the first operational amplifier. Connected in the feedback circuit of the amplifier is a switch whose controlling input is connected to the output of the first kipp oscillator. The input of this kipp oscillator is connected to the input of the second kipp-oscillator and to the controlling input of another switch connected in the input circuit of a second operational amplifier. The other input of the second kipp oscillator is connected to a mod-2 adder, which is connected, in turn, to the outputs of the flip-flops of the two least significant digits of the binary counter.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

1/2 036 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--STUDY OF THE MECHANISM OF FORMATION OF POLYESTER COATINGS UNDER THE ACTION OF ULTRAVIOLET RADIATION -U-

AUTHOR-(03)-ZUBOV, P.I., SUKHAREVA, L.A., KRYLOVA, L.M.

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COUNTRY OF INFO--USSR

SOURCE--KOLLOIDNYY ZHURNAL, 1970, VOL 32, NR 2, PP 218-223

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--POLYESTER RESIN, AMINE, UV RADIATION, PHOTOEFFECT, POLYMERIZATION, PLASTIC COATING, MATERIAL DEGRADATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1993/0396 STEP NO--UR/0069/70/032/002/0218/0223

CIRC ACCESSION NO--AP0113314

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

UNCLASSIFIED PROCESSING DATE--16OCT70

2/2 036

CIRC ACCESSION NO--AP0113314

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF OCTADECYLAMINE (ODA) ON THE RATE OF FORMATION AND AGEING OF POLYESTER COATINGS UNDER THE ACTION OF ULTRAVIOLET RADIATION HAS BEEN STUDIED BY IR SPECTROSCOPY AND MECHANICAL TESTS. THE OPTIMUM AMOUNT OF ODA INCREASES THE RATE OF POLYMERIZATION AND DECREASES THE RATE OF DESTRUCTION OF COATINGS.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

1/2 050 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--EFFECT OF ULTRAVIOLET RADIATION ON THE STRUCTURE AND PROPERTIES OF EPOXY COATINGS -U-

AUTHOR-(03)-SUKHAREVA, L.A., VORONKOV, V.A., ZUBOV, P.I.

COUNTRY OF INFO--USSR

SOURCE--KOLLOIDNYY ZHURNAL, 1970, VOL 32, NR 2, PP 261-265

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--UV RADIATION, RADIATION EFFECT, EPOXY RESIN, MOLECULAR STRUCTURE, PLASTIC COATING, POLYMER DEGRADATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1552 STEP NO--UR/0069/70/032/002/0261/0265

CIRC ACCESSION NO--AP0112546

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

2/2 050 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0112546

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A STUDY HAS BEEN MADE OF THE EFFECT OF ULTRAVIOLET RADIATION, AS ONE OF THE RAPID METHODS OF TESTING COATINGS FOR DURABILITY, ON THE MOLECULAR AND SUPERMOLECULAR STRUCTURE OF EPOXY COATINGS AND THEIR PROPERTIES. STRUCTURAL TRANSFORMATIONS IN COATINGS INDUCED BY ULTRAVIOLET RADIATION ARE A MULTISTEP PROCESS ASSOCIATED WITH THE BREAKDOWN OF MOLECULAR AND SUPERMOLECULAR STRUCTURES ARISING DURING THE FORMATION OF COATINGS, AND WITH THE APPEARANCE OF NEW MORPHOLOGICAL FORMS OF SUPERMOLECULAR STRUCTURES, ACCOMPANIED BY A CHANGE IN MECHANICAL AND THERMOPHYSICAL PROPERTIES OF COATINGS.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

Acc. Nr: AP0036540 S Ref. Code: UR 0069

PRIMARY SOURCE: Kolloidnyy Zhurnal, 1970, Vol 32, Nr 1, pp 137-140

EFFECT OF THE CROSS-LINK DENSITY AND SUPERMOLECULAR STRUCTURES ON THE PROPERTIES OF POLYURETHANE COATINGS

G. A. Yablokov, L. A. Sukhareva, M. R. Kiselev, P. I. Zubov

Summary

The kinetics of the build up of internal stresses and the rate of formation of physical and chemical bonds during the production of polyurethane coatings have been correlated with the supermolecular structure nature and the cross-link density. The effect of the chemical bonds distribution inside supermolecular structures and between them on the physico-mechanical properties of coatings and the swelling kinetics has been studied.

D.N.

1/1 REEL/FRAME 19721388 7

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

Epidemiology

UDC 616.988.75(A2)-053.2-036.1

USSR

SIKHAREVA, M. Ye. and MAKHLINOVSKAYA, N. L., Chair of Infectious Diseases of Children, Central Institute for Advanced Training of Physicians, Moscow

"Dynamics of Clinical Manifestations of A2 Influenza in Children During Epidemic Periods of 1957 Through 1970"

Moscow, Sovetskaya Meditsina, No 5, 1972, pp 129-132

Abstract: Changes in A_2 influenza epidemics in children during 1957-1970 were examined. A total of 2200 case histories were investigated from epidemics in 1957, 1959, 1965, 1969 and 1970. Diagnosis was established by virus isolation in tissue culture, fluorescent antibody detection of virus antigen, and preparation of antibody titers. Symptoms remained generally unchanged throughout the period. However, the severity of attack was greater in 1957 and 1959, with higher fever, more pulmonary edemas, and further incidence of hemorrhagic syndrome. Symptoms of the encaphalitic and meningoencephalitic syndromes (brief cramps, loss of consciousness, delirium, dissociated meningeal indications) decreased in 1965 and went up in 1969 and 1970. A decrease of lethal cases and a lessening of the severity of pneumonia occurred overall. The significance of premorbid conditions and other virus complications in contributing to fatalities was observed. The lessened

