

USSR

UDC 546.821'261:541.67

NESHPOR, V. S., NIKITIN, V. P. and NOVIKOV, V. I., Institute of Semiconductors, Academy of Sciences USSR

"Superconductivity and Residual Resistance of Titanium Carbide"

Moscow, Izvestiya Akademii nauk SSSR, Neorganicheskiye materialy, Vol 7, No 10, Oct 71, pp 1743-1747

Abstract: The study concerns the electric conductivity and Hall effect of titanium carbide in its homogeneity region at below-zero temperatures as well as its transition to the superconductive state in strong magnetic fields. The experimental titanium carbide was of the composition $Ti_{0.91}Ti_{0.46}$. The study revealed a very weak temperature dependence of the conductivity at 300-4.2°K, indicating that the specific resistance at room temperature is almost completely governed by residual resistance. Both the resistance and the Hall coefficient decrease with the carbon content in the TiC_x phases. With a sufficiently high concentration of carbon defects, the increase in the density of states near the Fermi level makes possible the appearance of a superconducting gap in the energy spectrum

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USSR

NESHPOR, V. S., et al, Izvestiya Akademii nauk SSSR, Neorganicheskiye materialy, Vol 7, No 10, Oct 71, pp 1743-1747

which might explain the transition of homogeneous titanium carbides (observed only in compositions $TiC_{0.52}$ and $TiC_{0.46}$) to the superconductive state. (4 illustrations, 23 bibliographic references).

2/2

UNCLASSIFIED
 PROCESSING DATE--11SEP70
 1/2 020
 TITLE--INTERPRETATION OF THE INFRARED ABSORPTION SPECTRUM OF BORON OXIDE
 VAPORS -U-
 AUTHOR--NIKITIN, V.S., MALTSEV, A.A. *N*
 COUNTRY OF INFO--USSR
 SOURCE--VESTN. MOSK. UNIV., KHIM. 1970, 11(1), 22-6
 DATE PUBLISHED-----70
 SUBJECT AREAS--CHEMISTRY
 TOPIC TAGS--IR SPECTRUM, ABSORPTION SPECTRUM, BORON OXIDE
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAE--1989/0609
 STEP NO--UR/0189/70/011/001/0022/0026
 CIRC ACCESSION NO--AP0107206
 UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--11SEP70

2/2 020

CIRC ACCESSION NO--AP0107206

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EARLIER STUDIES OF THE IR ABSORPTION SPECTRA OF THE VAPOR OVER B SUB2 O SUB3 IN AN INERT ATM. AND IN THE PRESENCE OF WATER VAPOR LEAD TO THE CONCLUSION THAT THE OBSD. BANDS IN THE SPECTRA (535, 740, 1320, AND 2030 CM PRIME NEGATIVE) BELONG TO B SUB2 O SUB3 VAPOR AND THAT ITS MOL. HAS THE V SHAPE STRUCTURE WITH C SUB2V SYMMETRY. THIS CONCLUSION WAS CHALLENGED BY P. L. HANST, ET AL. (1965). TO CLARIFY THIS CONTRADICTION, NEW MEASUREMENTS OF THE IR ABSORPTION SPECTRA OVER B SUB2 O SUB3 WERE MADE IN THE 350-3900 CM PRIME NEGATIVE REGION AT SIMILAR TO 1350-1600DEGREES IN DRY AR (5-20 TORR). THE SAMPLE OF B SUB2 O SUB3 WAS PRELIMINARILY DEHYDRATED AND DEGASED AT 1000-1600DEGREES. THE NEW EXPTS. CONFIRMED THAT THE BANDS AT 2035, 1320, AND 760 CM PRIME NEGATIVE BELONG TO B SUB2 O SUB3 AND ITS MOL. HAS THE V SHAPE CONFIGURATION WITH C SUB2V SYMMETRY.

UNCLASSIFIED

1/2 025 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--FUNGUS DAMAGE AND ITS PREVENTION IN TISSUES PRESERVED IN A POLYMER
-U-
AUTHOR--(02)--CHAYKA, N.A., NIKITIN, V.V. N
COUNTRY OF INFO--USSR
SOURCE--MIKUL. FITOPATOL. 1970, 4(1), 61-5
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--TISSUE TRANSPLANT, BONE, BIOLOGIC STORAGE STABILITY,
FUNGICIDE, YEAST
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/0521 STEP NO--UR/4063/70/004/001/0061/0065
CIRC ACCESSION NO--AP0126269
UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0126269

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. NA SALICYLATE, BORIC ACID, PHOH, AND BZOH WERE EFFECTIVE FUNGISTATICS FOR 22 STRAINS OF AIRBORNE MOLD AND YEAST SPORES FOR GREATER THAN 1.5 YEARS AT 0.03-0.25PERCENT CONCNS. IN POLY(METHYLSILOXANES), USED TO PRESERVE BONE TISSUES FOR TRANSPLANT, EXPOSED UNDER CONDITIONS COMPARABLE WITH THOSE DURING TISSUE PRESERVATION OPERATIONS. LESS EFFECTIVE ADDITIVES TESTED WERE KI, CITRIC ACID, AND NA SUB2 S SUB2 O SUB3. FACILITY: LENINGRAD, GDS. INST. USOVERSH. VRACH. IM. KIROVA, LENINGRAD, USSR.

UNCLASSIFIED

USSR

UDC: 621.375.826+532.783

VASIL'YEV, A. A., KOMPANETS, I. N., NIKITIN, V. V.

"Shortening the Switching Time of an Optical Transparency on a Liquid Crystal"

Moscow, Kvant. elektronika (Quantum Electronics), No 3, "Sov. radio", 1972, pp 81-83 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 1, Jan 73, abstract No 1B438 by T. V.)

Translation: A transparency on a liquid crystal controlled by an electric field is used for data recording. Scattering of the light flux with turbulent motion of the domains of the liquid crystal by sections of the transparency to which the electric field is applied leads to loss of coherence of the transmitted light and a sharp attenuation of its intensity.

The pattern of electric voltages recorded on the transparency is thus transformed to an optical image which is transferred as a hologram to a photographic plate, using a laser. The frequency characteristics of dynamic scattering are studied for activation and deactivation. As a result of studying the influence which an alternating electric field and short field pulses have on scattering duration, an image recording cycle time of less than 1.2 ms is achieved. Three illustrations, bibliography of six titles.

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USSR

UDC 537.521

2

BASOV, N. G., Academician, BELENOV, E. M., VOL'NOV, M. I., GUBIN, M. A., DANILEYKO, M. V., and NIKITIN, V. V., Physics Institute imeni P. N. Lebedev, Academy of Sciences USSR, Moscow

"On the Question of Generating a Stabilized, Ring-Resonator Laser Frequency"

Moscow, Doklady Akademii Nauk SSSR, Vol 210, No 2, 1973, pp 306-308

Abstract: The power resonances of a ring laser can be considerably narrower and more contrasting than in the case of a linear laser. They are based on more complex effects, and the coincidence of the center of the resonances with the central absorption frequency is not obvious. The article studies this question theoretically and experimentally. It is shown that, as in the case of a linear laser, the power resonances of a ring laser occur at the central frequency of the absorbing gas.

