"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

2/2 014 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0123548

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RESULTS ARE GIVEN FROM A STUDY OF THE STABILITY OF FACE MILL CUTTERS MADE FROM VARIOUS GRADES OF HARD ALLOYS. THE STUDIES WERE MADE AT THE ZHDANOV PLANT OF HEAVY MACHINE BUILDING (ZHDANOVSKIY ZAVOD TYAZHELOGO MASHINOSTROYENIYA). A TABLE OF STABILITY FACTORS IS GIVEN FOR HARD ALLOY FACE MILL CUTTERS USED FOR MACHINING VARIOUS GRADES OF HARD ALLOYS.

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USSR UDC 621.355.8.035.2

ANTONENKO, P. A., BARSUKOV, V. Z., KRAPIVNYY, N. G., SAGOYAN, L. N.

"Study of a Cermet Nickel-Nickel Oxide Electrode. Report I. Structural Characteristics of the Electrode"

Khim. tekhnologiya. Resp. mezhved. temat. nauch.-tekhn. sb. (Chemical Technology. Republic Interdepartmental Thematic Scientific and Technical Collection), No 24, pp 96-98 (from RZh-Khimiya, No 12, Jun 72, Abstract No 12L265)

Translation: A study was made of a cermet nickel-nickel oxide electrode of an alkaline storage battery comprising two porous phases. The dependence of the effective porosity of the base of the electrode on the amount of filler and its thickness was investigated. It was established that with the existing technological process of depositing $Ni(OH)_2$ in the pores of the base, the latter occupies only 57% of the pore space.

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USSR UDC 669.255'859'856:621.318.2

KRAPOSHIN, V. S., and LINETSKIY, YA. L., Moscow Institute of Steel and Alloys, Chair of Metallography

"Compounds of Rare Earth Metals (REM) with Cobalt (RCO_5) as Materials for Permanent Magnets"

Ordzhonikidze, Izvestiya Vysshikh Uchebnykh Zavedeniy, Tsvetnaya Metallurgiya, No 6, 1972, pp 111-117

Abstract: The center of investigations dealing with the development of methods for producing permanent magnets from RCO_5-type compounds has shifted in the last 1.5-2 years. The densening on RCO_5-type compounds, required for obtaining high energies, can be produced by applying high pressures or by sintering at high temperatures. K. Bushow et al. (J. Appl. Phys. 1969, Vol 40, p 4029) produced a relative density of 85% at up to 30 kbar pressures; the authors obtained, by means of uniaxial deformation of the briquet and under conditions of 20 kbar hydrostatic compression, relative densities of 95-97%. In this case, $(BH)_{max}$ reached values of 18020 million gs.oe. Analogous and somewhat higher magnetic properties were produced from RCO_5 compounds by sintering. Probably, it will be possible to produce in the near future values which are close to $(BH)_{max}$ limits. Variations of the $PrCO_5$ compound will

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KRAPOSHIN, V. A., and LINETSKIY, YA. L., Izvestiya Vysshikh Uchebnykh Zavedeniy, Tsvetnaya Metallurgiya, No 6, 1972, pp 111-117

make possible the creation of a range of materials with assigned combinations of technical characteristics. However, the most important unsolved problem is the development of an inudstrial technological process of producing permanent magnets from RCO_5 compounds of prescribed form and combination of properties. One figure, one table, thirty-five bibliographic references.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

UDC 621:069.01E.25.620.178.16

KERUSECHOV, M. [illegible], [illegible], M. A., BERKOVICH, YE. C., KOZYNEV, S. P., KHAPOSHINA, L. [illegible], [illegible], L. YU.

Iznosostoykost' i struktura tvordykh naplavok (Wear Resistance and Structure of Hard Surfacing), Moscow, Mashinostroyeniye Press, 1971, 95 pp

Translation [illegible]: Application of hard wear-resistant surfacing to face the work[illegible] of machine parts is one of the very efficient methods of increasing the service life of the parts. The problems of expedient selection of the [illegible] materials as a function of the operating conditions of the parts, [illegible] problems of the technological methods of surfacing, have not been sufficiently clarified. Many surfacing alloys are known, and it is of practical [illegible] to compare their properties under identical test conditions, in particular [illegible] for abrasive wear.

The [illegible] discussions of the results of laboratory testing of surfacing [illegible] for abrasive wear, impact bending strength, hardness, and microhardness [illegible] structural components. The results of a study of the microstr[illegible] [illegible] used. These studies were performed by the authors of the book at the Wear Resistance Laboratory of the State Scientific Research Institute of [illegible] in Engineering.

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[illegible], [illegible], et al., Izmosostoykost' i struktura tverdykh naplavok, Moscow, Mashinostroyeniye Press, 1971, 95 pp

The last chapter contains a discussion of the research data of a number of Soviet authors on the operational and laboratory comparative tests for abrasive wear of different surfacing materials applied to parts with different operating conditions.

The book is a reference manual for the properties of various surfacing materials during abrasive wear.

The [illegible] tests on the Kh4-[illegible] machine were performed by M. A. Bab[illegible], [illegible] by Ye. S. Perkovich, for hydroabrasive wear by S. P. [illegible], [illegible] by L. Ya. Prushanskiy. A microstructural study and [illegible] test were performed by L. B. Kraposhina. The work was coordinated by [illegible] Khrushchov.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

[illegible], [illegible], et al., Iznosostoykost' i struktura tvordykh naplavok, Moscow, [illegible] Press, 1971, 95 pp

Chapter I. [illegible] Surfacing Used to Increase the Wear Resistance of Machine [illegible] 5

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

[illegible], [illegible], et al., [illegible] i struktura tverdykh naplavok, Moscow, [illegible] Press, 1971, 95 pp

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KRAPUKHIN V.V.

Steel + Alloys

JPRS 5[illegible]

Translia Metallurgy

18 Dec. 72

KINETICS OF THERMAL DECOMPOSITION OF TITANIUM TETRACHLORIDE

[Article by V. V. Krapukhin, E. A. Korolev, Moscow Institute of Steel and Alloys, Department of Physical Chemistry and Technology of Semiconductors and Superpure Metals; Ordzhonikidze, Izvestiya VUZ, Tsvetnaya Metallurgiya, Russian, No 4, 1972, signed to press 15 June 1970, pp 53-58]

The mechanism of the initial stage of thermal decomposition of $TiCl_4$ is investigated with the aid of the adiabatic compression method. The device used for adiabatic compression and expansion and the experimental conditions are described. The mechanism consists of detachment of a chlorine atom.

The thermal decomposition of $TiCl_4$ begins at a temperature of the order of 2,000°K [1]. Analysis of chemical reactions at such high temperatures poses enormous difficulties in terms of the mechanical set-up of the process and the development of isothermal conditions. At high temperatures reaction rates may be so high that the excesses during heating or cooling will be commensurate with the excess at the steady-state temperature.

The procedure of analyzing the kinetics of chemical reactions that take place under nonisothermal conditions anticipates the need to determine the temperature as a function of time [2]. This dependence can be determined rather easily in systems of adiabatic compression or expansion or in shock tubes.

The adiabatic compression method [3] was used in this work to investigate the mechanism of the initial stage of thermal decomposition of $TiCl_4$. An electrode arc plasma apparatus was employed for analysis of the kinetics of the formation of $TiCl_2$. The adiabatic compression method, as precise as the shock wave method, made it possible to achieve heating and cooling rates of the order of 10^6 deg/sec, at the same time limiting the reagent contact time at high temperatures to 10^{-8} sec.

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UDC 669.295.978.464.533.9

KRAPUKHIN, V. V., KOROLEV, E. A.

"Kinetics of Thermal Decomposition of Titanium Tetrachloride"

Ordzhonikidze, Izvestiya Vysshikh Uchebnykh Zavedeniy, Tsvetnaya Metallurgiya, No 4, 1972, pp 53-58.

Abstract: The mechanism of the initial stage of thermal decomposition of $TiCl_4$ is studied by the method of adiabatic compression. The kinetics of the formation of $TiCl_2$ were studied using an electric-arc plasma installation. The method of adiabatic compression, equal to the shockwave method in accuracy, allows heating and cooling rates on the order of 10^8 deg/sec to be achieved, limiting the contact time of the reagents at high temperatures to 10^{-5} sec. The kinetics of the reaction of thermal decomposition of $TiCl_4$ were studied at 2,000-3,000°K. It is demonstrated that the mechanism of the initial stage of thermal dissociation of $TiCl_4$ is separation of a chlorine atom. The rate constant of the process of formation of $TiCl_3$ is determined. The electric-arc plasma installation is used to study the kinetics of the reaction of thermal decomposition of $TiCl_4$ at 3,000-4,000°K. A mechanism for the reaction of decomposition of $TiCl_4$ to $TiCl_2$ is suggested,

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KRAPUKHIN, V. V., KOROLEV, E. A., Ordzhonikidze, Isvestiya Vysshikh Uchebnykh Zavedeniy, Tsvetnaya Metallurgiya, No 4, 1972, pp 53-58.

consisting of successive separation of chlorine atoms. The reaction rate constant of the formation of $TiCl_2$ is determined.

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UDC 621.762.001.669.541.45

PASHCHENKO, I. S., PETROV, G. I., KRAPUKHIN, V. V., SHIGIMA, L. N., MINAKOV, A. T., and GALKIN, P. N.

"Study of Certain Properties of GeO_2 and Powdered Germanium"

Kremniy i germaniy [Silicon and Germanium -- collection of works], No. 2, Moscow, Metallurgiya Press, 1970, pp. 67-70, (Translated from Referativnyy Zhurnal-Metallurgiya, No. 1, 1971, Abstract No. 1 G429 by the authors).

Translation: The properties of GeO_2 produced by various methods of hydrolysis of $GeCl_4$ are studied. The influence of particle size of GeO_2 and powdered Ge on changes in bulk mass, picnometric density, gas permeability, specific surface, and friability is demonstrated. 4 tables; 6 biblio. refs.

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USSR

UDC: 621.382.2

KURBATOV, L. N., SHAKHIDZHANOV, S. S., BYSTROVA, L. V., KRAPUKHIN, V. V., and KOLONENKOVA, S. I.

"Investigating Superluminescence of a GaAs Diode"

Leningrad, Fizika i tekhnika poluprovodnikov, Vol 4, No 11, 1970, pp 2025-2031

Abstract: To investigate possible means of increasing the power in the point glow of the GaAs diode junction, the authors used an injection diode operating in the nonlinear mode of a traveling wave amplifier. This diode, termed a superluminescence diode by the authors, has no external radiation sources; its illumination power is the result of amplification of its spontaneous, characteristic radiation. Details of the construction of the diode together with a diagram of its cross section are given. The diodes investigated by the authors were obtained by the diffusion of zinc in an n-type substrate alloyed with tellurium. Also discussed are the measurement techniques, which were conducted at the temperature of liquid nitrogen, the mapping of the near and far fields, the radiation polarization, the radiation power as a function of the injection current, and the radiation spectra. The authors express their gratitude to Ye. Susov, M. Zargar'yants, et al.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

USSR

UDC 621.315.592:669.777.054.2

MERKULOVA, N. A., KUKUSHKIN, N. A., SMIRNOV, V. A., KRAPUKHIN, V. V., and ALEKSEYEVA, T. P.