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

USSR

SUKHAREVA, M. Ye., and MAKHLINOVSKAYA, N. L., Sovetskaya Meditsina, No 5, 1972, pp 129-132

severity of influenza is believed to be due to changes in the immunological structure of the population with prolonged circulation of virus A_2. Improved clinical facilities also are an important factor. However, influenza continues to have great significance in pediatric infectious pathology.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

USSR

UDC 616.935-059.2

SUKHAREVA, M. Ye., Chair of Children's Infections Central Order of Lenin Institute for Advanced Training of Physicians, Children's Hospital imeni Rusakov

"Current Problems of Dysentery Among Children"

Moscow, Sovetskaya Meditsina, Vol 3,, No 7, Jul 70, pp 122-127

Abstract: An analysis was made of statistical data on dysentery among children in Moscow and other cities over several years. It was found that the most common dysentery is the less severe form caused by Shigella sonnei. Morbidity among infants has decreased in recent years, partly as a result of better diagnosis and partly due to improved sanitary conditions and better health among children. The frequency of latent dysentery has increased, however. Infected children should not be regarded as healthy carriers of bacteria, because they have definite pathological lesions in the rectum and sigmoid and their serological reactions are changed. A characteristic trait of the form of dysentery currently prevalent is slow elimination of the pathogens from the body and ensuing relapses. Simultaneous infection with acute viral respiratory disease severely aggravates this dysentery. Further research should be focused on developing reliable diagnostic tests for the acute, chronic, and hidden forms of dysentery. The cause of the long retention of pathogens should be determined. Care should be taken to avoid exposure of dysentery patients to viruses causing acute respiratory diseases.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

USSR

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UDC: 8.74

AL'PEROVICH, E. Ye., BATISHCHEV, D. I., BASALIN, P. D., BEDNAYA, R. I., KOROTCHENKO, A. G., KONYUGINA, L. A., KOLDORKINA, L. R., SERGEYEVA, N. M., SUKHAREVA, V. A.

"SAPPOR -- a System for Automating the Process of Making Optimum Decisions"

Moscow, Kibernetich. sistemy avtomatiz. proyektir.--sbornik (Cybernetic Automated Design Systems--collection of works), 1973, pp 29-35 (from RZh--Kibernetika, No 7, Jul 73, abstract No 7V633 by A. Doroshenko)

Translation: SAPPOR is a dialog system oriented for making optimum decisions in the process of designing technical devices. The system is realized on the BESM-3M computer with two memory arrays, the second being designed for operation of a screen panel. The software of the system is based on the modular principle and has the following modules: 1) "Model" -- for constructing the mathematical model of the object being designed. This block is replaceable and varies depending on the class of the object of optimization. In developing the SAPPOR, RLC circuits were taken as models. 2) "Formulation of the Problem" -- a compiler which prepares classes of problems formulated by the designer for

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USSR

AL'PEROVICH, E. Ye. et al., Kibernetich. sistemy avtomatiz. proyektir., 1973, pp 29-35

solution (calculating the characteristics of the object, optimizing the mathematical expectation in satisfying probability limitations, etc.). 3) "Method of Solution" -- a set of programs for finding the global minimum of an arbitrary curve, minimizing multiparameter functions and numerically solving problems in nonlinear programming. 4) "Check" -- enables following and controlling the process of finding the optimum with respect to information which may appear at the output (alphanumeric printer, screen panel) as ordered by the operator. 5) "Output of Results" -- gives the results of optimization in the form of graphs and tables on a screen panel or on paper with the use of an alphanumeric printer or a "Konsul" typewriter. The last four modules are universal and do not depend on the type of optimization object. An advantage of the SAPPOR is the possibility for operative search for the optimum decision and the combination of the designer's experience and intuition with rigorous mathematical methods. In this connection, the design process can be carried out without knowledge of computer programming and the corresponding methods of search optimization.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

Steels

USSR

UDC 621.643.411.4.62-192

MOISEYEV, A. A., Candidate of Technical Sciences, SUKHAREVA, V. D., Engineer, ZEMZIN, V. N., Doctor of Technical Sciences, KHITRIK, A. I., Candidate of Technical Sciences, MOSHKEVICH, Ye. I., Candidate of Technical Sciences, KOROBOCHKIN, I. Yu., Candidate of Technical Sciences, KIRVALIDZE, N. M., Candidate of Technical Sciences, PISHCHIKOV, G. P., Candidate of Technical Sciences, DEVYATKO, E. I., Engineer, All-Union "Order of the Red Banner of Labor" Scientific Research Institute of Heat Engineering imeni F. E. Dzerzhinskiy, Central Scientific Research Design and Planning Boiler and Turbine Institute imeni I. I. Polzunov, Road Construction Division, Southern Pipe Plant, All-Union Scientific Research Diesel Locomotive Institute

"Improving the Operational Reliability of Welded Joints and the Technological Properties of High-Strength EP184 Austenitic Steel"

Moscow, Teploenergetika, No 8, Aug 72, pp 46-49

Abstract: The article is a report on the results of joint research by various scientific research institutes and industrial organizations to determine what effect methods of melting EP184 steel might have on the work-

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

USSR

MOISEYEV, A. A. et al., Teploenergetika, No 8, Aug 72, pp 46-49

ing reliability of welded joints as well as on the other properties of the metal. It was found that crack formation in joints can be eliminated by reducing the oxygen content, as well as the concentrations of hydrogen, nitrogen, sulfur and phosphorus below certain levels. This can be done by melting from a fresh charge with subsequent vacuum-arc remelting. Electroslag remelting can be used as well, but is less effective.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

1/2 011 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--COMPARATIVE CYTOCHEMICAL STUDY OF MITOCHONDRIA AND KINETOPLASTS IN SOME TRYPANOSOMIDS -U-

AUTHOR-(02)-KHACHATUROV, YE.N., SUKHAREVANEMAKOVA, N.N.