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USSR

UDC 537.521

ALEKSEYEV, V. A.; BASOV, N. G., Academician; BELENOV, E. M.;
DANILEYKO, M. V.; VOL'NOV, M. I.; GUBIN, M. A.; NIKITIN, V. V.;
TROSHAGIN, V. N.; P. N. Lebedev Physics Institute, Moscow

"Spectroscopy Inside a Uniform (Radiation) Line"

Moscow, Doklady Akademii Nauk SSSR, vol 207, No 6, 1972, pp 1306-1307

Abstract: A method is proposed and realized for finding the shift, 2Δ , between the spectral components of a line in the radiation of atoms or molecules, and in such cases when the 2Δ value is much less than the uniform or radiation width. The method is based on the concurrence of spatial and frequency attenuation effects of the medium in a ring laser. The dependence of the qualitatively different oscillation modes of the laser on the frequency difference Δ permits recording the presence of the Doppler broadening of the line for Δ by an amount much less than for the uniform width. It is found that, from the viewpoint of the accepted criterion of spectral line resolution, the sensitivity of the proposed method can be multiplied by 10^2 - 10^4 times. The theory of the method is developed, and an experiment for resolving the fine
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USSR

ALEKSEYEV, V. A., et al, Doklady Akademii Nauk SSSR, vol 207, No 6,
1972, pp 1306-1307

structure of the line, conducted with a laser containing a mixture
of Ne²⁰ and Ne²², is described.

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USSR

UDC 621.375.62

KOMPANETS, I. N., MOROZOV, V. N., NIKITIN, V. V., BLINOV, L. M.

"Controlled Transparency on a Liquid Crystal for Recording Holograms"

V sb. Kvant. elektronika (Quantum Electronics--collection of works), No 3, Moscow, Soviet Radio, 1972, pp 79-81 (from RZh-Fizika, No 12, Dec 72, Abstract No 12D1021)

Translation: A study was made of the effectiveness of using liquid crystals as light switches. A matrix comprising glass-metal inserts, a liquid crystal, and a transparent electrode controlled by an electric voltages permits re-recording of holograms at a rate of more than 50 cycles/sec, insuring high image contrast. Liquid crystals "with a memory" can be used to prepare the information before input to an optical computer and for output from the computer. The bibliography has 7 entries.

1/1

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USSR

BASOV, N. G., BEREZIN, P. D., BLINOV, L. M., KOMPANETS, I. N., MOROZOV, V. N.,
and NIKITIN, V. V., Physics Institute imeni P. N. Lebedev, Academy of Sciences
USSR

"Phase Modulation of Coherent Light by Means of Liquid Crystals"

Moscow, Pis'ma v Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 15,
No 4, 20 Feb 72, pp 200-203

Abstract: The article describes results of a study of the effect of phase modulation with an electric field of coherent light passing through a nematic liquid crystal with positive anisotropy of permittivity ($\epsilon_{\parallel} > \epsilon_{\perp}$). Such modulation opens up the possibility of the use of thin transparent layers of liquid crystals in controlled phase transparencies and permits an increase in optical data processing speed as compared to the speed of other liquid-crystal light switches. Phase changes in the light passing through the liquid crystal were recorded by observing the interference of light reflected by a rear and a front electrode. 4'-methoxybenzylidene-4-aminobenzonitrile was used as the liquid crystal.

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USSR

UDC 621.375.9:535

BYKOVSKIY, Yu. A., VELICHANSKIY, V. L., GONCHAROV, I. G., MASLOV, V. A.,
NIKITIN, V. V.

"Pulsed Semiconductor Laser Used as a High-Resolution Spectroscope"

Leningrad, Optika i Spektroskopiya, No. 3, Mar 71, pp 508-510

Abstract: A method is proposed for graduating a pulsed laser-spectroscope in the optical range with the aid of a Fabry-Perot interferometer. It is pointed out that a unique combination of properties of semiconductor lasers make them promising for high-resolution spectroscopy. The radiation of semiconductor lasers covers a wide spectral range due to a large selection of materials, and any semiconductor laser evenly retunes its frequency with a change in temperature or pressure within the limits permissible for lasers of other types. Also, the line width of a semiconductor laser is sufficiently small; for example, the ratio $\Delta\nu/\nu = 10^{-9}$, where $\Delta\nu$ is the line width and ν is the basic frequency, for injection lasers of GaAs and $Pb_{0.88}Sn_{0.12}Te$. In this work a pulsed GaAs scanning semiconductor laser was used to observe absorption at the resonance absorption line in cesium-133. The nature in the change of the length of the genera-

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BYKOVSKIY, Yu. A., et al, Optika i spektroskopiya, No. 3, Mar 71, pp 508-510

tion wave of the laser with time was investigated in order to graduate the spectroscopy and be able to measure the frequency interval between absorption lines and the width of these lines. A block diagram of the calibration device is shown. The radiation of the laser diode forms into a parallel beam into which the Fabry-Perot interferometer is placed with a resolution of $5 \cdot 10^5$. The distance between absorption lines and their width are functions of the position of the lines on an oscillogram relative to the beginning of the pulse, and this is related to the nonlinear dependence of the wavelength of the laser radiation on time. The reason for this is that generation modes of the laser are determined by the optical length of its resonator. The pulsed excitation mode leads to a nonlinear variation of the increase in temperature of the active region of the injection laser with time. This produces a change in the refractive index of the active medium which basically determines the change in the generation wavelength. The distance between absorption lines was 9.2 ± 0.1 GHz, corresponding to a value obtained by radiospectroscopy methods.

USSR

UDC 621.378.33

ZAKHAROV, YU.P., NIKITIN, V.V., FEDOSEYEV, K.P.

"Scanning Device Based On Injection Lasers"

Kvantovaya elektronika, Moscow, No 5, May 71, pp 101-102

Abstract: The feasibility is examined of creating a device for scanning the coherent emission of injection lasers with a potentiality for time and space control. The circuit of such a device was proposed and an operative model of it was prepared. The scanning device is a set of 10 lasers prepared from one single crystal of gallium arsenide. An autonomous inject pulse from a 10-channel power supply was fed to the p-region of each laser diode. Scanning is accomplished because of the delay of the injection pulses among themselves and the successive feeding of them to the straightedge of the lasers. The circuit of the pulse generator and an oscillogram of the emission are presented. The author thanks I.M. Divil'kovskiy's group for assistance in the work. Received by editors, 12 Feb 71; after revision, 12 Apr 71. 2 fig. 1 ref.

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USSR

UDC 621.378.33

BASOV, N. G., BELENOV, E. M., DANILEYKO, M. V., NIKITIN, V. V.

"Power Resonances and Frequency Stabilization of a Gas Laser With a Nonlinearly Absorbing Cell"

Moscow, Kvantovaya Elektronika, No. 1, 1971, pp 42-52

Abstract: Power resonances of a gas laser with a nonlinearly absorbing cell that are caused both by spectral effects (in a laser with a Fabry-Perot resonator) and by competition of spectral and spatial effects (in a laser with a ring resonator) are studied. The half-width of the power resonances of a laser with a Fabry-Perot resonator and a methane absorbing cell was of the order of 300 kHz. The half-width of resonances of a ring laser was ~30 kHz. The laser with a Fabry-Perot resonator and a methane cell stabilized at peak radiation displayed stability and a frequency generation equal to 10^{-11} . It is concluded that the use of power resonances of a ring laser as optical discriminators can raise the stability and generation of the radiation frequency by more than an order of 2.

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Masers and Lasers

USSR

UDC: 621.373:530.145.6

BASOV, N. G., BELENOV, E. M., DANILEYKO, M. V., NIKITIN, V. V.

"Power Resonances and Frequency Stabilization of a Gas Laser With Nonlinear Absorption Cell"

V sb. Kvant. elektronika (Quantum Electronics--collection of works), No 1, Moscow, 1971, pp 42-52 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5D181)

Translation: The paper deals with the power resonances in gas laser emission due both to the effect of spectral line burnout (laser with a Fabry-Perot resonator) and to the interaction of modes at frequencies close to the centers of lines of amplification or absorption (laser with annular resonator). In the latter case, power resonances may be appreciably narrower and more contrasting than those in a laser with Fabry-Perot resonator. Data are given on stabilization of a helium-neon laser with Fabry-Perot resonator with respect to the peak of emission caused by saturation of methane absorption. Seven illustrations, bibliography of sixteen titles.