"Investigation of the Temperature Field During Zone Recrystallization of Cadmium and Tellurium"

V sb. Teplo- i massoperenos v tverd. telakh, zhidkostyakh i gazakh (Heat and Mass Exchange in Solids, Liquids, and Gases--collection of works), Minsk, 1970, pp 237-244 (from RZh-Metallurgiya, No 8, Aug 70, Abstract No 8G456)

Translation: Experimental data on heat exchange at the front of crystallization in the process of zonal refining of Cd and Te is processed according to the criteria of similarity of convective heat exchange, taking into consideration Stefan's condition at the boundary of phase separation. Analysis of the criterial equation shows that the coefficient of heat-exchange decreases with an increase in the relative length of the molten zone. Spontaneous fluctuations of temperature were observed during registration of the temperature along the entire length of the molten zone of the ingot. The largest fluctuations were observed in the middle of the molten zone, where minimum amplitude for Cd was 1.2° at a frequency of 6-8 periods per minute. At the same time no fluctuations were observed in

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MERKULOVA, N. A., et al, Teplo- i massoperenos v tverd. telakh, zhidkostyakh i gazakh, Minsk, 1970, pp 237-244

narrow zones $2.5 \cdot 10^{-2}$ m. Te fluctuations appeared in the narrower zones. On this basis, it is assumed that the source of fluctuations is the turbulent nature of the convective motion. N. DEMENKOV

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USSR

UDC: 621.396.6-181.48

BLINOV, I. G., YEL'CHANINOV, Ye. I., KRASANOV, V. G., PANKRATOV, L. M., MELEKHIN, Yu. Ya.

"The UVN-73P-1 Installation for Vacuum Application of Metal Films"

Elektron. promst'. Nauch.-tekhn. sb. (The Electronics Industry. Scientific and Technical Collection), 1972, No 1, pp 83-85 (from RZh-Radiotekhnika, No 8, Aug 72, Abstract No 8V290)

Translation: The paper presents the basic results of development of an industrial installation for vacuum deposition of metal films. The particulars of design of the principal functional units are considered. Experimental results are given on the operational characteristics of the installation. Resumé.

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USSR

UDC: 622.011.43

KRASAVIN, A. P., KABAKOV, A. M., LABUNSKIY, L. V.

"Physical and Mechanical Properties of Cover Rock of the Korkinskiy Brown Coal Deposit"

Fiz.-Mekh. Svoystva Gorn. Porod Ugol'n. Mestorozhd. Urala i Sibiri. Vyp. 1 [Physical and Mechanical Properties of Rock from Coal Deposits of the Urals and Siberia, No 1 -- Collection of Works], Chelyabinsk, 1971, pp 20-27 (Translated from Referativnyy Zhurnal Mekhanika, No 12, 1972, Abstract No 12V785, by Yu. M. Kartashov)

Translation: Results are presented from laboratory studies of the physical and mechanical properties of conglomerates, gravelites, sandstones, aleurolites, argilites and coal of the Korkinskiy brown coal deposit. The compressive and tensile strength, contact strength, abrasive properties, adhesion, internal friction angle and elastic constants of the rock were determined, as well as the total carbonate content of the rock, and special petrographic studies were performed. It was found that the physical and mechanical properties of the rock studied change over broad limits. The compressive strength for the rock of the deposit varies from 23 to 1315 kg/cm^2, the tensile strength -- from 2 to 177 kg/cm^2. The main factor determining the physical and mechanical

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Krasavin, A. P., Kabakov, A. M., Labunskiy, L. V., Fiz.-Mekh. Svoystva Gorn. Porod Ugol'n. Mestorozhd. Urala i Sibiri. Vyp. 1, Chelyabinsk, 1971, pp 20-27.

of the rock in the range of mining conditions studied is the degree of carbonatization. With increasing total carbonate content, the strength and mining indicators increase. The rocks were divided into three groups as to carbonate content: clay types with total carbonate content up to 15%, carbonate-clay with total carbonate content 15-30% and carbonate types with total carbonate content over 30%.

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USSR

UDC 669.162.267.645

LEVIN, M. Z., MACHIKIN, V. I., SKLADANOVSKIY, YE. N., KUZUB, A. G., and KRASAVTSEV, I. N., Donetsk Polytechnic Institute, Donetsk Metallurgical Plant

"Desulfuration of Pig Iron with Regulatable Introduction of Ingotted Magnesium"

Moscow, Metallurg, No 2, Feb 73, pp 10-12

Abstract: From 1970 on, studies have been conducted at the Donetsk Metallurgical Plant and Donetsk Polytechnic Institute on the Development of equipment for use in the desulfuration of pig iron by regulated introduction of magnesium ingots. A new method of introducing the ingotted magnesium into liquid pig iron serves as the basis of the equipment. Diagrams show the equipment for regulated magnesium introduction and a schematic of the gas supply to the evaporator. Industrial test results are given. Two figures, one table.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

AA0047084 Krashchenko, A. I.

Soviet Inventions Illustrated, Section II Electrical, Derwent, UR 0482 .

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241515 STATOR WINDING ARRANGEMENT OF ELECTRICAL MACHINES with liquid cooling is reduced in size and provides more reliable electrical connections. The basic solid conductors (1) of winding (2) are bent and form two separate groups to facilitate good electrical connections. The hollow conductors (3) are brought out beyond the junction of two groups to be joined electrically. The rest of the bunch is filled with conductors (4). The coolant is admitted via hermetic joint (5,7) to which the hollow conductors are soldered.

30.1.67 as 1130120/24-7. V.S.KIL'DISHEV et al. (19.9.69) Bul 14/18.4.69. Class 21d1. Int.Cl. H 02k.

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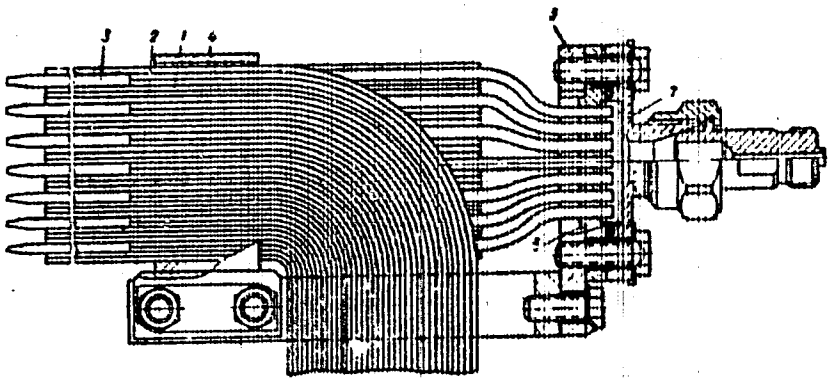
"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

AA0047084

AUTHORS: Kil'dishev, V. S.; Krashchenko, A. I.; Levitskiy, A. K.; Sergeyev, A. V.; Stanislavskiy, L. Ya.



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1/2 034 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--ON THE DEFORMATION PROPERTIES OF A QUASIDILATANT DISPERSE SYSTEM AT LOW SHEAR STRESSES -U-

AUTHOR-(05)-STALNOV, A.K., KRASHENINNIKOV, A.I., DEMISHEV, V.N., PETROV, E.A., STUPEN, L.V.

COUNTRY OF INFO--USSR

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SOURCE--KOLLOIDNYY ZHURNAL, 1970, VOL 32, NR 2, PP 308-309

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

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2/2 034 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0112542

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DEFORMATION OF SUSPENSIONS OF A COPOLYMER OF ACRYLONITRILE WITH METHYLACRYLATE IN 2,NITORPROPANOL,1 AT LOW SHEAR STRESSES INVOLVES THE FORMATION IN THE SYSTEM OF A STRUCTURE THE STRENGTH OF WHICH IS GREATER THAN THE SHEAR STRESS APPLIED. UNDER ISOTHERMAL CONDITIONS THE STRENGTH OF THE STRUCTURE FORMED DIMINISHES WITH TIME AFTER THE LOAD IS REMOVED.

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USSR UDC 535.373.3096

YeRMOLAYeV, V. L., KRASHENINNIKOV, A. A. and SHABLYa, A. V.

"The Effect of Temperature on the Luminescence Quenching Constant in Complexes with a Hydrogen Bond"

Leningrad, Optika i Spektroskopiya, Vol 34, No 6, Jun 73, pp 1232 - 1234

Abstract: In Volume 32 of this Journal, page 564, the authors described a process in which first a proton and then an electron are transferred along the hydrogen bond. Processes occurring between the pair of radicals thus formed reduce the complex to the ground state with a radiation loss of electron excitation. It was also shown that the rate of quenching depends on the rates of three sequential processes: complex formation, proton migration, and electron migration. Considering the last two processes, proton migration is seen to be three orders of magnitude slower, to begin with, and further impeded by the small difference in oxidation-reduction properties of the complex units, leading to the conclusion that it is the limiting process. Since tunnelling is the most likely mechanism of proton transport, it is concluded that the effect of temperature on tunnelling probability will be the determining factor.

Experiments were conducted with strong solutions of diphenylenimid-pyridine and 2-naphthol-pyridine at 77°K and 4°K. The results were in reasonable agreement with the assumption that the determining factor is the effect of temperature on

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YeRMOLAYeV, V. L., et al., Leningrad, Optika i Spektroskopiya, Vol 34, No 6, June 73, pp 1232 - 1234

the populations of proton oscillation levels.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

USSR

UDC 535.373.3

YERMOLAYEV, V. L., KRASHENINNIKOV, A. A., and SHABLYA, A. V.

"Mechanism of Quenching of Carbazole and Pyrazine Luminescence During Hydrogen Bond Formation"

Leningrad, Optika i Spektroskopiya, Vol 32, No 4, Apr 72, pp 831-833

Abstract: Carbazole, N-methyl carbazole, and pyrazine were the luminescent molecules studied; pyridine, quinoline, and indole, the quenchers. The only combinations used were those in which the fluorescent level of the luminescent molecule was situated below the first singlet excitation level of the quencher molecule. Measurements were made in solid solutions at 77° K. It was found that carbazole luminescence is quenched in the presence of quinoline and pyridine; pyrazine luminescence, in the presence of indole. The quenching magnitude I_0/I is linearly dependent on the quencher concentration. Quenching constants (complexing constants) are obtained from the slope of the I_0/I lines. In the carbazole-quinoline, pyrazine-indole systems no sensitized phosphorescence of the quenchers quinoline and indole was found,

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YERMOLAYEV, V. L., et al., Optika i Spektroskopiya, Vol 32, No 4, Apr 72, pp 831-833

whereas it takes place for the N-methyl carbazole-quinoline system. This fact, as well as the fact that the concentration quenching curves and complexing constants are the same both for fluorescence and for phosphorescence, indicates that the processes of deactivation of the excitation electronic state as a result of the H bond take place in the singlet excitation state and are not due to intensification of intercombination conversion. It is believed that luminescence quenching in the investigated toluene solutions at 77° K is due to the formation of H-bond complexes. The disappearance of quenching in the transition to N-methyl carbazole and data in the literature confirm this viewpoint. A physical model is suggested to explain luminescence quenching during H-bond formation in a solid solution. Fluorescence quenching in the complex cannot be related to radiationless energy transfer over singlet levels. The most probable process to explain such quenching is electron transfer. The necessity of an H bond for quenching indicates the role of local interactions through an unshared electron pair.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

Acc. Nr AA0 036072 Abstracting Service: CHEMICAL ABST. 4-70 Ref. Code UK 0000

69605e Production of sponge iron in a shaft furnace without fusion. Kononov, M. I.; Krashennikov, E. A.; Knyazev, V. F.; Vasil'ev, E. N.; Nasonov, P. P.; Linofeev, E. P. (Bardin, I. P., Central Scientific-Research Institute of Ferrous Metallurgy). Brit. 1,176,740 (Cl. C 21b), 07 Jan 1970, Appl. 07 Mar 1968; 8 pp. Finely crushed oxide such as Fe ore is rapidly reduced with crushed solid reducing agent above 1000° without fusion, sticking to the sides of the shaft, or excessive contamination of the sponge iron by the reducing agent ashes, in a shaft, the upper part of which is heated to ~1100° by hot gases passing through flues extending horizontally around the side walls, with the reducing agent fed at the top through a funnel with a 2nd funnel inside it, to form a tubular mass of the agent descending around the circumference of the shaft. Near the base of the shaft, a H_2O cooler surrounds the shaft and below it an annular bottom plate stops the downward flow of the reducing-agent residue or ashes, which are scraped out laterally by rotary rakes to keep fresh agent descending. At the shaft axis, a column of fine granular oxide or ore descends from a central feed-funnel at the top, as a column in contact with the reducing agent through the heated and cooled shaft zones, and through the central hole in the bottom plate where the reduced and sintered sponge product is cleaned by rotary brushes, drawn downward and compressed by cogging rolls, and sheared or sawed into billets of

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REEL/FRAME

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

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convenient length. The shaft can alternatively be provided with 3 concentric feed funnels, so that the descending ore is reduced to sponge as a tubular shape, or as 2 rectangular billets, by both exterior and interior contacts with reducing agent. The designs and arrangements of the app. are clearly described and illustrated with little detail. The ore being reduced can be mixed with a carbonaceous agent of low ash content to hasten redn., and with lime or similar agent for desulfurizing; and since it does not touch the sides of the shaft, it cannot stick to them.