COUNTRY OF INFO--USSR

SOURCE--TSITOLOGIYA 1970, 12(1), 77-84

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--MITOCHONDRION, TRYPANOSOMA CRUZI, DNA

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/0425 STEP NO--UR/9053/70/012/001/0077/0084

CIRC ACCESSION NO--AP0127996

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

UNCLASSIFIED PROCESSING DATE--30OCT70

2/2 011

CIRC ACCESSION NO--AP0127996

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MANY INVESTIGATORA ARE OF THE OPINION THAT KINETOPLASTS ARE DERIVED FROM THE MITOCHONDRIAL CRISTAE IN TRYPANOSOMIDS, AS BOTH CAN BE STAINED BY JANUS GREEN. STRIGOMONAS ONCOPELTI AND TRYPANOSOMA CRUZI WERE CULTURED IN VITRO AND COMPARATIVE CYTOCHEM. REACTIONS WERE PERFORMED TO INVESTIGATE THE NATURE OF THE KINETOPLASTS. INTRACELLULAR SUCCINIC DEHYDROGENASE (I) WAS LOCALIZED BY BLUE TETRAZOLIUM SALTS AND DNA (II) BY MODIFICATION OF FEULGEN'S FLUORESCENCE METHOD. I IS A SPECIFIC ENZYME OF MITOCHONDRIA, WAS ABSENT IN THE KINETOPLASTS OF 2 STRAINS OF TRYPANOSOMES, S. ONCOPELTI (LEPTOMONAD FORM) AND T. CRUZI (LEPTOMONAD AND CRITHIDIAL FORMS), WHEREAS, II WAS EASILY DEMONSTRATED IN THE PARASITE KINETOPLASTS. II WAS CONSPICIOUS BY ITS ABSENCE IN THE MITOCHONDRIA OF CELLS OF DIFFERENT ORIGINS, INCLUDING TRYPANOSOMES STUDIED. THESE OBSERVATIONS ARE CONTRADICTORY TO THE PRESENT BELIEF THAT THE KINETOPLASTS ARE AN ORGANOID OF MITOCHONDRIAL NATURE. METHODS OF FIXATION OF CELLS FOR CYTOCHEM. LOCALIZATION OF NUCLEIC ACIDS ARE DISCUSSED, AND OSO SUB4 FOLLOWED BY CHROMIC ANHYDRIDE GAVE THE BEST RESULTS. FACILITY: LAB. FUNC. CELL MORPHOL., INST. MOL. BIOL., MOSCOW, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

Acc. Nr: AP0034679 Ref. Code: UR 0297

PRIMARY SOURCE: Antibiotiki, 1970, Vol 15, Nr 2, pp 140-144

PRIMARY ASSESSMENT OF ANTITUMOROUS ACTIVITY OF SOME FRACTIONS ISOLATED FROM THE CELLS OF STRIGOMONAS ONCOPELTI

Sukhareva-Nemakova, N. N.; Silayev, A. B.; Katrukha, G. S.; Zaleneva, R. N.; Urinyuk, V.M.

Moscow State University

The study of the effect of fractions isolated from the cells of Strigomonas oncopelti on sarcoma-180 revealed that the cellular homogenate stimulates the growth of this tumor, the amino-acid fraction inhibiths it, the peptide fraction is inactive, the total lipid fraction inhibits the growth of sarcoma-180 at early periods of tumor development and causes stimulation in a more prolonged introduction, the lipid fraction devoid of sterines and their esters is not endowed with a stimulating action, both at early and late periods of tumor development, microsomal-mitochondrial fraction possesses a significant antitumorous activity; the removal of lipids by the extraction of this fraction with a chloroform-methanol mixture leads to a loss of its antitumorous effect.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

1/2 035 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--MECHANISM OF HEAT TRANSFER IN LAMINAR VACUUM INSULATIONS -U-

AUTHOR-(03)-MIKHALCHENKO, R.S., GETMANETS, V.F., SUKHAREVSKIY, B.YA.

COUNTRY OF INFO--USSR

SOURCE--INZHENERNO-FIZICHESKII ZHURNAL, VOL. 18, MAR. 1970, P. 481-486

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--TEMPERATURE GRADIENT, HEAT TRANSFER RATE, THERMAL CONDUCTIVITY, METAL FOIL, VACUUM CHAMBER, THERMAL INSULATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/1439 STEP NO--UR/0170/70/018/000/0481/0486

CIRC ACCESSION NO--AP0118428

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

2/2 035 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0118428

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ANALYSIS OF THE FACTORS RESPONSIBLE FOR THE POINT OF INFLECTION OBSERVED ON THE EXPERIMENTAL TEMPERATURE CURVES OF ALTERNATING FOIL AND VACUUM INSULATIONS. IT IS SHOWN THAT THE POINT OF INFLECTION IS CAUSED BY NONEQUILIBRIUM RESIDUAL GAS PRESSURE IN THE LAYERS IN COMBINATION WITH THE SUBSTANTIAL CONTRIBUTION OF THE HEAT CONDUCTIVITY OF THE GASES TO THE TOTAL HEAT TRANSFER. FACILITY: AKADEMIIA NAUK UKRAINSKOI SSR, FIZIKO-TEKHNICHESKII INSTITUT NIZKIKH TEMPERATUR, KHARKOV, UKRAINIAN SSR.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

USSR

UDC 669.292.053.2

SUKHARNIKOV, YU. I., KUNAYEV, A. M., and KOLDOBSKAYA, K. G.