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USSR

BASOV, N. G., KOMPANETS, O. N., LETOKHOV, V. S. and NYKITIN, V. V.
Physics Institute imeni P. N. Lebedev, Academy of Sciences, USSR

"Investigating Narrow Resonance Within the Dopler Line of Rotational-Oscillating
Transitions of the SF₆ Molecule during Absorption Saturation"

Moscow, Zhurnal Eksperimental'noy i Teoriticheskoy Fiziki, Vol 59, No 2(8), 1970,
pp 394-403

Abstract: Experimental measurement was made of the amplitude and width of narrow resonances within the Dopler line of rotational-oscillating transitions of the SF₆ molecule during the saturation of adsorption of a quasi-travelling wave from a CO₂ laser. The object of the experiment was to demonstrate the possibility of spectroscopy within the Dopler line by means of absorption saturation of a quasi-travelling wave. The effects of resonance widening were determined for the first time. The experimentally obtained large peak amplitude, along with its narrow width demonstrated the usefulness of the method for stabilizing the CO₂ laser frequency. The properties of a nonlinear spectroscopy with a quasi-travelling wave are analyzed.

- END -

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5015

1/2 049
UNCLASSIFIED
PROCESSING DATE--16OCT70
TITLE--APPLICATION OF LOGIC ELEMENTS MADE OF INJECTION LASERS IN
COMMUNICATIONS SYSTEMS WITH TIME DIVISION MULTIPLEX -U-
AUTHOR-(04)-KOZLYAEV, I.P., NIKITIN, V.V., SAMOYLOV, V.D., FEDOROV, YU.F.
COUNTRY OF INFO--USSR
SOURCE--RADIOTEKHNIKA I ELEKTRONIKA, VOL. 15, APR. 1970, P. 772-777
DATE PUBLISHED-----70
SUBJECT AREAS--NAVIGATION, PHYSICS
TOPIC TAGS--LOGIC ELEMENT, LASER, MULTIPLEX, OPTIC COMMUNICATION,
COMMUNICATION SYSTEM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/1087
STEP NO--UR/0109/70/015/000/0772/0777
CIRC ACCESSION NO--AP0118237
UNCLASSIFIED

2/2 049

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0118237

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXPERIMENTAL DATA FOR THE USE OF INJECTION LASERS AS LOGIC ELEMENTS IN OPTICAL COMMUNICATION SYSTEMS EMPLOYING TIME DIVISION MULTIPLEXING OF LIGHT PULSES. RECOMMENDATIONS ARE GIVEN FOR THE OPTIMAL SWITCHING OF THE LASER DIODES INTO A COHERENT EMISSION REGIME, AND METHODS OF REDUCING THE PULSE DURATIONS ARE EXAMINED. IT IS SHOWN THAT THE USE OF THE PROPOSED LASER ELEMENTS MAKES IT POSSIBLE TO OBTAIN INFORMATION TRANSFER RATES OF ABOUT 10 TO THE 10TH POWER BITS-SEC.

UNCLASSIFIED

1/2 023 UNCLASSIFIED PROCESSING DATE--16OCT70
 TITLE--USE OF INFRARED SPECTRA OF MULTIPLY PERTURBED TOTAL INTERNAL
 REFLECTION TO STUDY GLASS SURFACES -U-
 AUTHOR-(02)-BERSHTEYN, V.A., NIKITIN, V.V. N
 COUNTRY OF INFO--USSR
 SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(4), 823-6 (TECH PHYS)
 DATE PUBLISHED-----70
 SUBJECT AREAS--MATERIALS
 TOPIC TAGS--IR SPECTRUM, PLASTIC FILM, POLYSTYRENE RESIN, GLASS SURFACE
 PROPERTY, SPECTRUM/(U)MPTIR INTERNAL REFLECTION SPECTRA
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED STEP NO--UR/0020/70/190/004/0823/0826
 PROXY REEL/FRA--1995/1580
 CIRC ACCESSION NO--AT0116988 UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AT0116988

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN IR. SPECTROSCOPIC METHOD IS DEVELOPED FOR A QUANT. STUDY OF THE SURFACE OF A GLASS BY USING THE GLASS SIMULTANEOUSLY AS A PRISM AND AS THE SAMPLE FOR SURFACE STUDY. THE METHOD INVOLVES THE TECHNIQUE OF MULTIPLY PERTURBED TOTAL INTERNAL REFLECTION (MP TIR). THE METHOD CAN BE USED FOR STUDY OF FINE ORG. FILMS. THE MPTIR SPECTRA OF A FINE POLYSTYRENE FILM ON A GLASS IS SUPER IMPOSABLE (SHIFT SMALLER THAN OR EQUAL TO 5 CM PRIME NEGATIVE1) WITH IR ABSORPTION SPECTRA OF POLYSTYRENE. FACILITY: FIZ.-TEKHN. INST. IM. IOFFE, LENINGRAD, USSR.

UNCLASSIFIED

UDC: 621.376.56:621.373.029.67

USSR

GUSEV, A. A. et al, Kvantovaya elektronika, No 7, 1972, pp 92-94

as ultra-rapid switching devices with a dynamic range of 10^3 - 10^4 , especially since semiconductor lasers capable of operating at room temperature and above have recently been developed. The authors express their gratitude to V. D. Samoylov for his discussion of the experimental results, and to Yu. P. Zakharov and V. P. Litvinov for their assistance with the experiments.

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UDC: 621.375.826+539.219.1

USSR

LITVINOV, V. F., MOLOCHEV, V. I., MOROZOV, V. N., ~~NIKITIN, V. V.~~
SEMEENOV, A. S., and KHATYREV, N. P.

"Light Pulse Transmission Through a Two-Component Semiconductor Medium"

Moscow, Kvantovaya elektronika, No 7, 1972, pp 89-92

Abstract: This brief communication is concerned with the interaction of the radiation from an injection laser and a two-component semiconductor medium. This is defined as a medium which can be used for amplifying or absorbing light, depending on the controlling injection current applied to the semiconductor. The measurements described in the paper were made with a combination light-pulse oscillator and two-component semiconductor made of a single GaAs diode, one of the ends of the planar specimen coinciding with the (110) plane while the opposite end is set at a 10° angle with respect to the first to reduce positive light feedback. A diagram of this arrangement is shown. Measurements were conducted at a temperature of 80° K on specimens in which the oscillator was 0.8 mm long and the two-component medium 2 mm long. Curves for experimental and computed amplitude characteristics of the two-component medium are plotted, and show close agreement.

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NIKITIN, V.

Oborotenko, Yu. L.
Kotov, V. V.
Korovin, I. A.
Kozlov, V. V.
Korotchenko, Yu. L.

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TECHNICAL TRANSLATION

165

ENGLISH TITLE: PROBLEMS OF LASER BEAM DATA TRANSMISSION
PROCEEDINGS OF THE FIRST ALL-UNION CONFERENCE, KIEV,
SEPTEMBER 1968

ANW | PSTCART-23-2015-72
89 Jul '82

RUSSIAN TITLE: PROBLEMY PREDACHI INFORMATSII LAZERNYM IZLUCHENIYEM

AUTHOR: I. A. DERUGIN, ET AL.

SOURCE: KIEV ORDER OF LENIN STATE UNIVERSITY
INENI T.G. SCHEVCHENKO

Translated for FSTIC by ACS1

NOTICE

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File Page -

USSR

UDC 621.375.82

BUBNOV, M. M., DIANOV, Ye. M., and NIKITIN, Ye. P.