George F. Comstock

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

1/2 026 UNCLASSIFIED PROCESSING DATE--27JUV70

TITLE--LOCALIZATION AND STATES OF POLYPHOSPHATES AND POLYPHOSPHATASES IN FUNGAL CELLS -U-

AUTHOR-(03)-KULAYEV, I.S., KRASHENINNIKOV, I.A., AFANASYEVA, T.P.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(5), 1238-40

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--FUNGUS, PHOSPHATE, ENZYME ACTIVITY, METABOLISM, CELL PHYSIOLOGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1527 STEP NO--UR/0020/70/190/005/1238/1240

CIRC ACCESSION NO--AT0128922

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

2/2 026 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AT0128922

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. KINETIC CURVES WERE SHOWN FOR THE P COMPDS. IN CULTURES OF NEUROSPORA CRASSA AT 0-4DEGREES. ORTHOPHOSPHATE ROSE STEADILY WITH TIME IN THE CULTURE, FOLLOWING A SHORT INDUCTION PERIOD, WHILE ACID SOL. POLYPHOSPHATES DECLINED IN A MIRROR IMAGE CURVE. ACID INSOL. POLYPHOSPHATES DECLINED SLIGHTLY ONLY NEAR THE END OF THE EXPTL. PERIOD OF 2 HR. SUGAR PHOSPHATES AND PHOSPHOLIPIDS WERE UNCHANGED. IN A SIMILAR EXAMN. OF N. MAGNUSII, ORTHOPHOSPHATE SHOWED A MODERATE DECLINE INITIALLY, FOLLOWED BY A RAPID INCREASE AS ABOVE, WHILE ACID SOL. POLYPHOSPHATES GAVE A MIRROR IMAGE CURVE. SALT SOL. POLYPHOSPHATES DECLINED TO A STEADY LEVEL AFTER APPROX. 40 MIN, WHILE POLYPHOSPHATES EXTD. WITH HCLO SUB4 OR ALKALI DECLINED STEADILY AND RAPIDLY WITH TIME. WITHIN 40-60 SEC OF DESTRUCTION OF N. CRASSA CELLS AT 0-2DEGREES THE MOST POLYMD. ACID INSOL. POLYPHOSPHATES DECLINED SHARPLY WHILE THE ACID SOL. FRACTION INCREASED IN A MIRROR IMAGE MANNER. EVIDENTLY WHEN THE CELLS ARE DESTROYED, THE DEPOLYMG. POLYPHOSPHATASES BEGIN TO FUNCTION ACTIVELY AND FRAGMENT THE LARGER POLYPHOSPHATES TO ACID SOL., SMALLER UNITS AND BYPASS THE SALT SOL. FRACTION STAGE.

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

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

1/2 014 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--PECULIARITIES OF AN EPIDEMIC PROCESS OF DYSENTERY IN THE EUROPEAN PART OF THE USSR ANNUAL CHANGES OF DYSENTERY INCIDENCE IN 1955-1966 -U-

AUTHOR--KRASHENINNIKOV, O.A.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII, I IMMUNOBIOLOGII, 1970, NR 3, PP 25-31

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DYSENTERY, EPIDEMIOLOGY DISEASE INCIDENCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/1483 STEP NO--UR/0016/70/000/003/0025/0031

CIRC ACCESSION NO--AP0109543

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

2/2 014 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0109543

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE LAST FEW YEARS AN EVER GREATER ATTENTION IS BEING ATTRACTED BY PERIODIC ELEVATIONS OF DYSENTERY INCIDENCE, RECORDED IN 1957, 1959, 1963 AND 1966; THESE ELEVATIONS WERE ACCOMPANIED BY INCREASED INCIDENCE OF OTHER ACUTE INTESTINAL INFLAMMATORY DISEASES IN EXTENSIVE TERRIOTORIES OF THE EUROPEAN PART OF THE USSR. SYNCHRONOUS CHARACTER AND A DEFINITE PERIODICITY OF THE INCIDENCE WAS NOTED IN TERRITORIES OF THE REGIONS AND REPUBLICS LOCATED IN THE NORTH, NORTH WEST, AND, PARTIALLY, IN THE CENTRE OF THE EUROPEAN USSR. THERE WAS NO TENDENCY TO REDUCTION OF THE INCIDENCE OF THE MENTIONED DISEASE AND NO PERIODICITY WAS REVEALED IN THE REGIONS AND REPUBLICS OF ITS SOUTHERN PART. SYNCHRONOUS CHARACTER OF CHANGES OCCURRING IN THE DISEASE INCIDENCE IN SUCH VAST TERRIOTORIES IS IN FAVOR OF THE GENERAL FACTORS DETERNMINING IT. PROVISIONAL CHARACTERISTICS OF THESE FACTORS IS PRESENTED IN THIS WORK.

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USSR UDC 532.526.4:532.529.3

KRASHENNIKOV, S. Yu.

"Calculation of Axially Symmetric Swirling and Nonswirling Turbulent Jets"

Moscow, Izvestiya Akademii Nauk, SSSR, Mekhanika Zhidkosti i Gaza, No 3, 1972, pp 71-80

Abstract: Results of calculations of nonself-similar flows in turbulent jets are presented. An approximation of the boundary layer is used; in the case of strong swirling, when a return-flow zone is formed in the initial sector, consideration begins with a cross section corresponding to the end of the return-flow zone. In the case of numerical solution, the flow parameters are determined successively in cross sections situation downstream from the initial cross-section where the conditions of the problem are assigned to the parameters. A generalization of the Prandtl formula for turbulent viscosity is given for the case of the flows under consideration. Results of calculations conducted by means of this formula coincide with the experimental data. The corresponding experimental constants are determined. An integral theory is proposed, which describes swirling jet flows during the weak deformation of profiles of the gas-dynamic parameters. 7 figures. 11 references.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

1/2 042 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--RELATION BETWEEN THE DIFFUSION COEFFICIENT AND EULERIAN TURBULENCE CHARACTERISTICS IN VARIOUS FLOWS -U-

AUTHOR-(02)-KRASHENINNIKOV, S.YU., SEKUNDOV, A.N.

COUNTRY OF INFO--USSR

SOURCE--AKADEMIIA NAUK SSSR, IZVESTIIA, MEKHANIKA ZHIDKOSTI I GAZA, JAN.-FEB. 1970, P. 74-82.

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--DIFFUSION COEFFICIENT, EULER EQUATION, TURBULENT FLOW, THERMAL DIFFUSION, FLOW DETECTION, FLOW ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1445 STEP NO--UR/0421/70/000/000/0074/0082

CIRC ACCESSION NO--AP0112439

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

2/2 042 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0112439

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXPERIMENTAL INVESTIGATION OF THE TURBULENT DIFFUSION COEFFICIENTS AND THE TIME DEPENDENT SCALE OF TURBULENT VELOCITY PULSATIONS IN TURBULENT AIR FLOWS OF VARIOUS TYPE. SPECIFICALLY INVESTIGATED IS THE RELATION BETWEEN THE EULERIAN AND LAGRANGIAN TURBULENCE CHARACTERISTICS. THE LAGRANGIAN CHARACTERISTICS WERE DETERMINED FROM THERMAL DIFFUSION MEASUREMENTS BEHIND A HOT WIRE, WHILE THE EULERIAN CHARACTERISTICS WERE DETERMINED FROM HOT WIRE ANEMOMETER MEASUREMENTS. THE RELATIONS OBTAINED FOR THE VARIOUS FLOWS ARE ANALYZED AS TO THEIR VALIDITY AND GENERALITY FOR CALCULATING TURBULENT DIFFUSION COEFFICIENTS ON THE BASIS TURBULENCE SCALES DETERMINED IN AN EULERIAN SYSTEM OF COORDINATES.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

1/2 024 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--STUDY OF THE ACOUSTIC AND GASDYNAMIC CHARACTERISTICS OF A JET NOISE MUFFLER -U-

AUTHOR-(04)-KRASHENINNIKOV, S.YU., SORKIN, L.I., TOLSTOSHEYEV, M.N., YAKOVLEVSKIY, O.V.

COUNTRY OF INFO--USSR

SOURCE--AKUSTICHESKII ZHURNAL, VOL. 16, JAN.-MAR. 1970, P. 88-95

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, PROPULSION AND FUELS

TOPIC TAGS--ENGINE MUFFLER, TURBOJET ENGINE, NOISE REDUCTION, EXHAUSE GAS DYNAMICS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/1459 STEP NO--UR/0046/70/016/000/0088/0095

CIRC ACCESSION NO--AP0106215

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

2/2 024 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0106215

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STUDY OF A JET NOISE MUFFLER CONSTURCTED IN THE FORM OF A SET OF ADAPTERS LOCATED AT THE OUTLET SECTION OF A JET NOZZLE. IN THIS CASE AIR OR SOME OTHER GAS IS BLOWN THROUGH THE ADAPTERS PERPENDICULAR TO THE ENGINE EXHAUST JET. THE EXPERIMENTALLY OBTAINED REDUCTION IN THE MAXIMUM INTENSITY OF THE NOISE LEVEL AMOUNTS TO 4 TO 5DB. IN STUDIES ON MODELS SIGNIFICANT CHANGES IN THE STURCTURE OF THE EXHAUST JET, UNDER THE ACTION OF THE INJECTED GAS ARE NOTED NAMELY, A REDUCTION IN THE LENGTH OF THE INITIAL SECTION OF THE JET, AN INCREASE IN THE TRANSVERSE DIMENSIONS OF THE JET, AND OTHER CHANGES.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

USSR UDC: 519.2

KRASHENINNIKOV, V. R.