"Investigation of the Composition and Structure of the Products of Coreduction of Vanadium Ores and Karatau Phosphorites"

Issledovaniye sostava i struktury produktov sovmestnogo vosstanovleniya vanadiyevykh rud i fosforitov Karatau (cf. English above), Institute of Metallurgy and Beneficiation of the Kazakh Academy of Sciences, Alma-Ata, 1970, 13 pp., ill., bibliogr., 5 nazv. (from RZH-Metallurgiya, No 11, Nov 70, Abstract No 11G165 DEP)

Translation: Results are presented of an investigation of some features of the process of cereduction of V ore and Karatau phosphorite. The process of formation of the metal phase and change in its composition is considered as far as the reduction of Fe, V, and P oxides is concerned. In the case of coreduction of V ore and phosphorite, the presence of V in the alloy is already observed at 1200°. Alleviated reduction of V in the given case is explained by the presence of large quantities of P, which possesses high bonding to V force, and also by faster and easier formation of the hydroxycarbide phase (due to the presence of ready C mixture and Fe, V, and P oxides in V ore) with the formation of which the reaction of V oxide reduction takes place. The rate constants are determined and the energy of activation of V reduction is calculated. (38 kcal/mole). 8 ill., 2 tables. Authors' abstract

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

USSR UDC 669.292.053.24

SUKHARNIKOV, YU. I., GALYUTIN, V. K., POBORTSEV, M. E., and KUNAYEV, A. M.

"Effect of Certain Factors on the Process of Pellet Production During Electrothermic Production of Phosphorus"

O vliyanii nekotorykh faktorov na protsess polucheniya okatyshey pri elektrotermicheskom proizvodstve fosfora (cf. English above), Institute of Metallurgy and Beneficiation of the Kazakh Academy of Sciences, Alma-Ata, 1970, 15 pp, ill., bibliogr., 1 nazv. (from RZH-Metallurgiya, No 11, Nov 70, Abstract No 11G166 DEP)

Translation: In connection with the development of a new flow chart for combined processing of V ore, which contains 70% SiO_2 and 0.85% V_2O_5, with phosphite in the process of their electrothermic smelting, a question arises regarding the utilization of V ore and phosphorite fines, derived during the preparation of the charge for smelting. A possibility of obtaining pellets (O) from the mixture of V ore and phosphorite fines is considered and the effect of different factors on the O strength is studied. The positive effect of the grain size of the material, the quantity of the binder, and the temperature and the time of sintering on the O strength are shown and a mathematical dependence of the O strength on the above cited factors is obtained. The sintering temperature has the most significant effect on the O strength. 5 ill., 5 tables.

1/1 Authors' abstract

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

UNCLASSIFIED PROCESSING DATE--30OCT70

1/2 026

TITLE--VARIANTS OF VIBRATION DISEASE IN DRIFTERS OF THE DONBASS COAL MINES -U-

AUTHOR-(05)-BASAMYGINA, L.YA., BONDARENKO, G.A., ZHILKO, S.M., LYUBCMUDROV, V.YE., SUKHARSKAYA, L.M.

COUNTRY OF INFO--USSR

SOURCE--VRACHEBNOYE DELO, 1970, NR 5, PP 137-140

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BIOLOGIC VIBRATION EFFECT, NERVOUS SYSTEM DISEASE, INDUSTRIAL HYGIENE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1747 STEP NO--UR/0475/70/000/005/0137/0140

CIRC ACCESSION NO--AP0129115

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

2/2 028 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0129115

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN ANALYSIS OF VIBRATION DISEASE IN DRIFTERS OF COAL MINES INDICATES THAT THE CLINICAL PICTURE OF THE DISEASE IN DRIFTERS OF HORIZONTAL SHAFTES IS DOMINATED BY PHENOMENA OF VEGETATIVE POLYNEURITIS, MAINLY IN THE UPPER EXTREMITIES; IN COAL MINE BUILDING WORKERS VEGETATIVE POLYNEURITIS IS MARKED BOTH IN THE UPPER AND LOWER EXTREMITIES AND IS DETECTED AT THE BACKGROUND OF DISORDERS OF THE NERVOUS ACTIVITY AND ORGANIC LESIONS OF THE NERVOUS SYSTEM.

FACILITY: DONETSKIY MEDITSINSKIY INSTITUT.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

USSR UDC: 621.791.7:621.387.143

BASANSKIY, V. V., BALITSKIY, V. M., SAMILOV, V. N., and SUKHENKO, I. V.
Electric Welding Institute imeni Ye. O. Paton, Academy of Sciences Ukrainian SSR

"Some Characteristics of Microplasma-Arc Welding of Sheet Materials"

Kiev, Avtomaticheskaya svarka, Sept 71, no 9, pp 40-42

Abstract: A paper on the possibility of controlling the volume of the weldpool using highly concentrated plasma heat sources is presented and the technology of microplasma pulsed-arc welding is detailed. The pulsed arc makes it possible to proportion the heat energy supply to the part being welded. The protective gas is selected so as to afford optimum ionization and maximum plasma jet reduction at the exit from the plasma forming duct and at the anode. Experiments conducted with a specially designed MPU-M microplasma unit on metal with $\delta>0.3$ mm indicates the possibility of maintaining the welding current component constant. The use of modulated current in the arc enhances the latter's stability with

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

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BASANSKIY, V. V., et al, Avtomaticheskaya svarka, Sept 71, no 9, pp 40-42

each repeated pulse. The crystallization conditions of the weldpool are practically unaffected. Modulated current specifications are cited in a table. Tests conducted on both the welds and the parent metal of VT1-OM alloy show the same mechanical properties in both.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