"Dependence of Laser Resonator Thermal Strain on Initial Temperature of Neodymium Glass Rod"

Kratk. soobshch. po fiz. (Brief Communications on Physics), 1973, No 3, pp 26-30 (from RZh-Fizika, No 10, Oct 73, Abstract No 10D837 by K. O. I.)

Translation: The interferometric method is used to measure the variation, with temperature, of the thermal strain of an Nd glass-based laser resonator at temperatures ranging from -20 to +85° C. Measurements were taken for two types of Nd glasses -- series and experimental lime silicate glass, which provides low resonator thermal strains. It is shown that within the limits of experimental error the magnitude of the resonator thermal strain does not depend on the initial rod temperature for either type of glass. It is noted that the quantity dn/dT of the investigated glasses weakly depends on the temperature in the -20 to +85° C range. Bibliography with 10 titles.

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(2)

USSR

UDC 619:616.988.6-097:636.5

KOROVIN, R. N., KREYMER, Yu. Ye., MATYUSHKOV, V. S., LUKINA, V. A., NIKITIN, Ye. Ye., and KUDRYAVTSEV, F. S., All-Union Research Institute of Fowl Diseases

"The Effectiveness of Crude Viral Vaccine Against Marek's Disease"

Moscow, Veterinariya, No 8, 1973, pp 38-39

Abstract: A turkey herpesvirus antigenically related to the virus responsible for Marek's lymphoma was grown in chick embryo fibroblasts and utilized as a vaccine. The efficacy of the vaccine was tested on 1 day old chicks immunized intramuscularly with 500 PFU in 0.2 ml during an epizootic outbreak in Latvia. Mortality due to Marek's disease was 3.2-4.5 times less among the immunized chicks than among the unimmunized controls. Although 100% protection was not afforded the immunized chicks, the economic gains from an effective vaccine are obvious and indicate the importance of prophylactic immunization.

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USSR

UDC 57.083.1

NIKITIN, Ye. Ye.; ZVYAGIN, I. V.

Moscow, Zamorazhivaniye i Vysushivaniye Biologicheskikh Preparatov (Freezing and Drying of Biological Preparations), "Kolos," 1971, 344 pp

Translation: Annotation: Data on the utilization of low temperatures and drying to preserve formed elements and blood plasma, immune and diagnostic sera, bone marrow, animal tissue and cell cultures, bacteria, viruses and bacteriophages, and live and inactivated vaccines are collated and analyzed in this book.

Along with the theoretical principles of stabilization of biological preparations, and certain problems on the nature of anabiosis of microorganisms, practical recommendations on lyophilization of different biopreparations are presented in the monograph.

The book may serve as a useful manual for scientists -- hematologists, microbiologists, virologists, immunologists, medical and veterinary physicians in diagnostic and bacteriological
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USSR

NIKITIN, Ye. Ye., et al, Zamorazhivaniye i Vysushivaniye Biologicheskikh Preparatov, "Kolos," 1971, 344 pp

laboratories, technicians working in the biological industry, and students at biological, medical, and veterinary schools of higher education and faculties.

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USSR

NIKITIN, Ye. Ye., et al, Zamorazhivaniye i Vysushivaniye Biologicheskikh Preparatov, "Kolos," 1971, 344 pp

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USSR

NIKITIN, Ye. Ye., et al, Zamorazhivaniye i Vysushivaniye Biologicheskikh Preparatov, "Kolos," 1971, 344 pp

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NIKITIN, Ye. Ye., et al, Zamorazhivaniye i Vysushivaniye Biologicheskikh Preparatov, "Kolos," 1971, 344 pp

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UDC 629.783.014:525(47)

USSR

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NIKITIN, V. Ye., PEROV, S. P., PETUNIN, A. N., UTKIN, V. M., and
SHVIDKOVSKIY, Ye. G.

"Scientific Data on the Flight of Automatic Ionospheric "Yantar"
Laboratories"

Uch. zap. Tsentr. Aerogidrodinam. in-ta (Scientific Notes of the
Central Aerohydrodynamic Institute) 1971, Vol 2, No 2, pp 58-65
(from Referativnyy Zhurnal, Raketostroyeniye, No 11, Nov 71,
Abstract 11.41.87 Resume)

Abstract: Launches of automatic ionospheric "Yantar" laboratories
with gaseous plasma-ionic engines up to 100-400 km altitudes were
conducted with the aid of geophysical rockets, for the purpose of
studying prospects of controlled flight, in upper layers of the
atmosphere. Performance of gaseous plasma-ionic engines under iono-
spheric conditions was studied. Parameters characterising the
ion jet-ionospheric plasma interaction, as well as parameters of
neutral atmosphere were measured. Scientific data on conducted ex-
periments is presented. 2 figures, 1 table, 11 references.

USSR

UDC 621.373:520.145.6

NIKITIN, V. Yu., POLUEKTOV, I. A., Editorial Staff of "Fizika i tekhnika poluprovodnikov", Academy of Sciences of the USSR

"On Gain Saturation in Semiconductor Lasers, Masers and Amplifiers"

O nasyshchenii koeffitsiyenta usileniya v poluprovodnikovyykh kvantovyykh generatorakh i usilitelyakh (cf. English above), Leningrad, 1970, 10 pp, bibl. of 3 titles (from RZh-Radiotekhnika, No 10, Oct 70, Abstract No 10D150 Dep)

Translation: The authors consider the effect of saturation in semiconductors with regard to the finite time of damping of interband polarization and deformation of the distribution function for nonequilibrium carriers in the presence of an electromagnetic field. An expression is found for the amplification factor with regard to the finiteness of the polarization relaxation time at high field intensities (the saturation effect). An estimate is given of the contribution made by the deformation of the distribution function for nonequilibrium carriers in a strong field to the amplification factor. For fields with $E \gg 10^6$ V/s, $\tau_{ee} \sim 3 \cdot 10^{-13}$ s (τ_{ee} is the collision time for nonequilibrium carriers), this contribution is small and is determined by the expression $10^{-2}\kappa$, where κ is the amplification factor without regard to deformation. Authors' abstract.

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USSR

UDC: 519.214

NIKITIN, Ya. Yu.

"Estimates of the Rate of Convergence in Some Limit Theorems of the Invariance Principle Type"

Teoriya veroyatnostey i mat. stat. Mezhved. nauch. sb. (Probability Theory and Mathematical Statistics. Interdepartmental Scientific Collection), 1971, vyp. 5, pp 98-106 (from RZh-Kibernetika, No 11, Nov 71, Abstract No 11V57)

Translation: Let $\{\xi_i\}$ be a sequence of independent identically distributed random vectors with zero average and finite moments of order higher than the second. Let $W^{(n)}(t)$ be a random broken line constructed with respect to sequence $\{\xi_i\}$, $W(t)$ is a Wiener type process. An investigation is made of the rate of convergence of $W^{(n)}(t)$ to $W(t)$ for a certain class of continuous functionals. Author's abstract.

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USSR

UDC 512.25/.26+519.3:330.115

NIKITIN, Ye. N., BREKHOV, A. M., LIVSHITS, S. Ye.

"Network Method of Solution of Problems in Integer Linear Programming"

Tr. Lennigr. Inzh.-econ. In-ta [Works of Leningrad Institute of Engineering Economics], No 79, 1971, pp 84-88, (Translated from Referativnyy Zhurnal, Kibernetika, No 10, 1971, Abstract No 10 V693 by Yu. Finkel'shteyn).

Translation: The general problem of integer linear programming is studied. The ideas of the method of sequential analysis of versions are used for its solution by directed sampling. (RZhMat, 1966, 1V96, 5V68, 11V279). The volume of computational work, generally quite high, is estimated.