"Nearly Uncorrelated Analogs of Correlated Random Walks"

Kazan', Veroyatnostn. metody i kibernet.--sbornik (Probability Methods and Cybernetics--collection of works), vyp. 9, Kazan' University, 1971, pp 57-65 (from RZh-Kibernetika, No 10, Oct 72, abstract No 10V81 by D. Gusak)

Translation: The author considers a correlated random walk with respect to whole-number points of the segment [0,n], and introduces the concept of a nearly correlated random walk for which the condition of correlatedness is satisfied only at whole-number points close to the ends of segment [0,n]. A criterion is found for the existence of a nearly correlated random walk having averaged characteristics in common with the initial correlated random walk.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

USSR

UDC 519.217

KRASHENINNIKOV, V. R.

"Correlated One-dimensional Random Walks"

Uch. Zap. Kazan. Un-t. [Scientific Writings of Kazan' University], Vol. 130, No. 3, 1970, pp 60-68 (Translated from Referativnyy Zhurnal Kibernetika, No 4, April, 1971, Abstract No. 4 V41 by Ya. Nikitin).

Translation: A random walk of a particle over integer points of a certain sector with absorbing screens is studied, such that the transient probabilities depend on one and two preceding steps. Each movement of the particle is assigned a definite penalty. The mean penalty of a particle to absorption is found, and used to determine the probability of an exit, the mean time of a walk, the mean number of steps of various types and the mean number of stops of a particle.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

USSR UDC 519.2

KRASHENINNIKOV, V. R.

"Times of Axisymmetric Random Walking"

V sb. Veroyatnostn. metody i kibernet. (Probability Methods and Cybernetics — collection of works), vyp. 9, Kazan', Kazan' University, 1971, pp 66-72 (from RZh-Kibernetika, No 9, Sep 72, Abstract No 9V53)

Translation: A study was made of the walking of a particle with respect to a k-dimensional integral network domain G with the absorbing boundary Γ and the internal nodes $G' = G \setminus \Gamma$. The walking is called axisymmetric if the particle moves with a probability a_i from the node $x = (x_1, x_2, \ldots, x_k) \in G'$ to the node $x^{\pm i} = (x_1, \ldots, x_{i-1}, x_i \pm 1, x_{i+1}, \ldots, x_k)$ in the unit time, and it remains at x with a probability $2a_0$; $2 \sum_{i=0}^{k} a_i = 1$. Symmetric walking is obtained when $a_0 = 0$ and $a_i = 1/2\,k$, $i = 1, \ldots, k$.

The time of walking from $x \in G$ to absorption at Γ is denoted by $M^n(x)$, and the arithmetic mean of the function $M^n(x)$ with respect to G' is denoted by $M^n(G)$.

In the paper described earlier (RZh-Matematika, 1969, 5V64), exact expressions were found for $M^1(x)$ and $M^1(G)$ for parallelepipeds, and the estimates of these variables were obtained for arbitrary domains. In the present article, a generalization was made to the case of arbitrary n.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

USSR

UDC: 532.525.3:532.529.4

BUKHAROV, B. L., KRASHENINNIKOV, S. Yu., ORZHEKHOVSKIY, G. Yu., YAKOVLEVSKIY, O. V., Moscow

"Pecularities of Propagation of Twisted Jets of Variable Density"

Moscow, Izv. AN SSSR: Mekhanika Zhidkosti i Gaza, No 4, Jul/Aug 72, pp 33-37

Abstract: The paper presents the results of an experimental study of a twisted jet flow which develops behind centrifugal gas nozzles. The principal flow parameters -- characteristic width of the jet, the length of the back-flow, lengthwise fall-off of concentration along the jet -- were determined from data of experiments with two-component nozzles. The characteristic frequencies of pulsations of gasdynamic parameters are determined from experiments with a single-component nozzle. The resultant empirical relations are generalized. The authors thank V. I. Furletov for constructive criticism.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

USSR

UDC: 632.95

SIMONOV, V. D., IVANOV, A. V., ZAYNAGABUTDINOV, S. A., KRASHENINNOKOVA, O. S., Ufa Affiliate of the All-Union Scientific Research Institute of Chemical Agents for Plant Protection

"A Method of Making Tetrachloroglutaconic Acid and Tetrachloro-4-Cyclopentene-1,3-Dione"

USSR Author's Certificate No 345125, filed 14 Sep 70, published 9 Aug 72 (from RZh-Khimiya, No 10, May 73, abstract No 10N585P by N. V. Lebedeva)

Translation: Tetrachloroglutaconic acid (I) and tetrachloro-4-cyclopentadione-1,3 (II) are synthesized by reacting octachlorocyclopentene (III) or hexachlorocyclopentene with Cl_2 in HSO_3Cl at 100-150°C. Example: Cl_2 is bubbled through a mixture of 1 mole of III and 4 moles of HSO_3Cl at a rate of 30 1/hr with the application 1 of heat at 145°C for 10 hours; after cooling the reaction mass is poured over ice and filtered, giving 0.455 mole of I, melting point 107-8°C(chloroform). An organic layer (127 g) is treated with 200 g or 100% H_2SO_4, the mixture is held for 7 hours at 105°C, poured over

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

USSR

SIMONOV, V. D., et al., USSR Author's Certificate No 345125, filed 14 Sep 70, published 9 Aug 72

ice and filtered, yielding 0.4 mole of II, melting point 64-5°C (heptane). Compounds I and II can be used as fungicides, herbicides, and also in the synthesis of unsaturated self-quenching polyester resins.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

USSR UDC 531.768.089.62

KRASHENINNIKOVA, T. P., SHKALIKOV, V. S., and SHUR, V. L.

"Subsonic Vibration Installation With Magnetic Suspension of the Movable System"

Tr. Metrol. In-tov SSSR [Works of Metrological Institutes USSR], 1972, No 139 (199), pp 77-80 (from Referativnyy Zhurnal, No 10, Oct 72. 32. Metrologiya i Izmeritel'naya Tekhnika. Single Issue. Abstract No 10.32.524)

Translation: A brief description is given of the type OIVU-2 vibration installation which makes it possible to decrease the lower limit of the frequency range to 0.01 Hz, to broaden the range of reproducible acceleration from 10^{-7} to 200 ms^{-2}, and to increase by one order of magnitude the amplitude of dislocation. Two illustr., two biblio. refs.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

USSR

UDC 577.3+581.13

TOLIBEKOV, D., and KRASICHKOVA, G. G., Institute of Physiology and Biophysics of the Plants, Academy of Sciences Tadzhik SSR

"Utilization of Synthetic Pigment-Protein-Lipid Complexes in Modeling Some Properties of the Photosynthetic Apparatus"

Dushanbe, Izvestiya Akademii Nauk Tadzhikskoy SSR, No 2, 1970, pp 3-11

Abstract: A system was developed for modeling certain physicochemical, optical, and photochemical properties of the photosynthetic apparatus of green leaves. One of the most important tasks was selection of the carrier; the use of various protein and protein-lipid compounds provides a system capable of modeling quite complex properties such as pigment-carrier bond strength and resistance to such factors as visible light and pH, as well as achievement of some partial photosynthetic reactions which could not be carried out with inorganic and simple polymer compounds. Studies of pigment bond strength showed that the bonds resembled to some extent those found by Chernosorskiy in the leaves of various plants. All of the partially reconstructed systems exhibited photochemical activity, i.e., they brought about the diepoxidation reaction of violaxanthin, but the light effect of the conversions of xanthophyls was found to be

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

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TOLIBEKOV, D., et al. Izvestiya Akademii Nauk Tadzhikskoy SSR, No 2, 1970, pp 3-11

considerably lower in the reconstructed systems than in the leaves: evidently some factors are still missing in these systems. The levels of the photoreaction in systems synthesized on the basis of different proteins varied. The most active was a water soluble system in which yeast proteins served as the carrier.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

1/2 017 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--SPECTRAL PROPERTIES AND THE STATE OF PHOTOSYNTHETIC PIGMENTS IN A SYNTHETIC WATER SOLUBLE PIGMENT PROTEIN LIPID COMPLEX -U-

AUTHOR-(03)-GILLER, YU.YE., KRASICHKOVA, G.V., SAPOZHNIKOV, D.I.

COUNTRY OF INFO--USSR

SOURCE--BIOFIZIKA 1970, 15(1), 38-46

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PROTEIN, LIPID, AQUEOUS SOLUTION, SPECTRAL DISTRIBUTION, FLUORESCENCE, BIOLOGIC PIGMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/0630 STEP NO--UR/0217/70/015/001/0038/0046

CIRC ACCESSION NO--AP0117856

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

2/2 017 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0117856

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. WATER SOL. PIGMENT PROTEIN LIPID COMPLEXES (I) WERE PREPD. BY MIXING AT 2DEGREES 5 ML OF CENTRIFUGED (5 MIN AT 5000 RPM) MILK WITH 5 ML OF 0.009-1.1PERCENT CHLOROPHYLL A (II), CHLOROPHYLL B, OR CAROTENE SOLN. IN ACETONE, AND DILG. THE MIXT. WITH 10 ML OF PHOSPHATE BUFFER AT PH 8.04. I WERE PPTD. WITH SATD. (NH SUB4) SUB2 SO SUB4 SOLN., AND WERE ISOLATED BY CENTRIFUGING. THE PPTS. WERE WASHED WITH PETROLEUM ETHER AND WERE DISSOLVED IN 10 ML OF A MIXT. OF GLYCEROL AND BUFFER (1:1). THE MOLAR EXTINCTION COEFFS. OF THE PIGMENTS DECREASED WITH INCREASING CONTENTS OF THE PIGMENTS IN I AND WITH INCREASING STABILITY OF I. THE RELATIVE FLUORESCENCE YIELD OF II DECREASED WITH INCREASING CONTENT OF II IN I AT ROOM TEMP., AND RAPIDLY INCREASED (IN THE 725-735 MMU REGION) WITH DECREASING TEMP. THIS SHOWS THAT II IS PRESENT IN I IN THE FORM OF AGGREGATES. FACILITY: INST. PLANT PHYSIOL. BIOPHYS., DUSHANBE, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

USSR UDC 577.391:547.963.3

STRAZHEVSKAYA, V. B., KRIVTSOV, G. G., KRASICHKOVA, Z. I., and STRUCHKOV, V. A., Institute of Biological Physics, Pushchino

"Changes in the Supramolecular DNA and Residual Protein Complex in the Thymus and Liver of Gamma-Irradiated Rats"

Moscow, Radiobiologiya, Vol 12, No 1, Jan/Feb 72, pp 19-25

Abstract: The thymus (radiosensitive) and liver (radioresistant) of male white rats were studied following 1 kr gamma-irradiation to determine the amino acid composition of residual protein (RP) in supramolecular DNA (SMDNA). An analysis showed that RP in SMDNA in the thymus and liver is a nonhiston acid protein. Following irradiation, there is a 2-fold increase of RP in the thymus which returns to normal after 6 hours. Basic amino acids increase simultaneously. In the liver, RP increases by 42% after irradiation; this effect continues and reaches 180% in 6 hours. There is an increase in acidic amino acids. The elastoviscosity of RP in both organs changes. The RP-SMDNA bond is strengthened but "breaks up" when treated with 0.5% dodecyl sodium sulfate. The interaction of RP with damaged DNA is nonspecific and particular to a metabolizing cell, as irradiation of T_2 phage did not produce an increase in 1/2

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

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STRAZHEVSKAYA, N. B., et al., Radiobiologiya, Vol 12, No 1, Jan/ Feb 72, pp 19-25

RP. No clear correlation was established between RP content in DNA preparations and degree of elastoviscosity. RP might be a functional protein, since it correlates to the metabolic level in the cell. The authors conclude that the effect of irradiation on nuclear structures increases with the complexity of the biological system.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

USSR UDC: 621.315.3

FARMAKOVSKIY, B. V., APONINA, L. G., VAKHRAMEYEV, V. I., LEYANOVA, S. V., KRASIK, N. Ya., FIRSOV, A. M.