USSR UDC 621.762.4.044.2

KARPINOS, D. M., BESPYATYY, V. A., SUKHIKH, L. L., SHIYANOVSKAYA, I. YE., and BESPYATYY, A. A., Institute of Problems of Material Sciences, Academy of Sciences UkrSSR, Zaporozh'ye Aluminum Plant "Kommunar"

"Some Properties of Reinforced Cylindrical Shells"

Kiev, Poroshkovaya Metallurgiya, No 11(131), Nov 73, pp 31-35

Abstract: The described technological schema of the formation of cylindrical shells includes the explosive squeezing with subsequent heat treatment (heating up to 850° C and 50 min aging) of a composite consisting of a plastic matrix in the form of a foil on a nickel base and reinforcing tungsten fibers, 0.03 mm in diam., in the form of a grid. The results of an investigation of the high-temperature short-duration strength of the shells show that the short-duration strength of the composite at 800, 950, and 1100° C considerably exceeds the strength of the matrix. At 950° C the strengthening effect of the composite reaches 6, at 1100° C it reaches 12, with a simultaneous decrease in plasticity properties. After heat treatment the composites reveal thermal stresses which develop from the difference in the linear elongation and the elastic constants of the components of the composite.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

USSR

UDC 547.26'118

MASLENNIKOV, V. P., SERGEYEVA, V. P., SUKHIKH, N. G., Gor'ki State University imeni N. I. Lobachevskiy, Gorkiy, Ministry of Higher and Secondary Specialized Education RSFSR

"Decomposition of Some Phosphorus-Containing Peroxides in n-Nonane"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 9, Sep 70, pp 2019-2021

Abstract: Di-tert-butylperoxyethylphosphonate (I) and tert-butylperoxyethylethoxyphosphonate (II), n_D^{20} 1.4288, n_D^{20} 1.001, were synthesized by the reaction of the corresponding chlorides with tert-butylhydroperoxide in pyridine. Both are colorless liquids, the first being less stable at room temperature than the second. In n-nonane solution (I) decomposes quite rapidly at 90°, while (II) just begins to decompose at 130°, yielding a series of compounds. This thermal decomposition is well described by a kinetic equation of the zero order with regard to the peroxide. Changing the specific surface of the vessel has no effect on the rate of decomposition, which points out the homogeneity of the process. Increasing the

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

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MASLENNIKOV, V. P., et al, Zhurnal Obshchey Khimii, Vol 40, No 9, Sep 70, pp 2019-2021

initial concentration of the peroxides increases the reaction rate. However, the decomposition products have an effect on the reaction rate and activation energy of the process. It is proposed that decomposition of (I) and (II) occurs by a homolytic and a heterolytic mechanism concurrently.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

UDC 669.14.018.298:620.172.251.29

USSR

GOL'DENBERG, A. A., SUKHIKH, N. P., and MIHEYEVA, T. M., All-Union Correspondence Machine Building Institute

"The Effect of Manganese and Nickel on the Strength of Steel under Harsh Loading Conditions"

Moscow, Metallovedeniye, No 6, 1971, pp 41-43

Abstract: A study was made of the effect of manganese and nickel on steel strength under harsh loading conditions. Two groups of steels, the first containing melts with 0.5, 1.0, 2.0, and 4.0% Mn and 0.1, 0.2, and 0.4%C, the other with melts containing 0, 1.0, 2.0, and 4.0% Ni and 0.2, 0.3, and 0.5% C, 0.2-0.35% Si, 0.3-0.5% Mn, 0.017-0.027%P, and 0.023-0.03% S were investigated. Strength was found to depend on the annealing temperature and the content of C. The results are represented in curves showing the effects of Mn and Ni on plastic properties and of the annealing temperature on strength and the change of the cold brittleness threshold. The strength under harsh loading conditions for steels with 4% Mn and 0.4% C is considerably lower than for steels with smaller Mn content. A comparison of plasticity and cold brittleness changes of nickel-alloyed steels revealed the absence of a clear interdependence between macroplasticity and the tendency to brittle failure. Three figures, two bibliographic references.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

Acc. Nr.: AP0046772 Ref. Code: UR0113

USSR UDC 621.785.545

SHEPELYAKOVSKIY, K. Z., Doctor of Technical Sciences, VOSKRESENSKIY, V. V., Candidate of Technical Sciences, LAPSHIN, M. P., SMIRNOV, S. S., CHUDNOVSKIY, V. S., ORLOVSKIY, A. G., ROZENTAL', G. A., and SIEPIN, A. L., Moscow Evening Metallurgical Institute, Moscow Auto Plant imeni Likhachev

"High-Frequency Thyristor Converter for Induction Hardening Installations"

Moscow, Avtomobil'naya Promyshlennost' (Motor Vehicle Industry), No 1, 1970, pp 28-29

Translation: A thyristor frequency converter and a dynamoelectric one are compared. The power circuit and control and protection circuits of a 100 kw 2500 cps thyristor converter for an induction hardening installation are described. (4 illustrations)

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

USSR UDC 547.567.5

TITOV, Ye. A., and SUKHINA, N. K., Dnepropetrovsk Chemical-Technological Institute Imeni F. E. Dzerzhinskiy

"N,O-Diacylquinoneiminoximes"

Leningrad, Zhurnal Organicheskoy Khimii, Vol 6, No 9, Sep 70, pp 1834-1837

Abstract: Reaction of acyl chlorides with quinoneimineoximes in organic solvents, in presence of aqueous sodium bicarbonate solution yields the title compounds. For example: to a solution of 1.22 g of 1,4-benzoquinoneimineoxime in 50 cc acetone 2.35 ml of p-toluyl chloride was gradually added at 20-25° with stirring. The mixture was then cooled to 5-10°, 1.68 g of sodium bicarbonate in 20 cc water was added and stirred for 1 hr at 20-25° to yield N,O-di-p-toluyl-1,4-benzoquinoneimineoxime, m.p. 175°. Other compounds were synthesized in this manner in yields ranging from 78 to 96%. In aqueous and alcoholic base these compounds hydrolyze yielding quinoneoxime and quinoneimine-oxime salts, while in dilute inorganic acids their hydrolysis gives quinone-oxime esters.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

USSR

UDC 536.46:533.6

SUKHININ, A. I., KONEV, E. V.