USSR

UDC 51.330.115

NIKITIN, Ye. N., BREKHOV, A. M., LIVSHITS, S. Ye.

"Parametric "Time-Cost" Problem"

Tr. Leningr. Inzh.-ekon. In-ta [Works of Leningrad Engineering Economics Institute], No 79, 1971, pp 74-83, (Translated from Referativnyy Zhurnal, Kibernetika, No 10, 1971, Abstract No 10 V729).

NO ABSTRACT.

1/1

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1/2 019 UNCLASSIFIED PROCESSING DATE--18SEP70
 TITLE--ELECTRICAL PROPERTIES, THERMAL CONDUCTIVITY, AND WIDTH OF THE
 FORBIDDEN BAND FOR MG SUB2 SN AT HIGH TEMPERATURES -U-
 AUTHOR--(02)-ZAYTSEV, V.K., NIKITIN, YE.N.
 COUNTRY OF INFO--USSR
 SOURCE--FIZ. TVERD. TELA 1970, 12(2), 357-61
 DATE PUBLISHED-----70
 SUBJECT AREAS--MATERIALS, PHYSICS
 TOPIC TAGS--MAGNESIUM COMPOUND, TIN ALLOY, INTERMETALLIC COMPOUND, THERMAL
 CONDUCTIVITY, FORBIDDEN BAND
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAE--1984/0132 STEP NO--UR/0181/70/012/002/0357/0361
 CTRC ACCESSION NO--AP0054928
 UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--18SEP70

2/2 019

CIRC ACCESSION NO--AP0054928

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN ATTEMPT WAS MADE TO DET. THE TEMP. DEPENDENCE OF THE WIDTH OF THE FORBIDDEN BAND IN MG SUB2 SN FROM ELEC. AND THERMAL MEASUREMENTS. TEMP. DEPENDENCES WERE STUDIED OF SP. ELEC. RESISTANCE, THERMAL EMF., THERMAL COND., AND THE HALL COEFF. FOR P- AND N-TYPE MG SUB2 SN 80-800DEGREEK. AT 550-800DEGREEK, THE WIDTH OF THE FORBIDDEN BAND VARIES LINEARLY WITH TEMP. THE TEMP. COEFF. OF THE PRIME NEGATIVE4 EV-DEGREE. AT TEMPS. CLOSE TO 800DEGREEK, THE ENERGY GAP BETWEEN THE VALANCE BAND AND THE CONDUCTION BAND IS CLOSE TO ZERO.

UNCLASSIFIED

L/4 022 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--AN EXPERIMENT IN THE ELEKTROTECHNICAL INDUSTRY -U-
AUTHOR--(03)-GRIBOV, V., NIKITIN, YU., ASTAF, YEV.V. *M*
COUNTRY OF INFO--USSR
SOURCE--EKONOMICHESKAYA GAZETA, JULY, 1970, NR 27, SUPPLEMENT
DATE PUBLISHED----JUL70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR., BEHAVIORAL AND SOCIAL SCIENCES
TOPIC TAGS--R AND D FACILITY ORGANIZATION, R AND D MANAGEMENT, DESIGN BUREAU, TEST FACILITY GROWTH, R AND D PLANNING, ELECTRONIC INDUSTRY, ELECTRIC INDUSTRY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1993/1138

STEP NO--UR/9001/70/000/027/0000/0000

CIRC ACCESSION NO--AN0113890

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--16OCT70

2/4 022

CIRC ACCESSION NO--AN0113890

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE GOAL OF THE EXPERIMENT IS TO REDUCE, INASMUCH AS POSSIBLE, THE TIME LAG BETWEEN THE CONCEPTION OF THE ADVANCED IDEA AND ITS TRANSLATION INTO A NEW PRODUCT. THE FIRST STEP IN THIS DIRECTION WAS THE REORGANIZATION OF THE RESEARCH AND DEVELOPMENT FACILITIES OF THE MINISTRY. IT WAS DECIDED (1) TO CENTRALIZE, INASMUCH AS POSSIBLE, BASIC RESEARCH AND RESEARCH AND DEVELOPMENT MANAGEMENT IN CERTAIN AREAS OF THE INDUSTRY, (2) TO MAXIMIZE THE SPECIALIZATION OF RESEARCH INSTITUTES AND DESIGN BUREAUS, (3) TO CREATE CLOSER RELATIONS BETWEEN RESEARCH INSTITUTES AND DESIGN BUREAUS, AND INDUSTRY, (4) TO STRENGTHEN AND EXPAND EXPERIMENTAL AND PILOT PLANT FACILITIES. AS A RESULT, 15 LEADING (GOLOVNYE) INSTITUTES, 2 BRANCHES OF THESE INSTITUTES, AND 2 SPECIALIZED INSTITUTES HAVE BEEN REORGANIZED AS 17 COMPREHENSIVE SCIENTIFIC RESEARCH INSTITUTES, DESIGN PLANNING AND TECHNOLOGICAL INSTITUTES, THE INFORMELEKTRO INSTITUTE. 17 OF THE 33 AFFILIATES OF LEADING INSTITUTES HAVE BEEN TRANSFERRED UNDER DIRECT CONTROL OF INDUSTRIAL PLANTS. THE OTHER 16 ARE RESPONSIBLE TO THE MINISTRY AND SERVE RIGIDLY DEFINED GROUPS OF INDUSTRIAL PLANTS. SPECIALIZED INSTITUTES AND CORRESPONDING PLANTS WERE MERGED TO FORM FOUR RESEARCH PRODUCTION CORPORATIONS, THE ELEKTROAPPARAT, THE ELEKTROKERAMIKA, THE KUNDENSATOR, AND THE AKKUMULYATOR. IN THE PROCESS OF BEING ESTABLISHED IS THE FIFTH CORPORATION, THE ELEKTROPRIVOD. DESIGN PLANNING AND TECHNOLOGICAL BUREAUS HAVE BEEN ESTABLISHED AT EIGHT LARGE INDUSTRIAL ENTERPRISES THAT FORMERLY HAD NONE.

UNCLASSIFIED

3/4 022

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AN0113890

ABSTRACT/EXTRACT--21 DESIGN TECHNOLOGICAL BUREAUS, WHICH FORMERLY WERE UNDER MINISTERIAL MANAGEMENT, HAVE BEEN TRANSFERRED TO INDUSTRIAL PLANTS. 10 SUCH BUREAUS WERE TRANSFERRED TO RESEARCH TECHNICAL CENTERS. ONLY 10 BUREAUS REMAIN UNDER DIRECT CONTROL OF THE MINISTRY. 16 PLANT RESEARCH LABORATORIES HAVE BEEN RECLASSIFIED AS RESEARCH ORGANIZATIONS. THE ARTICLE DISCUSSES THE NEW RESEARCH AND PRODUCTION PLANNING PROCEDURE WHICH IS BASED ON INTRAMINISTERIAL ORDERS TREATED AS CONTRACTS. SUCH AN ORDER ENCOMPASSES ALL STAGES OF RESEARCH, THE EXPLORATORY STAGE THROUGH THE EXPERIMENTAL STAGE, AND THE MANUFACTURE OF NEW PRODUCTS OR THE APPLICATION OF NEW TECHNOLOGICAL PROCESSES. THESE ORDERS ARE BASED ON FIVE YEAR AND ANNUAL PLANS, DECREES OF THE GOVERNMENT, COORDINATION PLANS APPROVED BY THE STATE COMMITTEE FOR SCIENCE AND TECHNOLOGY, LONG RANGE PLANS, OR DECISIONS OF THE MINISTRY OR ITS MAIN ADMINISTRATIONS. PRINCIPAL CONSUMERS ARE MAIN INDUSTRIAL ADMINISTRATIONS OF THE MINISTRY. ITS TECHNICAL ADMINISTRATION, AND FUNCTIONAL ADMINISTRATIONS. THE FORMER ARE RESPONSIBLE FOR PROBLEMS AND PRODUCTS RELATED TO THEIR PROFILES. THE SECOND IS RESPONSIBLE FOR COMPLEX EQUIPMENT, THE DEVELOPMENT OF WHICH IS RELEGATED TO THE ORGANIZATIONS AND PLANTS OF SEVERAL MAIN ADMINISTRATIONS. THE LATTER ARE INVOLVED IN ECONOMICAL PROBLEMS. THE ARTICLE ALSO DISCUSSES IN SOME DETAILS THE ECONOMIC INCENTIVES AND FINANCING OF RESEARCH AND DEVELOPMENT PROJECTS. A CHART IS GIVEN WHICH SHOWS HOW VARIOUS FUNDS ARE ALLOCATED. FACILITY: PLANNING ECONOMY ADMINISTRATION. FACILITY: FINANCE ADMINISTRATION. FACILITY: TECHNICAL ADMINISTRATION.