"Thermoresistive Cast Microwires in Glass Insulation"

Elektron. tekhnika. Nauchno-tekhn. sb. Radiokomponenty (Electronic Technology. Scientific and Technical Collection. Radio Components), 1970, vyp. 1, pp 77-82 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5V416)

Translation: The authors present the technological properties of thermoresistive alloys and the results of an investigation of the properties of microwires made from resistive alloy based on nickel with a temperature coefficient of resistance of $(5\text{-}6)\cdot 10^{-3}$%/deg. Resumé.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

USSR UDC 539.374

VERETENNIKOV, S. V., KRASIKOV, K. I., NOVOBRATSKIY, R. Z., PERIER, F. A., POLYAK, S. M., UMANSKIY, YA. S., USIKOV, M. P., EPSHTEYN, G. N.

"Effect of an Impact of a Part of a Matrix Under Impulse Distortion"

V sb. Vysokoskorostn. deformatsiya (High-Speed Deformation -- Collection of Works), Moscow, "Nauka", 1971, pp 108-109 (from RZh-Mekhanika, No 3, Mar 72, Abstract No 3V653)

Translation: The structure and mechanical properties of nickel, nichrome (NKh7) and Kh18N10T steel after hydraulic impulse stamping with impact and without impact of the parts of the matrix were investigated. It was established that collision occurs in a closed matrix and the central zone of the part undergoes the strongest impact. The impact of a part of thickness 2 mm causes strengthening of the material in the middle of the thickness of the part and weakening in the zone of a depth up to 0.3 mm from the side of the surface of the part contacting the matrix which is connected with nonuniform plastic deformation in the impact process. The weakening effect is supported by results of studying parts of thickness 0.3 mm that have first undergone collision with the matrix. Authors abstract.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

Transformation and Structure

USSR UDC: 537.29:669.15

VEDENEYEVA, M. A., ZHUK, N. P., KRASIKOV, K. I., and MIGAY, L. L.

"Effect of the Structure of Kh18N10T Steel on Its Anodic Behavior"

Moscow, Fizika i Khimiya Obrabotki Materialov, no 6, Nov-Dec 70, pp 128-131

Abstract: This paper deals with the effect of the structure of Kh18N10T steel subjected to electromagnetic (maximum strain rate) and explosive forming on its anodic behavior. Hydrostatic forming (a low-rate strain) was selected for correlation with the high-rate strain types. A metallographic examination of the structure of steel deformed by various methods indicates no size reduction of the grain. Therewerd a great number of twins in the steel following explosive and electromagnetic forming than after hydrostatic forming, which points to the contribution of twinning to the plastic flow of the material under these methods of strain. X-ray diffraction examination has shown that following either electromagnetic or explosive forming, there is a greater widening of interference lines, with an increase in deformation rate, than after hydrostatic forming.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

USSR

VEDENEYEVA, M. A., et al, Fizika i Khimiya Obrabotki Materialov, no 6, Nov-Dec 70, pp 128-131

The analysis of the anodic polarization curves for Kh18N10T steel indicates that both the type of forming and the rate of deformation have an insignificant effect on the curve shape in both the transition and repassivation regions and have hardly any effect on the total passivity potential; however, they significantly affect the current density with the total passivity region. With an increase in deformation rate, the current density in the total passivity region in the specimens after explosive and hydrostatic forming increases; in specimens with an equal extent of deformation after hydrostatic forming, the current density in the total passivity region is much greater than that in specimens after explosive forming. It is also shown that the capacity of Kh18N10T steel to change to a passive state in H_2SO_4 solutions is independent of the number of defects and the type of their distribution in the structure of the metal but does depend on the amount of the α-phase, which increases the heterogeneity of the structure and impairs the protective properties of the film on steel in the passive state.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

USSR UDC 528.711.11.089.6

ZIMAN, YA. L., KRASIKOV, V. A., DUNAYEV, B. S., and SIL'VA-EGA, A. A.

"Photogrammetric Calibration of Photographic Systems by Means of a Progressively Movable Theodolite"

Moscow, Geodeziya i Kartografiya, No 5, May 1973, pp 54-60

Abstract: A procedure is described, by means of which compensation is provided for distortion introduced into the photographic image by the passage of rays through the porthole in the sealed bays of camera carriers conducting aerial and space photography. In this procedure, conducted when the cameras are being mounted in the carriers, the photographic system is calibrated with respect to the corresponding porthole by measuring, with a progressively movable theodolite, the directions to the points of a standardized grid situated in the focal plane of the calibrated camera. Measurements are conducted through the porthole of the carrier and the camera lens. The theodolite is placed in front of the lens of the calibrated camera, and by means of a special support is moved progressively from station to station, in parallel to the focal plane of the camera. A geometric diagram of the solution of the problem is presented, as well as practical data of calibration of the stellar camera of the "Salyut" orbital station. 2 tables. 4 figures. 5 references.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

USSR

UDC 528.11:519.281.2-681.14.142

KRASIKOVA, M. V., Graduate Student, KRASIKOV, V. A., Engineer (Moscow Institute of Engineers of Geodesy, Aerial Surveying and Cartography)

"Problems for Solving Systems of Linear Equations With Right-Angled Matrices Using the Method of Least Squares for Electronic Computers With a Limited Operational Storage"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy, Geodeziya i Aerofotos'yemka, No 4, 1970, pp 23-30

Abstract: Programs intended for the solution of systems of lin. equations with right-angled matrices using the method of least squares are described. With the aid of these programs it is possible to determine the unknown parameters directly from error or conditional equations, without calculating the matrix of "normal equations" coefficients. Basic operations of all programs are a multiplication of the matrix by a vector, and the obtaining a scalar product of two vectors. This makes it possible the recording of initial data in a "packaged form" (the matrix zero elements are not recorded). Block diagrams of subprogram and program are presented.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

USSR UDC [621.37/38+771+552.617]:[523.1/8+629.78]

KRASIKOV, V. A., and TISHCHENKO, A. P.

"Gradient Methods of Parameter Evaluation During the Mathematical Processing of Measurements"

Moscow, Mat. Metody Modelir. v Kosmich. Issled. -- Sbornik (Mathematical Methods of Simulation in Cosmic Research -- Collection of Works), Nauka, 1971, pp 189-193 (from Referativnyy Zhurnal, Izzledovaniye Kosmicheskogo Prostranstva, No 5, May 72, Abstract No 5.62.168, Resume)

Translation: The basic computational difficulty in the photogrammetric processing of planet photographs obtained from a space vehicle, namely the construction of systems of cosmic triangulation and other similar problems, consists in the necessity of compiling and solving incompatible systems of high-order linear equations with a given condition. For solving such systems, it is proposed to use gradient methods. Such an approach permits efficient utilization of the high-speed storage of an electronic computer. 10 references.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

1/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--NEUTRON ACTIVATION DETERMINATION OF MACRO AMOUNTS OF TUNGSTEN BY MEANS OF AMPULE SOURCES -U-

AUTHOR-(02)-MEZHIBORSKAYA, KH.D., KRASIKOVA, M.I.

COUNTRY OF INFO--USSR

SOURCE--ZH. ANAL. KHIM.; 25: 581-3 (MAR 1970)

DATE PUBLISHED----MAR70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--TUNGSTEN, TRACE ANALYSIS, NEUTRON ACTIVATION ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1048 STEP NO--UR/0075/70/025/000/0581/0583

CIRC ACCESSION NO--AP0123041

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

2/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0123041

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A NEUTRON ACTIVATION METHOD IS SUGGESTED FOR DETERMINING TUNGSTEN IN MACROCONCENTRATIONS BY MEANS OF AN AMPULE SOURCE. AT THE INTENSITY OF THE SOURCE OF ABOUT N TIMES 10 PRIME7 NEUTRON-SEC THE DETERMINABLE CONCENTRATIONS ARE WITHIN THE RANGE OF 0.5 TO 100PERCENT ABSOLUTE, THE ACCURACY IS 10 TO 30PERCENT. THE IRRADIATION OF THE SAMPLE PROCEEDS OVER 1 TO 2 DAYS, THE MEASUREMENTS TAKE 10 TO 30 MIN.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

USSR UDC 528.11:519.281.2-681.14.142

KRASIKOVA, M. V., Graduate Student, KRASIKOV, V. A., Engineer (Moscow Institute of Engineers of Geodesy, Aerial Surveying and Cartography)

"Problems for Solving Systems of Linear Equations With Right-Angled Matrices Using the Method of Least Squares for Electronic Computers With a Limited Operational Storage"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy, Geodeoiya i Aerofotos'yemka, No 4, 1970, pp 23-30

Abstract: Programs intended for the solution of systems of linear equations with right-angled matrices using the method of least squares are described. With the aid of these programs it is possible to determine the unknown parameters directly from error or conditional equations, without calculating the matrix of "normal equations" coefficients. Basic operations of all programs are a multiplication of the matrix by a vector, and the obtaining a scalar product of two vectors. This makes it possible the recording of initial data in a "packaged form" (the matrix zero elements are not recorded). Block diagrams of subprogram and program are presented.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

USSR

UDC 621.372.8.092.22

IL'CHENKO, M.YE., KRASILIN, G.P.

"Study Of Resonances Of Helicon Waves in n-InSb"

Vestn. Kiyev. politekhn. in-ta. Ser. radiotekhn. i elektroakust. (Bulletin Of The Kiev Polytechnical Institute. Radio Engineering and Electroacoustics Series), 1971, No 8, pp 41-44 (from RZh--Radiotekhnika, No 9, 1971, Abstract No 9B96)

Translation: The results are presented of an experimental study of the resonances of helicon waves during turn-on of an induction coil with a magnetized specimen of n-InSb as an inhomogeneity in a matched transmission line. The dependences are given of the resonance frequency and the transmission factor on the intensity of the magnetization field. It is noted that a specimen of n-InSb in which resonance of helicon waves is accomplished behaves similarly to a cavity resonator. The degree of interaction of such a resonator with an electromagnetic field evaluates the coupling factor of the resonator with a high-frequency circuit. 4 ill. 2 ref. Summary.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

1/2 007 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--USE OF DETERGENTS IN COPLOGOGIC INVESTIGATIONS. COMMUNICATION I: DETERGENTS AS CONSERVANTS OF EGGS OF HELMINTHS -U-

AUTHOR--KRASILNIKOV, A.A.