"On the Combustion of Vegetable Materials Under Differing Compositions of the Surrounding Medium"

V sb. Goreniye i vzryv (Combustion and Explosion -- Collection of Works), Moscow, "Nauka", 1972, pp 153-156 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3B963)

Translation: The characteristics of the relationship of flame propagation from pine branches and the introduction of an air medium of helium, hydrogen oxide, nitrogen and oxygen, and also on the air pressure are investigated. The slight dependence of the combustion rate on pressure for a given composition, the presence of the linearity under a change of composition of the mixture and a given pressure, and also the results of thermocouple measurements testify to the validity of the hypothesis that inert gases upon diffusing inside the jet lower its temperature. Accordingly the rate of flame propagation decreases linearly and combustion ceases at a certain concentration of the additive. Authors' abstract.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

Instrumentation and Equipment

USSR

UDC 621.791.948+621.375.8.037:
681.326.3:62-41

TYCHINSKIY, V. P., Doctor of Technical Sciences, VASIL'YEV, K. V., Candidate of Technical Sciences, TROFIMOV, A. A., BABENKO, V. P., SUKHININ, G. K., YELISEYENKOV, V. I., Engineers, Research Institute for Gas Welding and Cutting Machinery

"Program-controlled Machine for Gas-laser Cutting of Sheet Materials"

Moscow, Svarochnoye Proizvodstvo, No 4, Apr 72, pp 52-53.

Abstract: The Institute has developed a machine for cutting of alloy steels, titanium and other materials using carbon-dioxide lasers, allowing any contour to be cut in the tracking mode. Contour control of the machine is by a digital programmed device using punch tape. The machine has been tested using various materials including 1-10 mm sheets of low-carbon and alloy steels of various types. Good cutting accuracy has been achieved: parts have been cut from sheets up to 3 mm thick, with smooth, even edges, and very small zone of thermal effect near the cut. Cuts are very thin (a few tenths of a millimeter).

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

SUKHININ, Yu. I.

TECHNICAL TRANSLATION

FSTC-HT-23-823-71

ENGLISH TITLE: Simultaneous Combustion of High-Current and High-Frequency Arcs in a Plasmatron

FOREIGN TITLE: Sovnestnoye Goreniye Sil'notochnoy i Vysokochastotnoy Dug v Plazmotrone

AUTHOR: V. A. Bogatyrova, N. I. Vorob'yeva, M. F. Zhukov, Yu. I. Sukhinin

SOURCE: Zhurnal Prikladnoy Mekhaniki i Tekhnicheskoy Fiziki No. 3, 1968, pp. 86-89

GRAPHICS NOT REPRODUCIBLE

Translated for FSTC by Leo Kanner Associates

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This translation was accomplished from a xerox manuscript. The graphics were not reproducible. An attempt to obtain the original graphics yielded negative results. Thus, this document was published as is, in order to make it available on a timely basis.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

1/2 025 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--GENERALIZED CHARACTERISTICS OF AN ELECTRIC ARC DC HYDROGEN HEATER -U-

AUTHOR-(05)-ZHUKOV, M.F., SUKHININ, YU.I., MALKOV, YU.P., VOROBYEVA, N.I., MUKHO, G.S.

COUNTRY OF INFO--USSR

SOURCE--AKADEMIIA NAUK SSSR, SIBIRSKOE OTDELENIE, IZVESTIIA, SERIIA TEKHNICHESKIKH NAUK, FEB. 1970, P. 30-34

DATE PUBLISHED--------70

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

TOPIC TAGS--ELECTRIC ARC, DIRECT CURRENT, AIR HEATER, HYDROGEN, COPPER, TUNGSTEN, CATHODE, ANODE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1272 STEP NO--UR/0288/70/000/000/0030/0034

CIRC ACCESSION NO--AP0124923

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

UNCLASSIFIED PROCESSING DATE--20NOV70

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CIRC ACCESSION NO--AP0124923

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SURVEY OF THE RESULTS OF INVESTIGATIONS OF THE ELECTRIC, THERMAL, AND EROSION CHARACTERISTICS OF A SINGLE CHAMBER ELECTRIC ARC HYDROGEN HEATER. IT IS SHOWN EXPERIMENTALLY THAT A LAMINAR COPPER TUNGSTEN OUTPUT ANODE HAS HIGH EROSION STABILITY DURING OPERATION IN A HYDROGEN MEDIUM AND A LONG SERVICE LIFE. IT IS CONCLUDED THAT THE USE OF A COPPER TUNGSTEN CATHODE AND ANODE CAN ENSURE LONG LASTING SINGLE CHAMBER HYDROGEN PLASMATRONS WITH GAS VORTEX STABILIZATION OF HIGH POWER ELECTRIC ARCS.