UNCLASSIFIED

4/4 022
CIRC ACCESSION NO--AN0113890
ABSTRACT/EXTRACT--FACILITY:

UNCLASSIFIED

PROCESSING DATE--16OCT70

MINISTRY OF THE ELECTROTECHNICAL INDUSTRY.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--04DEC70
 TITLE--LUBRICATING COOLING LIQUID FOR COLD WORKING OF METALS -U-
 AUTHOR--(05)-NIKITIN, YU.I., SKRIPKO, G.F., SOKHIN, S.M., POGORELYY, B.V.,
 KOMOLAYEVA, L.V.
 COUNTRY OF INFO--USSR
 SOURCE--U.S.S.R. 263,799
 REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
 DATE PUBLISHED--10FEB70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CHEMICAL PATENT, METALWORKING LUBRICANT, COLD WORKING,
 CHEMICAL COMPOSITION, BORATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAE--3004/0844

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0131437

UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AA0131437

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A LUBRICATING COOLING LIQ. HAS THE FOLLOWING COMPN.: CALCD. SODA 0.1-0.8, H SUB2 O SOL. CELLULOSE ESTER SALT 0.03-0.3, NH SUB4 CL 0.05-0.1, NA TETRABORATE 0.2-0.5, NANO SUB3 0.1-0.3, PARAFFIN OIL 0.1-0.5, AND H SUB2 O 97.5-99.42PERCENT. FACILITY: UKRAINIAN SCIENTIFIC RESEARCH INSTITUTE OF INSTRUMENTS AND SYNTHETIC EXTRAHARD MATERIALS.

UNCLASSIFIED

NIKITIN, Yu. M.

CALCULATING THE TRANSIENT PROCESSES IN LIQUID-METAL MAGNETOHYDRODYNAMIC DEVICES

Abstract of a Paper by Yu. M. Nikitin, L. A. Nikitina Given at a Magnetohydrodynamic Conference, pp 127-129

A study was made of the transient process in liquid-metal magnetohydrodynamic devices with a rectangular channel of length l , the two walls of which $x = 0$ and $x = l$ are well-conducting electrodes. The external circuit can contain a source of emf \mathcal{E} and the complex load resistance Z (Figure 1). In addition, a circuit corresponding to the external circuit. During the analysis it was assumed that $l \gg a$ and $l \gg b$ which permitted neglect of the terminal effects and consideration of the flow developed and described by the equations

$$\frac{\partial v}{\partial t} = -\frac{d\mathcal{E}}{dt} + \Delta v + \text{Re} \frac{dy}{dt} \quad (1)$$

$$\text{rot}(\mathcal{E} \mathbf{e}_z) = \mathbf{e}_z \text{grad} \text{div} \mathbf{e} + \Delta \mathbf{e} \quad (2)$$

$$\text{rot} \mathbf{E} = -\frac{\partial \mathbf{e}}{\partial t} \quad (3)$$

with the boundary conditions $v|_{x=0,l} = 0$.

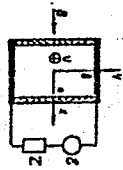


Figure 1

SPRS 60634
27 NOVEMBER 1975

NIKITIN, Yu. M.

INTEGRAL METHOD OF STUDYING THE TERMINAL AND BOUNDARY EFFECTS IN MAGNETOHYDRODYNAMIC CHANNELS WITH NONUNIFORM DISTRIBUTION OF THE PARAMETERS OF THE CONDUCTING LIQUID

Abstract of a Paper by D. A. But, L. K. Korotkiy, Yu. M. Nikitin, L. A. Nikitina, V. K. Izulin given at a Magnetohydrodynamic Conference, pp 112-114

When studying the terminal and boundary effects in magnetohydrodynamic channels, it was decided to use the kinematic approximation where the velocity distribution v and the conductivity distribution sigma are given from the solution of the hydrodynamic problem or from the experiment [1]. A study was made of the terminal effects for v = const and sigma = const in [1, 2]. In which the solutions were obtained in the form of infinite series. The nonuniformity of v and sigma can turn out to have a noticeable effect on the electrical characteristics of the magnetohydrodynamic channel. Some of the problems with the solution of the terminal and boundary effects permits consideration of the non-uniformity of the velocity and conductivity profiles and obtaining an exact solution in a broad class of problems.

The potential distribution for phi and the current density J during the flow of a conducting liquid with sigma = const, R_0 << 1 and beta << 1 are found from the equations

Delta phi = -beta n J, J = -sigma grad phi

The solution of equation (1) for the two-dimensional region in integral form has the form

phi(x, y) = -1/2 pi integral_{-infty}^{infty} integral_{-infty}^{infty} phi_0(x_0, y_0) dx_0 dy_0 / sqrt((x-x_0)^2 + (y-y_0)^2) - 1/2 pi integral_{-infty}^{infty} integral_{-infty}^{infty} J_0(x_0, y_0) dx_0 dy_0 / sqrt((x-x_0)^2 + (y-y_0)^2)

where phi_0(x_0, y_0) is the Green function.

For a number of problems the Green function can be constructed by using the conformal transforms of the given regions into canonical. This method can be used to solve the problems of the entry and exit of the conducting medium in the magnetic field in the constant-cross section and variable-cross section

SPRS 60634
27 NOVEMBER 1971

1/2 020 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--EFFECT OF THE TYPE OF CHEMICAL BONDS ON THE STRENGTH OF RUBBERS
OBTAINED BY CURING WITH ALKYLPHENOLFORMALDEHYDE RESIN -U-
AUTHOR--(04)--NIKITIN, YU.N., EPSHTEYN, V.G., KOROBOV, V.I., TUKTAROVA, L.S.
COUNTRY OF INFO--USSR
SOURCE--KOLLOIDNYY ZHURNAL, 1970, VOL 32, NR 3, PP 403-408
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, CHEMISTRY
TOPIC TAGS--CHEMICAL BONDING, VULCANIZATE, MECHANICAL STRENGTH, CURING
AGENT, PHENOL FORMALDEHYDE RESIN
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/1583 STEP NO--UR/0069/70/032/003/0403/0408
CIRC ACCESSION NO--AP0125205
UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125205

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STRONG AND RELATIVELY SHORT CROSS LINKS IN THE STRUCTURE OF UNFILLED VULCANIZATES FROM CRYSTALLIZING RUBBERS OBTAINED BY CROSS LINKING WITH ALKYLPHENOLFORMALDEHYDE RESIN DO NOT HINDER THE ORIENTATION CYRSTALLIZATION OF MOLECULAR CHAINS IF THE STRUCTURE OF VULCANIZATES IS SUFFICIENTLY HOMOGENEOUS. THESE VULCANIZATES HAVE HIGH STRENGTH PROPERTIES. THE PRESENCE OF RESIN CROSS LINKS WITH ETHER GROUPS, WHICH ARE MORE LABILE UNDER THERMO MECHANICAL TREATMENT, ENHANCES APPRECIABLY THE STRENGTH PROPERTIES OF VULCANIZATES BASED ON NON CRYSTALLIZING, AND TO A LESSER EXTENT, OF THOSE BASED ON CRYSTALLIZING RUBBERS. FACILITY: NII MONOMEROV OLYA SINTETICHESKOGO KAUCHUKA, YAROSLAVL'.