COUNTRY OF INFO--USSR

SOURCE--MEDITSINSKAYA PARAZITOLOGIYA I PARAZITARNYYE BOLEZNI, 1970, VOL 39, NR 3, PP 318-324

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PARASITE, DETERGENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0227 STEP NO--UR/0358/70/039/003/0318/0324

CIRC ACCESSION NO--AP0123989

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

2/2 007 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0123989

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE POSSIBILITY OF USING SOLUTIONS OF 2 TYPES OF DETERGENTS OF NATIONAL MARK FOR CONSERVATION OF HELMINTH EGGS WAS STUDIED. SOLUTIONS OF DETERGENTS WERE FOUND SUITABLE FOR CONSERVATION OF EGGS OF ASCARIS LUMBRICOIDES, TRICHOCEPHALUS TRICHIURIS, ANCYLOSTOMATIDAE SP., TRICHOSTRONGYLIDAE SP., TAENIIDAE SP., HYMENOLEPIS NANA, OPISTHORCHIS FELINEUS, DICROCOELIUM LANCEATUM AND SCHISTOSOMA MANSONI AND LARVAE OF TRICHOSTRONGYLIDAE SP. OPTIMAL CONSERVANTS ARE 1PERCENT SOLUTION OF "LOTOS" DETERGENT AND 1.5PERCENT SOLUTION OF "EXTRA". THE RATIO BY WEIGHT OF FECES AND DETERGENT SOLUTION MUST BE AT LEAST 1:5 DETERGENTS AS CONSERVANTS OF EGGS AND LARVAE OF HELMINTHS HAVE SOME ADVANTAGES OVER OTHER CONSERVANTS RECOMMENDED IN THE USSR AND ABROAD. THEY ARE CHEAP, READILY AVAILABLE, EASY TO PREPARE AND HAVE BETTER CONSERVING PROPERTIES. FACILITY: KAFEDRA MEDITSINSKOY PARAZITOLOGII TSENTRAL'NOGO INSTITUTA USOVERSHENSTVOVANIYA VRACHEY, MOSKVA.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

1/2 033 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--NATURE OF THE BARRIER LAYER DURING THE INHIBITION OF ELECTRODE REACTIONS -U-

AUTHOR--KRASILSHCHIKOV, A.I.

COUNTRY OF INFO--USSR

SOURCE--ELEKTROKHIMIYA 1970, 6(3), 341-4

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, PHYSICS, MATERIALS

TOPIC TAGS--ELECTRODE REACTION, STAINLESS STEEL, NITRIC ACID, OXIDE FILM, SEMICONDUCTOR PROPERTY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0652 STEP NO--UR/0364/70/006/003/0341/0344

CIRC ACCESSION NO--AP0124324

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

2/2 033 UNCLASSIFIED PROCESSING DATE--30OCT7

CIRC ACCESSION NO--AP0124324

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. WHEN THE ANODE PROCESS OCCURS IN THE RANGE OF STABLE PASSIVITY AT A VERY LOW RATE, THE ACTIVATION ENERGY HAS A VERY LOW VALUE, 1.0-2.0 KCAL, AS ILLUSTRATED ON THE EXAMPLE OF TH CURRENT OF DISSOLN. OF PASSIVE STAINLESS STEEL IN NITRIC ACID AT RANGE 6-80DEGREES. IN SOME CASES THE BARRIER POTENTIAL JUMP OCCURS WITH THE PRESENCE OF AN OXIDE FILM ON THE METAL SURFACE. IF THE FILM IS PERVIOU TO ANIONS, THEN, ON ACCOUNT OF ABSORPTION AT THE SURFACE OF THE FILM, THE OXYGEN IONS, O PRIME NEGATIVE, CAN ALSO PENETRATE THE SEMICONDUCTIN OXIDE FILM, REDUCING THE NO. OF ELECTRONIC CURRENT CARRIERE IN IT, AND SETTING UP A POTENTIAL JUMP INSIDE THE FILM ITSELF. SIMILAR REACTIONS CAN ALTER THE SEMICONDUCTING PROPERTIES OF THE OXIDE FILM, ITS ELEC. COND., THICKNESS, PERMEABILITY, ETC., WHICH IN TURN CAN AFFECT THE RATE OF ELECTROCHEM. REACTIONS AT THE ELECTRODE.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

UDC: 621.375.82

USSR

IVANOV, N. P., KRASIL'NIKOV, A. I., LITVINOV, V. F., MOLOCHEV, V. I., NGO-VAN BI, NIKITIN, V. V., SEMENOV, A. S.

"Investigation of the Radiative Characteristics of GaAs Single-Channel Injection Lasers"

Moscow, Issledovaniye izluchatel'nykh kharakteristik odnokanal'nykh inzhektsionnykh lazerov na GaAs. Fiz. in-t AN SSSR (cf. English above. Physics Institute of the Soviet Academy of Sciences), Preprint No 31, 1973, 11 pp, ill., mimeo. (from RZh-Fizika, No 8, Aug 73, abstract No 8D1101)

Translation: A technique for making single-channel semiconductor lasers is proposed and elaborated. High-resistance gallium arsenide doped with iron or chromium was used as the substrate. A layer of tellurium-doped gallium arsenide with dopant concentration of about 10^{18}/cc is grown by the epitaxial fluid method on the substrate oriented along axis |100|. A semi-insulating,high-resistance film 100 μm thick is then grown on the doped layer. The resultant multilayer plate is then split into "needles" a millimeter in width into which zinc is diffused. Laser diodes are made from the needles by the cleavage method. The characteristics of the finished

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

USSR

IVANOV, N. P. et al., Issledovaniye izluchatel'nykh khmrakterfistik odnokanal'nykh inzhektsionnykh lazerov na GaAs, Fiz. in-t AN SSSR, Preprint No 31, 1973

diodes are studied, and their considerable advantages over conventional diffusion and epitaxial lasers are noted.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

ENGINEERING
Aeronautical and Space

USSR

UDC 533.6.011.55:533.693.3

IVANOV, V. V., KRASIL'NIKOV, A. V., Moscow

"Experimental Study of Pressure Distribution on a Triangular Wing With Blunted Edges at Small Angles of Attack"

Moscow, Mekhanika zhidkosti i gaza, No. 2, Mar/Apr 72, pp 166-169

Abstract: The pressure distribution on a triangular wing with blunted edges with a semispan angle $\theta = 45°$ was studied experimentally at angles of attack $\alpha = 0$, 5 and 10° for $M_\infty = 11.6$ and $Re = 1.5 \cdot 10^6$. A considerable pressure drop was observed in the region adjacent to the axis of symmetry at a certain distance from the vertex. It is noted that a theoretical study of the flow over a triangular wing at hypersonic velocities becomes quite complicated in the presence of blunted edges since the flow becomes essentially three-dimensional and it is necessary to consider the characteristics of flow in the high-entropy layer in the region between the body in the shock wave. Pressure was measured on the surface of the wing using 32 miniature differential inductive transducers. Pressure measurements were made on a wing of the same model with sharp edges at $\alpha = 0$ and for the same Mach and Reynolds numbers as in the basic

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

USSR

IVANOV, V. V., KRASIL'NIKOV, A. V., Mekhanika zhidkosti i gaza, No. 2, Mar/Apr 72, pp 166-169

experiments to show the effect of viscosity and nonuniformity of the flow field. Experiments showed that the effect of viscosity under the experimental conditions was slight and that the incident flow was fairly uniform. It was observed that close to the vertex of the wing the shock wave is curved and as distance from the vertex increases, it is practically straight so that the angle of inclination of the shock wave to the surface of the wing decreases almost linearly with the rise in angle of attack. The pressure distribution on the wing and along the axis of symmetry is graphed. A discussion of the results shows qualitative agreement with the theory.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

1/2 025 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--THE METHODS OF ELONGATION OF TRANSPLANTS IN CONSTRUCTION OF AN ARTIFICIAL ESOPHAGUS -U-

AUTHOR-(02)-FILIN, V.I., KRASILNIKOV, A.V.

K

COUNTRY OF INFO--USSR

SOURCE--VESTNIK KHIRURGII IMENI I. I. GREKOVA, 1970, VOL 104, NR 5, PP 24-29

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--TISSUE TRANSPLANT, GASTROINTESTINAL SYSTEM, SMALL INTESTINE, COLON, VEIN, THROMBOSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/1014 STEP NO--UR/0589/70/104/005/0024/0029

CIRC ACCESSION NO--AP0109166

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

2/2 025 UNCLASSIFIED PROCESSING DATE--04OCT70

CIRC ACCESSION NO--AP0109166

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. VARIOUS PORTIONS OF THE GASTROINTESTINAL TRACT WITH RESPECT TO ELONGATION OF TRANSPLANTS PROCURED FROM THEM HAVE SPECIAL RESERVES STIPULATED BY PECULIARITIES OF THE FORM, WALL STRUCTURE AND VASCULAR SYSTEM OF THE ORGAN. A GASTRIC GRAFT COULD BE ELONGATED BY MEANS OF: A) INCISION OR DISSECTION OF THE WALL ALONG THE LESSES CURVATURE ASPECTS; B) FORMATION OF A GRAFT ALONG THE GREATER CURVATURE ASPECT; C) REMOVAL OF THE SEROMUSCULAR LAYER IN THE DISTAL PORTION. THE GRAFT FROM THE SMALL INTESTINE IS ELONGATED BY A) TRANSVERSE OR LONGITUDINAL INCISION OF THE MESENTERY, AND B) REMOVAL OF THE SEROMUSCULAR LAYER. THE COLON COULD BE MADE LONGER BY A) INCISION OR TOTAL DISSECTION OF FREE BANDS, AND B) REMOVAL OF THE SEROMUSCULAR LAYER. ELONGATION IS ACCOMPLISHED TWO WEEKS OR LONGER FOLLOWING THE FORMATION OF A GRAFT WHEN ITS VASCULAR SYSTEM WILL BE CONSIDERABLY DEVELOPED. MEASURES OF COMBATING AGAINST THROMBOSIS AND IMPROVEMENT OF MICROCIRCULATION CONTRIBUTE TO GREATER EXTENT OF ELONGATION. FACILITY: LININGRAD. N-I INSTITUTA SKOROY POMOSHCHI IM. I. I. DZHANELIDZE AND KAFEDRY NORMAL'NOR ANATOMII VOYENNO-MEDITSINSKOY ORDENA LENINA KRASONOZNAMENNOY AKADEMII IM. S. M. KIROVA.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

Materials

USSR UDC: 621.396.69:621.316.8

VLASOV, L. G., KRASIL'NIKOV, B. G., LUK'YANOV, V. B., MOLOTOVA, A. Yu.

"An Investigation of Stability in Production of Ceramic Bases for Type SPO Resistors by the Method of Mathematical Statistics"

Elektron. tekhnika. Nauchno-tekhn. sb. Radiodetali (Electronic Technology. Scientific and Technical Collection. Radio Components), 1970, vyp. 1 (18), pp 57-65 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12V336)

Translation: Information is given on the use of mathematical statistics for studying conditions of making ceramic bases for SPO resistors. A description is given of the scheme for planning the experiment in the initial stages of the investigation using the methods of a priori ranging of factors and random balance. Bibliography of nine titles. Ye. M.

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USSR UDC 537.591.15

VERNOV, S. N., Y'EGOROV, T. A., Y'EFIMOV, N. N., KOLOSOV, V. A., KORYAKIN, V. D., KRASIL'NIKOV, D. D., KUZ'MIN, A. I., KULAKOVSKAYA, V. P., MAKSIMOV, S. V., MESTEROVA, N. M., NIKOL'SKIY, S. I., ORLOV, V. A., SLEPTSOV, I.YE., SIZOV, V. V., KHRISTIANSEN, G. B., and SHAMSUTDINOVA, F. K.