FACILITY: AKADEMIIA NAUK SSSR, INSTITUT TEORETICHESKOI I PRIKLADNOI MEKHANIKI, NOVOSIBIRSK, USSR.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

USSR UDC 615.31:547.751].012.1

PREOBRAZHENSKAYA, M. N., ORLOVA, Z. G., STAROSTINA, Z. G., LIBERMAN, S. S., SUKHININA, G. P., and SUVOROV, N. N., All Union Scientific Research Institute of Pharmaceutical Chemistry imeni S. Ordzhonikidze, Moscow

"Synthesis and Investigation of the Pharmacological Activity of 1-(Indolyl-3')-2-alkylaminoethanols"

Moscow, Khimiko-farmatsevticheskiy zhurnal, Vol 4, No 10, Oct 70, pp 5-9

Abstract: 1-(Indolyl-3')-2-alklaminoethanols were synthesized by hydrogenating the corresponding N- substituted 3-aminoacetylindoles, using Raney nickel as a catalyst. The resultant amino alcohols were converted to salts (chlorohydrates or adipinates) which were pharmacologically studied. The initial 3-alkylaminoacetylindoles were produced by interacting 3-chloroacetylindole or 3-bromoacetylindole with primary or secondary amines. The physicochemical properties of the 3-alkylaminoacetylindoles and 1-(indolyl-3')-2-alkylaminoethanols are tabulated. It was found that all amino alcohols containing the secondary amino group have sympathomimetic properties: they increase arterial blood pressure in rats and cats under anesthesia, cause contraction of the nictitating membrane, and constrict the peripheral vessels. This effect is

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

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PREOBRAZHENSKAYA, M. N., et al, Khimiko-farmatsevticheskiy zhurnal, Vol 4, No 10, Oct 70, pp 5-9

attributed to excitation of the α-adrenoreactive systems. The most active of all compounds studied was 1-(indolyl-3')-2-methylaminoethanol. This alcohol has only 1/10-1/20 the activity of adrenalin, but its effect is longer-acting. Amino alcohols containing the tertiary amino group did not cause contraction of the nictitating membrane, they reduced blood pressure and relaxed the peripheral vessels.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

USSR

UDC 66.074.7

TURSUNOV, M., RIZAYEV, N. U., MIRZAKARIMOV, R. M., IBRAGIMOV, A. P., and SUKHININA, L. A., Tashkent Polytechnical Institute

"Change in the Sorption Capacity of Ion Exchange Resin Towards Gossypol and Free Fatty Acids Under the Influence of γ-Irradiation"

Leningrad, Zhurnal Prikladnoy Khimii, Vol 45, No 8, Aug 72, pp 1828-1832

Abstract: Increase in the γ-irradiation dose leads to an increased swelling of the anion exchange resin AV-17-6(m) and EDE-10p in the OH^- form in distilled water and in methanol; the anion exchange resin EDE-10p in the CO_3^{2+} form and FAN-2 in the OH^- form increase their swelling also, but only to a certain specific dose. The weight of the anion exchange resin has been noted to increase also. Under the influence of γ-irradiation AV-17-6(m) anion exchange resin in the OH^- form exhibits selective sorption towards gossypol. Both the AV-17-6(m) and the EDE-10p anion exchange resins in the CO_3^{2+} form become lighter in color under the influence of increasing radiation dose.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

1/2 021 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--DIFFERENT REACTIONS OF ANIMALS TO A SIMILAR PHYSICAL EXERTION -U-

AUTHOR-(02)-PINCHUK, V.M., SUKHININA, L.B.

COUNTRY OF INFO--USSR

SOURCE--BYULLETEN' EKSPERIMENTAL'NOY BIOLOGII I MEDITSINY, 1970, VOL 49, NR 6, PP 29-33

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--EXERCISE, SWIMMING, ANIMAL PHYSIOLOGY, NERVOUS SYSTEM DISEASE, HYPOXIA, GLYCOGEN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/0698 STEP NO--UR/0219/70/049/006/0029/0033

CIRC ACCESSION NO--AP0131297

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

2/2 021 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0131297

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN EXPERIMENTS ON ALBINO MALE RATS OF THE SAME AGE AND WEIGHT IT IS SHOWN THAT THE EFFECT OF A SIMILAR, GRADUALLY INCREASING LOADING (SWIMMING) IN ITS MULTIPLE REPETITION MAY BE ESSENTIALLY DIFFERENT. ONE HALF OF THE RATS EASILY COPED WITH THE REFERRED TO LOADING, GAIN WEIGHT JUST AS ANIMALS OF THE CONTROL; IN THE PROCESS OF ADAPTATION TO MOTOR ACTIVITY THESE RATS EVOLVE A CAPACITY TO ECONOMIC EXPENDITURE AND RAPID RESTORATION OF THE RESERVES OF GLYCOGEN IN THE CARDIAC MUSCLE AND HEPATIC CELLS. FOR THE OTHER HALF OF RATS THE SAME LOADING PROVES TO BE EXCESSIVE, THE ANIMALS EARLY DEVELOP DISORDERS OF FUNCTION OF THE CENTRAL NERVOUS SYSTEM, SIGNS OF HYPOXIA, BLOCKING OF GLYCOGEN RESERVES IN ORGANS DURING WORK AND ITS RAPID UTILIZATION AFTER CESSATION OF THE LATTER. ALL THE REFERRED TO MANIFESTATIONS DEVELOP AGAINST THE BACKGROUND OF SIGNIFICANT RETARDATION OF WEIGHT GAIN AND MYOCARDIAL HYPERTROPHY. THE CAUSE OF SUCH DIFFERENT REACTIONS IN SIMILAR ANIMALS TO ONE AND THE SAME PHYSICAL LOADING MAY BE DUE TO INDIVIDUAL DIFFERENCES IN THE RHYTHM OF COMPANSATORY RESTORATIVE PROCESSES. FACILITY: P. F. LESGAFT INSTITUTE OF PHYSICAL CULTURE, LENINGRAD.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