UNCLASSIFIED

USSR

UDC 669.14.046.094.52

NIKITIN, Yu. P., PRIVALOVA, T. P., BARMIN, L. N., Ural Polytechnic Institute

"Desulfurization of Drops of Iron and Steel in Molten Slag Under the Effect of an Electric Current"

Moscow, IVUZ. Chernaya Metallurgiya, No 4, 1972, pp 15-17

Abstract: A study was made of desulfurization of drops of iron (3% carbon) and steel (1.2% carbon) in synthetic slag during passage of an electric current. Increasing the electric field strength and raising the concentration of sulfur in the metal accelerates the desulfurization process. Desulfurization is also accelerated by increasing the basicity of the slag and its ferrous oxide content. An electric current can also accelerate the transfer of sulfur from slag to metal.

1/1

1/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--THE COAGULATION PROPERTIES OF THE BLOOD IN THE PLEURAL CAVITY -U-
AUTHOR--(04)--NIKITIN, YU.P., SHUNKOVA, YE.I., SEVERNIY, V.YA.,
SYSGYEVVGRUBYEV, A.N.
COUNTRY OF INFO--USSR
SOURCE--KHIRURGIYA, 1970, NR 6, PP 76-80
DATE PUBLISHED--70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--BLOOD COAGULATION, LUNG, SURGERY, FIBRINOLYSIS, THROMBOCYTE,
ERYTHROCYTE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1784 STEP NO--UR/0531/70/000/006/0076/0080
CIRC ACCESSION NO--AP0129152
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--30OCT70

2/2 019

CIRC ACCESSION NO--AP0129152
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. INVESTIGATION OF THE BLOOD RECOVERED FROM THE PLEURAL CAVITY SOON AFTER A THORACIC OPERATION WAS CARRIED OUT. THERE WERE REVALED A FIBRINOGENEMIA, A HIGH FIBRINOLYTIC ACTIVITY, AND AUGMENTED TOTAL COAGULATION AND ANTIHEPARIN ACTIVITY. THERE WERE FOUND NO ANTITHROMBINS IN THIS BLOOD. THE REFERRED TO ALTERATIONS ARE EXPLAINED BY THE EFFECT OF ACTIVATOR OF PLASMINOGEN PRODUCING MESOTHELIUM, AND BY DESTRUCTION PRODUCTS OF THROMBOCYTES AND ERYTHROCYTES. FACILITY: NOVOKUZNETSKIY INSTITUT USOVERSHENSTVOVANIYA VRACHEY, 1-YA GORODSKAYA KLINICHESKAYA BOL'NITSA.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--THE COAGULATION AND FIBRINOLYTIC PROPERTIES OF THROMBOCYTES OF
RABBITS IN EXPERIMENTAL ATHEROSCLEROSIS +U-
AUTHOR-(03)-RUDCHENKO, S.A., NIKITIN, YU.P., FEDENKOV, V.I.
COUNTRY OF INFO--USSR
SOURCE--BYULLETIN' EKSPERIMENTAL'NOY BIOLOGII I MEDITSINY, 1970, VOL 69,
NR 3, PP 49-52
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BLOOD COAGULATION, FIBRINOLYSIS, THROMBOCYTE, RABBIT,
ATHEROSCLEROSIS, DIET, CHOLESTEROL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1982/0849

STEP NO--UR/0219/70/059/003/0049/0052

CIRC ACCESSION NO--AP0052283

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--18SEP70

2/2 022

CIRC ACCESSION NO--AP0052283

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. UNDER INVESTIGATION WERE THE PLASMA WASHED THROMBOCYTES, A SUSPENSION OF THEIR STROMA AND THROMBOLYSATES OF RABBITS RECEIVING WITH FOOD CHOLESTEROL IN A DOSE OF 0.4 GM-KG FOR 4 TO 6 MONTHS. THERE WAS FOUND A REDUCTION OF THEIR THROMBOPLASTIC AND RISE OF THE ANTIFIBRINOLYTIC ACTIVITY AT THE EXPENSE OF INCREASED CONTENT OF ANTI-ACTIVATORS. IN ATHEROSCLEROSIS THERE WERE NOTED NO ESSENTIAL ALTERATIONS IN THE ACTIVITY OF THE SECOND AND FOURTH THROMBOCYTIC FACTORS.

UNCLASSIFIED

1/2 029 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--THE INFLUENCE OF ADRENALINE ON THE ADHESION THE INFLUENCE OF
ADRENALINE ON THE ADHESIVE CAPACITY OF THROMBOCYTES IN VIVO AND IN VITRO
AUTHOR--(02)-NIKITIN, YU.P., MELNIKOVA, V.S.
COUNTRY OF INFO--USSR
SOURCE--BYULLETIN' EKSPERIMENTAL'NOY BIOLOGII MEDITSINY, 1970, VOL 69, NR
3, PP 17-18
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--ADHESIVE, ADRENALINE, THROMBOCYTE, DOG, RABBIT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1982/0861 STEP NO--UR/0219/70/059/003/0017/0018
CIRC ACCESSION NO--AP0052295
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--18SEP70

2/2 029

CIRC ACCESSION NO--AP0052295

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE CITRATE BLOOD OF DOGS IN VIVO THE AUTHORS CREATED AN ADRENALINE CONCENTRATION FROM 0.01 TO 100 MUG-ML. IN A CONCENTRATION OF 1 AND MORE MUG-ML THE ADHESIVENESS OF THROMBOCYTES AUGMENTED. IN VITRO EXPERIMENTS 21 RABBITS WERE EXPERIMENTED UPON. A 0.1PERCENT SOLUTION OF ADRENALINE HYDROCHLORIDE WAS INTRODUCED SUBCUTANEOUSLY IN A DOSE OF 0.1 ML-LKG OF ANIMAL BODY WEIGHT. ONE HOUR AFTER INJECTION OF ADRENALINE THE ADHESIVENESS OF THROMBOCYTES WAS AUGMENTED.

UNCLASSIFIED

1/2 011 UNCLASSIFIED PROCESSING DATE--16OCT70 \$

TITLE--PREPARATION AND EXAMINATION OF HIGH PURITY SILICA GEL FOR GAS

CHROMATOGRAPHY -U-

AUTHOR--(05)-AKSHINSKAYA, N.V., ZAYTSEVA, G.YE., KISELEV, A.V., NIKITIN,

YU.S., STRIZHKOV, B.V.