"Preliminary Results of Recording Extensive Showers on a Recording Array in Yakutsk"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, Vol 35, No 10, Oct 71, pp 2098-2101

Abstract: Experiments are described in which attempts were made at determining the energy spectrum, composition, and anisotropy of cosmic rays within the range of energy 10^{17} to 10^{18} ev. It is desired to extend the range to cover 10^{19} ev and above. Of a particular interest are the following problems: do the rays originate within the Galaxy or in metagalactic regions, what is the direction from which they arrive, and how Čerenkov radiation produced by them is distributed within the atmosphere. The test equipment consists of 13 recording points distributed over an area of 3 km², with a central unit control point. The output spectrum was measured over a period of 29.5 hours. 82 showers were noted during that period, with the axes falling within the

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

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VERNOV, S. N., et al., Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, Vol 35, No 10, Oct 71, pp 2098-2101

array area. The orientation of the axis was found by the "triangulation" method, comparing the time of arrival of the showers at different recording points. An analytic expression is given in the paper for the integral output spectrum of extensive showers at sea level for the interval of N between 2×10^7 and 2×10^8. The intensity, determined with this formula, appears to be 2 to 3 times as great as recorded elsewhere. Distribution of Čerenkov light with respect to the shower axis was determined by observations conducted on clear, moonless nights. It was found to be similar to that of the primary gamma quanta, but it decayed with the distance from the axis more slowly than the amount of charged particles ($R^{-2.5}$ as against $R^{-3.3}$ for charged particles).

Examination of the energy spectrum of primary particles lead to the conclusion that the electromagnetic component is responsible for 80% of it. Dependence of primary energy on the output N was established, and on the basis of this relation the integral spectrum was computed. The coefficient connecting these two magnitudes was found to be twice as high as the one previously accepted elsewhere.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

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VERNOV, S. N., et al., Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, Vol 35, No 10, Oct 71, pp 2098-2101

In the final analysis, variation of Čerenkov light at the primary particle energy of 3.6×10^{16} ev and the output (intensity) of 1.5×10^{7} particles at sea level is given, as well as the expected distribution of the nuclear components of primary rays.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

USSR

UDC 621.646.2

MASLENNIKOV, G. P., KRASIL'NIKOV, G. V., TARAKANOV, Ye. V., and SOKOLOV, A. D., Technological and Scientific Research Institute of Planning, Ministry of the Motor Vehicle Industry of the USSR

"A Programmed Control Device"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 22, Aug 71, Author's Certificate No 309355, Division G, filed 1 Sep 69, published 9 July 71, p 186

Translation: This Author's Certificate introduces a programmed control device for test stands. The device contains a program cycle input controller, a comparison module, a parameter data unit, and a parameter regulator. As a distinguishing feature of the patent, the design is simplified by making the comparison module in the form of a disc with open slots mounted on the axle of the parameter data unit. Each pair of slots is displaced by an angle corresponding to the predetermined value of the parameter. The disc is located between supply and reception nozzles, the first being connected in pairs to the outputs of the program cycle input controller, while the second are connected to the parameter regulator.

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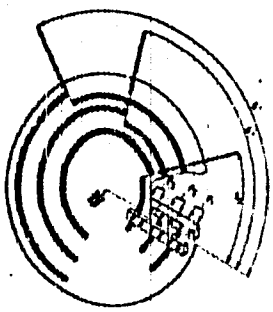
"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

USSR

MASLENNIKOV, G. P., et al., Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 22, Aug 71, Author's Certificate No 309355, Division G, filed 1 Sep 69, published 9 July 71, p 186



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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

AA0040692 KRASILNIKOV L. UR 0482

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

240728 COMPARTMENT FURNACE intensifies the heat treatment operation in that each section of its gas distributor grid has independent headers to activate part of its lids or caps. The bottom of the heating (1) and cooling (2) compartments comprise the grid sections (3) to support crushed corundum, firebrick etc, the first section grid (6) rather wider than those following so that the gas can burn well below the level of the wire passing through and provide enough heat to raise the metal to scale temperatures. The gas (short of air) burns and forms a de-oxidising medium, with additional air piped in (7) to finally burn off the gas above the wire level. When working small gauge wire, air preheated in the stove (10) is fed in through the grid caps. When working average gauge material, heat can be removed by the air cooling tube (11), whilst at heavy gauges a water-cooling tube can be inserted.

15.12.66 as 1120453/22-1.GUTOVSKII.B.P.et al(14.8.69) Bul 13/1.4.69. Class 18c, 31a[1]. Int.Cl.C21d, F27b.

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19750310

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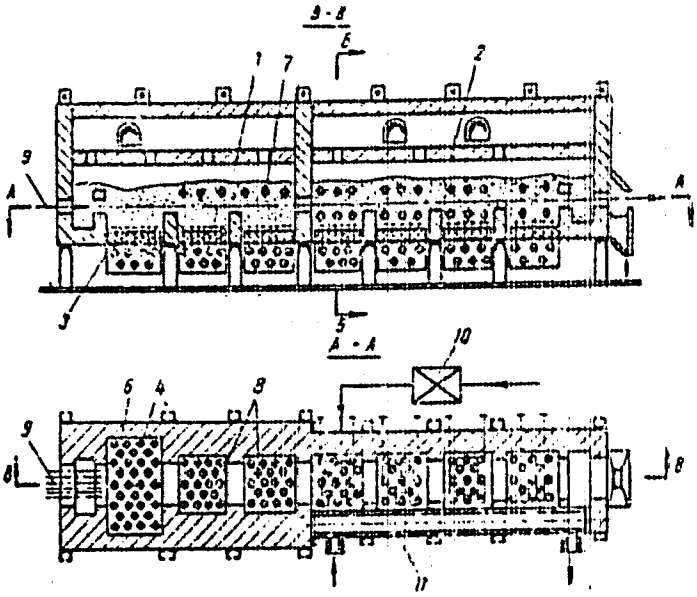
"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

AA0040692



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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

AA0040692

AUTHORS: Gutovskiy, B. P.; Orlov, N. A.; Berdichevskiy, A. M.; Baskakov, A. P.; Zubov, V. Ya.; Grachev, S. V.; Berg, B. V.; Zavarov, A. S.; Burkov, G. G.; Krasil'nikov, L. A.; and Sokolov, N. V.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

USSR UDC 621.357.13.035.4

KRASIL'NIKOV, M. T., IVANOVSKIY, L. Ye.

"Electrolysis of Niobium Dioxide Anodes in a Chloride-Fluoride Melt"

Tr. In-ta Elektrokhimii. Ural'sk. Nauch. Tsentr. AN SSSR [Works of Institute of Electrochemistry, Ural's Scientific Center, Acad. Sci. USSR], No 17, 1971, pp 98-103 (Translated from Referativnyy Zhurnal, Khimiya, No 3, 1972, Abstract No 3 L360 from the Resume).

Translation: The anodic dissolution of NbO_2 in a KCl-NaCl-10 wt.% NaF melt is studied at 700°, D_a 0.01-0.5 a/cm^2. It is demonstrated that NbO^{n+} ions go over into the melt, where n = 2-3, then discharge at a potential more electropositive than metallic Nb in these melts. Oxygen accumulates on the anode as Nb_2O_5. The anodic polarization of electrodes of NbO_2 is measured at 700° in the same melts in the D_a interval 10^{-3}-$6 \cdot 10^{-1}$ a/cm^2. The polarization of a molybdenum cathode in an electrolyte of KCl-NaCl-10 wt.% NaF containing the products of anodic dissolution of NbO_2 is measured.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

USSR

UDC 621.357.13.035.2

KRASIL'NIKOV, M. T., IVANOVSKIY, L. Ye.

"Electrode Processes During Electrolysis of Anodes of NbO in a Chloride-Fluoride Melt"

Tr. In-ta Elektrokhimii. Ural'sk. Nauch. Tsentr. AN SSSR [Works of Institute of Electrochemistry, Ural's Scientific Center, Acad. Sci. USSR], No 17, 1971, pp 94-97 (Translated from Referativnyy Zhurnal, Khimiya, No 3, 1972, Abstract No 3 L359 by K. S. Pedan).

Translation: The process of anodic dissolution of NbO_2 in a melt of KCl NaCl-10 wt.% NaF was studied at 700° with D_a = 0.01-0.5 a/cm^2. It was established that NbO^{n+} is transferred to the electrolyte, where n = 2-3, which then discharges on the cathode at a potential more positive than metallic Nb in chloride-fluoride baths. The anodic polarization of NbO at 700° in the D_a interval 10^{-3}-4 a/cm^2 was measured in a chloride-fluoride melt at the moment of deflection of the polarizing current. The cathodic polarization of the Mo electrode was determined in an electrolyte of KCl-NaCl-10 wt.% Naf, containing the products of anodic dissolution of NbO.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

UDC 632.4.42/49A/8

USSR

KRASIL'NIKOV, N. A., KHODZHIBAYEVA, S. H., MIRCHINK, T. G., and ASKAROVA, S. A., Moscow State University

"Toxin Formation in Verticillium dahliae Strains Differing in Virulence"

Moscow, Sel'skokhozyaystvennaya Biologiya, No 2, 1971, pp 260-264

Abstract: Toxin was isolated from four groups of V. dahliae strains differing not only in morphological and biochemical properties, but also in virulence. The most virulent was group II, followed by groups III, IV, and I. The toxicity of the concentrates was tested by immersing cut cotton shoots in solutions of various dilutions. Toxin from group II wilted the plants in a 1:10,000 dilution, whereas the inhibiting effect of the other toxins was not manifested until 1:1000 and 1:100 dilutions were used. Thus, there is a relationship between the activity and virulence of the various groups of the agent of cotton wilt. V. dahliae toxin consists of several fractions, the most toxic being a cinnamon-brown pigment, which is produced by all four fungus groups.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

1/2 008 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--A STUDY ON MORPHOLOGY OF TWO CULTURES BELONGING TO THE GENUS MICROPOLYSPORA -U-

AUTHOR--DOROKHOVA, L.A., AGRE, N.S., KALAKUTSKIY, L.V., KRASIL'NIKOV, N.A.

K

COUNTRY OF INFO--USSR

SOURCE--MIKROBIOLOGIYA, 1970, VOL 39, NR 1, PP 95-100

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--MORPHOLOGY, SPOR, FUNGUS, ACTINOMYCETES

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/1731 STEP NO--UR/0220/70/039/001/0095/0100

CIRC ACCESSION NO--AP0109692

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

UNCLASSIFIED PROCESSING DATE--11SEP70

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CIRC ACCESSION NO--AP0109692

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MORPHOLOGY OF TWO THERMOPHILIC STRAINS BELONGING TO THE GENUS MICROPOLYSPORA WAS STUDIED, I. E. MICROPOLYSPORA RECTIVIRGULA 1325 AND THERMOPOLYSPORA POLYSPORA A-94. BOTH ORGANISMS HAVE SIMILAR MYCELIUM STRUCTURE AND SPORE FORMATION. ELECTRON MICROSCOPY REVEALED THAT M. RECTIVIRGULA HAD THE STRUCTURE OF AERIAL MYCELIUM TYPICAL FOR ALL STUDIED RAY FUNGI. SPORES OF THE STUDIED CULTURE EXHIBITED PRONOUNCED POLYMORPHISM, THICK WALL (700-1000 A) CONSISTING OF TWO LAYERS AND MULTI LAYERED OUTER SHEATH. THE INNER STRUCTURE OF SPORES WAS THE SAME AS THAT OF HYPHAE AND SIMILAR TO THAT OF SPORES OF THE MAJORITY OF STUDIED ACTINOMYCETES.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

1/2 008 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--MORPHOLOGY AND GROWTH OF CAULOBACTER -U-

AUTHOR--KRASILNIKOV, N.A., BELYAYEV, S.S.