1/2 028 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--STARTING TEMPERATURE OF A REACTION BETWEEN OXIDES IN THE SOLID PHASE -U-

AUTHOR-(04)-YUSFIN, YU.S., KARABASOV, YU.S., YUSUPKHODZHAYEV, A.A., SUKHININA, V.M.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, METAL. 1970, (3), 53-5

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS, CHEMISTRY

TOPIC TAGS--SEMICONDUCTOR MATERIAL, CALCIUM OXIDE, TEMPERATURE EFFECT, CHEMICAL REACTION, ELECTRON DENSITY, STRUCTURAL ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/1872 STEP NO--UR/0370/70/000/003/0053/0055

CIRC ACCESSION NO--AP0137069

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

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CIRC ACCESSION NO--AP0137069 PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FOLLOWING SEQUENCE OF REACTIONS IS PROPOSED ON THE BASIS OF DTA, PETROGRAPHIC ANAL., X RAY STRUCTURAL ANAL., AND CONDUCTOMETRIC ANAL.: AT 515-200DEGREES CA(OH) SUB2 EQUALS CAO PLUS H SUB2 O, AT 670-150DEGREES CAO PLUS FE SUB2 O SUB3 EQUALS CAO.FE SUB2 O SUB3, AND AT 750-800DEGREES CAO.FE SUB2 O SUB3 PLUS CAO EQUALS 2CAO.FE SUB2 O SUB3. THE PRIMARY REACTION PRODUCT WAS ALWAYS CAO.FE SUB2 O SUB3 INDEPENDENT OF THE WT. RATIO OF REACTING SUBSTANCES. OXIDE SEMICONDUCTORS BECOME REACTIVE WHEN THE CONCN. OF ELECTRONS IN THE FREE ZONE OF THE SEMICONDUCTOR SHARPLY INCREASES; THIS CORRESPONDS TO THE CHANGE FROM IMPURITY TO INTRINSIC COND. IN THE SEMICONDUCTOR OXIDE.

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USSR

UDC 548.0:226.33

VOLNYANSKIY, M. D., KUDZIN, A. YU., SUKHINSKIY, A. N., Dnepropetrousk State University

"Relaxation of Phase Boundaries in SbSI Single Crystals"

Moscow, Kristallografiya, Vol 18, No 2, Mar-Apr 73, pp 325-327.

Abstract: Changes in dielectric permeability with time ($\Delta\varepsilon_{max} = f(t)$) are studied when a constant electric field acts on SbSI single crystals in the region of the phase transition. It is established that $\Delta\varepsilon_{max}$ approaches saturation with increasing field intensity and decreases by several times as frequency is varied from 1 to 40 KHz. The decrease time of ε is reduced by 4 to 6 times when the specimen is illuminated and increases with increasing frequency. The dependences produced can be explained by the contribution to the value of ε of newly developing phase boundaries, the attachment time of which amounts to some tens of seconds.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

USSR

UDC [537.226+537.311.33]:[537+535]

SUKHINSKIY, A. N.

"Investigation of the Process of Dielectric Hysteresis Loop (DHL) Formation in Single Crystals of SbSI"

V sb. Segnetoelektriki i okisnyye poluprovodniki (Ferroelectrics and Oxide Semiconductors -- Collection of Works), Dnepropetrovsk, 1971, pp 64-68 (from RZh-Fizika, No 1, Jan 72, Abstract No 1YE1306 by YE. A.)

Translation: The author studied the time dependence of DHL formation in single crystals of SbSI as a function of illumination, electric field strength, and temperature. Total electrical conductivity of the crystals was also measured as a function of the above-enumerated factors. The conclusion is drawn that the process of DHL formation in SbSI is due to the presence of space charges produced as a result of nonuniform impurity distribution over the crystal or on boundaries of ferroelectric domains.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

USSR

UDC: 532.522.2

VOLCHKOV, V. V., IVANOV, A. V., KISLYAKOV, N. I., REBROV, A. K., SUKHNEV, V. A., and SHARAFUTDINOV, R. G.

"Low-Density Jets from a Sonic Nozzle at Large Pressure Drops"

Moscow, Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, No 2, 1973, pp 64-73

Abstract: Experiments are described for the observation of low-density gas dynamic jets using electron-beam analysis and the Pitot tube. A full description of the apparatus and the experimental method is given in earlier papers on which the present article is based (A. K. Rebrov, et al, Vliyaniye razrezhennosti na strukturu svobodnoy strui azota -- Effect of Rarefaction on the Structure of a Free Nitrogen Jet -- PMTF, No 1, 1971, and others). These experiments used sonic nozzles consisting of openings in a thin wall with a ratio of wall thickness to opening diameter of less than 0.05. With a Reynolds number greater than 200 at the nozzle opening, the effect of the boundary layer in the nozzle can be neglected and the flow factor of the nozzle can be taken equal to unity. Nitrogen, air, and carbon dioxide at a drag temperature of 300° K were used as the operating gases. The purpose of the experiments was to study the structure of longitudinal and transverse gas

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203210018-2

USSR

UDC: 532.522.2

VOLCHKOV, V. V., et al, Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, No 2, 1973, pp 64-73

dynamic parameter distributions in the initial part of the jet, and set up a detailed picture of the jet flow for Reynolds numbers reduced to values corresponding to the dispersion modes for which the local mean free path of the molecules is commensurate with the flow dimensions.

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1/2 016 UNCLASSIFIED

TITLE--COMPARATIVE EVALUATION OF THE COMPOSITION OF FRACTIONAL DISTILLATION ALCOHOL DEVELOPED USING AN ASPERGILLUS, BATATAE 61 CULTURE

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