COUNTRY OF INFO--USSR

SOURCE--MIKROBIOLOGIYA, 1970, VOL 39, NR 2, PP 352-357

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--MORPHOLOGY, BACTERIA

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1935/0368 STEP NO--UR/0220/70/039/002/0352/0357

CIRC ACCESSION NO--AP0100854

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

UNCLASSIFIED PROCESSING DATE--11SEP70

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CIRC ACCESSION NO--AP0100854

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ACCORDING TO THEIR MORPHOLOGY 127 CAULOBACTER STRAINS WERE DIVIDED INTO TWO TYPES: VIBROID AND BACTERIOD. BOTH TYPES INCLUDED SEVERAL SUBGROUPS WHICH BY THEIR MAIN PROPERTIES BELONGED TO ONE MORPHOLOGICAL TYPE. THESE TWO MORPHOLOGICAL TYPES SHOULD BE REGARDED AS TWO SUBGENERA OF THE GENUS CAULOBACTER HENRICI AND JOHNSON. CAULOBACTER DIVIDED BY TRANSVERSE FISSION, THIS RESULTING IN A MOTILE UNIFLAGELLATED CELL AND IN A CELL WITH A STALK. SOMETIMES TWO CELLS WITH A STALK WERE FORMED AS A RESULT OF DIVISION IN BOTH MORPHOLOGICAL TYPES. THE STALK WAS PRODUCED ON A FLAGELLAR POLE OF THE BACTERIAL CELL AND WAS A PART OF ITS BODY, ITS APPENDAGE. THE FLAGELLUM DEGENERATED AND ONLY SOMETIMES COULD BE DISCERNIBLE AT THE DISTAL END OF THE STALKS.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

UNCLASSIFIED PROCESSING DATE--17JUL70

TITLE--NUCLEASES OF ACTINOMYCETES BELONGING TO THE BLUE GROUP -U-

AUTHOR--VERZILOV, V.V., TATARSKAYA, R.I., KRASILNIKOV, N.A.

COUNTRY OF INFO--USSR

SOURCE--IZVESTIYA AKADEMII NAUK SSSR, SERIYA BIOLOGICHESKAYA, 1970, NR 1, PP 133-136

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ACTINOMYCES, MICROBIOLOGY, ENZYME

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1979/0728 STEP NO--UR/0216/70/000/001/0133/0136

CIRC ACCESSION NO--AP0047226

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

Ref. Code: UR 0216

Acc. Nr: AP0047226

PRIMARY SOURCE: Izvestiya Akademii Nauk SSSR, Seriya Biologicheskaya, 1970, Nr 1, pp 133-136

Verzilov, V. V.; Tatarskaya, R. I.; Krasil'nikov, N. A.

NUCLEASES OF ACTINOMYCETES BELONGING TO THE BLUE GROUP

Institute Microbiology, Acalemy of Sciences USSR

Investigations of the blue group actinomycetes has shown that the cultural fluid of the strains pertaining to this group displays nuclease activity which differs in the case of different strains. Some strains produce a thermostable nuclease which retains its activity after heating in an acid medium.

The enzime produced by other strains is destroyed by heating and may be regarded as a phosphodiestherase. Many other strains displayed a partinl activity decrease following heating suggesting that these strains produce several different nucleases.

All strains chequed with respect to their DNA activity have shown their ability to split this compound.

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UNCLASSIFIED PROCESSING DATE--02OCT70

1/2 028

TITLE--ON THE ANTIPHAGE SUBSTANCE ISOLATED FROM ACTINOMYCES GLOBISPORUS -U-

AUTHOR-(04)-KURAISHI, H., KUIMOVA, T.F., SKALOZUB, N.G., KRASILNIKOV, N.A.

K

COUNTRY OF INFO--USSR

SOURCE--MIKROBIOLOGIYA, 1970, VOL 39, NR 1, PP 120-124

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PHAGE, ACTINOMYCES, ION EXCHANGE, CHROMATOGRAPHY, ANTIOXIDANT ADDITIVE, PROTEIN, DNA, RNA

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

STEP NO--UR/0220/70/039/001/0120/0124

PROXY REEL/FRAME--1990/1441

CIRC ACCESSION NO--AP0109501

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

2/2 028 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0109501

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FURTHER PURIFICATION WAS CARRIED OUT ON THE RAW PREPARATION WITH ANTIPHAGE ACTIVITY ISOLATED FROM THE CULTURAL BROTH OF ACTINOMYCES GLOBISPORUS 81 VAR. A. THE PROCEDURE CONSISTED IN A STEPWISE FRACTIONATION WITH AMMONIUM SULPHATE AND ION EXCHANGE COLUMN CHROMATOGRAPHY ON DEAE-SEPHADEX A-50 WITH THE FOLLOWING RECYCLING CHROMATOGRAPHY ACCORDING TO OUR SHEME. ALL STAGES OF PURIFICATION WERE CARRIED OUT AT 4-6DEGREES WITH AN ADDITION OF 0.0002 B BETA-MERCAPTOETHANOL INTO BUFFER SOLUTIONS AND SEPHADEX COLUMNS AS A STABILIZER OR ANTIOXIDANT. THE HIGHLY ACTIVE ANTIPHAGE SUBSTANCE, ISOLATED FROM THIS STRAIN, WAS SHOWN TO BE OF PROTEIN NATURE WITH SPECIFICALLY NEUTRALIZED WITH DNA PREPARATIONS OF VARIOUS BASE COMPOSITION BUT NOT WITH RNA.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

USSR

UDC: 51.681.14.155

BAYDAKOV, M. P., KRASIL'NIKOV, N. N., and PASTUKHOV, O. V.

"Human Ability to Distinguish Images in Gaussian Noise"

Novosibirsk, Avtometriya, No 1, 1973, pp 7-14

Abstract: In the practical design of radar and television equipment, the engineer comes up against the problem of the operator's ability to distinguish halftone images in a background of additive noise with a normal distribution law, the problem of when the detected images have substantial linear frequency distortion, and the problem of when the noise is correlated -- i.e., when the spectral intensity of the noise is a function of the frequency. The purpose of this paper is investigate the possibility of using the theory of statistical solutions for describing the operator's reactions under these conditions. Results of experiments the authors conducted in this investigation are described along with the experimental equipment. Observers were tested on their ability to distinguish images in Gaussian noise whose spectral intensity is independent of the frequency, images with linear frequency distortion, and images with varying levels of distortion. The authors conclude that the theory of statistical solutions is applicable to the problem.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

USSR

UDC: 621.375.4

KRASIL'NIKOV, N. N.

"An Amplifier for Two-Signal and Three-Signal Instruments"

Tr. Leningr. in-t aviats. priborostr. (Works of the Leningrad Institute of Aviation Instrument Building), 1971, vyp. 69 pp 47-54 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6D12)

Translation: The problem of the signal-to-noise ratio in two- and three-channel television preamplifiers is considered. The results of the theoretical study are experimentally confirmed. An experimental two-channel preamplifier is briefly described, and its basic parameters are presented. Resumé.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

USSR UDC 539.67

BEYLIN, V. M., VEKILOV, Yu. Kh., KADYSHEVICH, A. Ye., and KRASIL'NIKOV, O. M.

"Effect of Alloying An Electrically Active Addition on Phonon Relaxation in Certain Intermetallic Combinations"

Sb. "Vnutrenneye treniye v metallicheskikh materialakh" (Internal Friction in Metallic Materials"), Moscow, Izd-vo "Nauka", 1970, pp 41-43

Abstract: It is shown that the observed ultrasonic absorption is determined by the interaction of an elastic wave with crystal lattice oscillations. Alloying by an electrically active addition leads to increased absorption. Evaluations of the effect of alloying on the absorption coefficient by using data on the effect of alloying on third-order constants are presented. 2 figures, 5 references.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

1/2 039 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--ELASTIC CONSTANTS OF STRONGLY DOPED N SILICON AND P GERMANIUM -U-

AUTHOR--BEYLIN, V.M., VEKILOV, YU.KH., KRASILNIKOV, O.M.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TVERD. TELA 1970, 12(3), 684-9

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--SILICON, GERMANIUM, DOPED ALLOY, HIGH PURITY METAL, METAL ELASTICITY, ULTRASONIC EFFECT, INTERFEROMETER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0655 STEP NO--UR/0181/70/012/003/0684/0689

CIRC ACCESSION NO--AP0105634

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

2/2 039 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0105634

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ELASTIC CONSTS. OF PURE AND STRONGLY DOPED N-SI AND P-GE WERE MEASURED BY THE ULTRASOUND INTERFEROMETRIC METHOD AT 78-300DEGREESK. ALL THE ELASTIC CONSTS. (AND THEIR TEMP. DEPENDENCES) OF /RONGLY DOPED SPECIMENS DIFFER CONSIDERABLY FROM THE CORRESPONDING ELA/ C CONSTS. OF PURE SPECIMENS. IN THE CASE OF N-SI, THE TEMP. DEPENDENCE OF THE CONST. C PRIME CHANGES INTO AN OPPOSITE DEPENDENCE. VARIATION OF THIS ELASTIC CONST. IS PRODUCED BY THE SAME MECHANISM OF INTERVALLEY SCATTERING AS THE VARIATION OF THE ELASTIC CONST. C SUB44 IN N-GE. VARIATION OF C SUB44 IN N-SI IS DETD. BY THE SPLITTING OF THE SUB BANDS DELTA SUB1 AND DELTA SUB2 IN THE SHIFT. IN P-GE, VARIATION OF THE ELASTIC CONSTS. WITH DOPING IS RELATED TO THE EFFECT OF DEFORMATION ON THE DISPERSION OF HOLES. FROM THE COMPARISON OF THE EXPTL. DATA WITH THE CALCN., THE EFFECTIVE MASS WAS FOUND OF STRONGLY DOPED N-SI AND THE CONSTS. OF THE DEFORMATION POTENTIAL, SIGMA PRIME SUBU AND SIGMA SUBU. IN P-GE, THE DEFORMATION POTENTIAL CONSTS. B AND D WERE FOUND.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201530009-9

USSR K UDC 621.315.532

BEYLIN, V. M., VEKILOV, YU. KH., KRASIL'NIKOV, O. M., Moscow Institute of Steel and Alloys, Moscow, Ministry of Higher and Secondary Specialized Education RSFSR

"Determining the Effective Masses of Current Carriers in Strongly Alloyed Semiconductors by the Effect of Conduction Electrons (Holes) on Elastic Constants"

Leningrad, Fizika i Tekhnika Poluprovodnikov, Vol 4, No 5, 1970, pp 912-914

Abstract: The effective masses of the density of states of current carriers m_d^* in strongly alloyed semiconductors were determined with respect to the temperature dependence of the effect of conduction electrons (holes) on semiconductor elastic constants. M_d^* are determined for troughs on the <111> and <100> axes in n-Ge, <100> in n-Si, and <000> in p-Si and p-GaAs. The accuracy for the determination of m_d^* is not inferior to the accuracy for the determination of effective mass in a strongly alloyed material.

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The most accurate direct method of determining effective mass -- the method of cyclotron resonance -- is inapplicable to strongly alloyed semiconductors (the condition of $\omega\tau$ 1 required for resonance is not satisfied), and masses are usually determined by methods having low accuracy. For this reason it is of interest to investigate the possibility of determining m_d^* by elastic constant data. The author's method permits sensing of variation of m_d^* in the presence of strong alloying caused by the nonparabolic nature of the bands (p-GaAs, p-Si), and it also permits determination of effective masses in upper systems of minima. Applicability of the method is limited to substances in which the effect of conduction electrons (holes) on the elastic constant is observed. Values of effective masses are tabulated for germanium, silicon and gallium arsenide.

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