COUNTRY OF INFO--USSR

SOURCE--KOLLOIDNYY ZHURNAL, 1970, VOL 32, NR 2, PP 160-166 N

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--SILICA GEL, CHEMICAL PURITY, GAS CHROMATOGRAPHY, ORGANIC SILANE, THERMAL EFFECT, GEOMETRIC FORM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1993/0392 STEP NO--UR/0069/70/032/002/0160/0166

CIRC ACCESSION NO--APJ113310 UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--16OCT70

2/2 011

CIRC ACCESSION NO--AP0113310

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. A GEOMETRIC MODIFICATION OF HIGH PURITY SILICA GEL PREPARED BY HYDROLYSIS OF TETRAETHOXY SILANE HAS BEEN CARRIED OUT UNDER VARYING HYDROTHERMAL TREATMENT CONDITIONS. IT HAS BEEN SHOWN POSSIBLE TO PREPARE SAMPLES WITH SURFACE AREA FROM 415 TO 2 M² G AND MEAN PORE SIZE FROM 90 TO 12500 ANGSTROM. THE RETENTION TIMES OF SPECIFICALLY ADSORBED AROMATIC HYDROCARBONS AND POLAR ORGANIC COMPOUNDS ON HIGH PURITY MACROPOROUS SILICA GEL ARE LESS AND THE CHROMATOGRAPHIC PEAKS OF THESE SUBSTANCES MORE SYMMETRICAL THAN FOR COMMERCIAL MACROPOROUS SILICA GEL OF SIMILAR GEOMETRIC STRUCTURE CONTAINING SESQUIOXIDES AS IMPURITIES.

UNCLASSIFIED

1/2 018

UNCLASSIFIED

PROCESSING DATE--27NOV70

TITLE--ADSORPTION AND CATALYTIC PROPERTIES OF SILICON DIOXIDE WITH AN

ALUMINUM IMPURITY -U-
AUTHOR--(03)-KISELEV, A.V., KUZNETSOV, B.V., NIKIYIN, YU.S.

COUNTRY OF INFO--USSR

SOURCE--KINET. KATAL. 1970, 11(2), 500-12 (RUSS)

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ADSORPTION, CATALYST ACTIVITY, SILICON DIOXIDE, ALUMINUM
IMPURITY, SILICA GEL, AROMATIC HYDROCARBON, ETHANE, ETHYL,
TRIETHYLAMINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3008/0880

STEP NO--UR/0195/70/011/002/0500/0512

CIRC ACCESSION NO--AP0137908

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--27NOV70

2/2 018

CIRC ACCESSION NO--AP0137908

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HEAT OF ADSORPTION OF A SERIES OF SATD. AND AROMATIC HYDROCARBONS, ETOH, TETRAHYDROGURAN, ADN ET SUB3 N ON SILICA GEL CONTG. 0.02-0.38PERCENT AL WAS DETD. CALORIMETRICALLY AND BY GAS CHROMATOG. AL INCREASES ABSORPTION AND CHEM. ACTIVITY OF SILICA GEL AND CAUSES FORMATION OF VERY ACTIVE NUCLEI FOR ADSORPTION OF ORG. BASES AND FOR CATALYTIC CRACKING. IN GENERAL, THE ACTIVITY OF AL TREATED SILICA GEL DEPENDS ON THE METHOD OF CATALYST PREPN. FACILITY: KHIM. FAK., MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

Acc. Nr:

N
AP0036527

Ref. Code: UR 0069

PRIMARY SOURCE: Kolloidnyy Zhurnal, 1970, Vol 32, Nr 1,
pp 41-48

**ADSORPTION AND ADSORPTION HEATS
OF VAPORS ON GEOMETRICALLY MODIFIED SILICA GELS**

Yekabson, Ya. Ya.; Kiselev, A. V.; Kyznetsov, B. V.;

Nikitn, Yu. S.

The measurements of the adsorption extent and adsorption heats of water and benzene vapors have shown that macroporous silica gels obtained by hydrothermal treatment in an autoclave followed by calcination at 900 and 1000° for 6—10 hours and rehydroxylation contain very few ultrapores and in respect to their surface chemistry are similar to silica without ultrapores. A longer calcination of macroporous silica gel at 1000° leads to the appearance of microcracks in it and to an increase of its ultraporosity.

D.S.

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REEL/FRA
19721375

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Acc. Nr: **AP0036535**

Ref. Code: UR 0069

PRIMARY SOURCE: Kolloidnyy Zhurnal, 1970, Vol 32, Nr 1,
pp 98-103

EFFECT OF HYDROPHOBIZATION ON THE THICKENING ABILITY OF
SILICA (AEROSIL AND SILICA GEL)

Sinitsyn, V. V.; Bakaleynikov, M. B.; Akshinskaya, N. V.;

Nikitin, Yu. S.

Summary

The aerosil and silica gel surfaces have been subjected to waterproving treatment with n-butanol under different conditions. The thickening ability of untreated aerosil of different types: «175», «300» and «380» is approximately the same, regardless of its surface area determined with water and methanol. With increasing waterproving degree, the thickening ability of aerosil diminishes. With the same waterproving degree the thickening ability of aerosil subjected to the vapor-phase modification is higher than after treatment in an autoclave. The thickening ability of large-pored high-dispersed silica gel, both initial and modified, is much higher than for aerosil.

V/

REEL/FRAME
19721383

7 Dr.

1/2 026 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--TEMPERATURE FUNCTION OF THE CONDUCTIVITY QUANTUM OSCILLATION
AMPLITUDE OF ANTIMONY THIN FILMS -U-
AUTHOR--KOMNIK, YU.F., BUKHSHTAB, YE.I., NIKITIN, YU.V.
COUNTRY OF INFO--USSR
SOURCE--FIZ. TVERD. TELA 1970, 12(3) 793-8
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--METAL FILM, ANTIMONY, METAL VAPOR DEPOSITION, ELECTRIC
RESISTANCE, QUANTUM OSCILLATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1988/0658 STEP NO--UR/0181/70/012/003/0793/0798
CIRC ACCESSION NO--AP0105637
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--11SEP70

2/2 026

CIRC ACCESSION NO--A0105637

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ELEC. RESISTANCE WAS INVESTIGATED IN THIN (IS SIMILAR TO 300 ANGSTROM) POLYCRYST. FILMS OF SB IN A BROAD RANGE OF TEMPS. (4.2-350DEGREEK). THE FILMS WERE OBTAINED BY VACUUM DEPOSITION IS SIMILAR TO 10 PRIME NEGATIVE6 TORR ON GLASS SUBSTRATES. THE DEPENDENCE OF THE FILM RESISTANCE ON THICKNESS IS OSCILLATORY. THE PERIOD OF THE OSCILLATIONS DOES NOT CHANGE WITH TEMP. AND IS SIMILAR TO 25 ANGSTROM. THE AMPLITUDE OF THE OSCILLATIONS DECREASES WITH INCREASING TEMP. ACCORDING TO $T \exp(2\pi \text{PRIME}^2 \text{KT-DELTA EPSILON SUBF})$, WHERE DELTA EPSILON SUBF IS THE SPLITTING OF SUBBANDS CLOSE TO THE FERMI LEVEL AS A RESULT OF SPACE QUANTIZATION. THE VALUES OF DELTA EPSILON SUBF WERE DETD. FOR FILMS OF VARIOUS THICKNESSES. THESE VALUES COINCIDE WITH THE EVALUATIONS OBTAINED FROM KNOWN DATA ON THE BAND STRUCTURE OF SB. THE EFFECT OF THE RELAXATION BROADENING OF THE SUBLEVEL EDGES ON THE AMPLITUDE OF COND. QUANTUM OSCILLATIONS IS SHOWN.

UNCLASSIFIED

UDC 669.783.476(088.8)

USSR:

NIKITINA, A. A., GLUBOKOVA, T. N., and TOROPATSKAYA, N. P., State Scientific Research and Design Institute of Rare Earth Metals Industry

"A Method of Electrolytic Deposition of a Germanium Alloy"

USSR Author's Certificate No 259588, filed 12 Apr 68, published 20 May 70
(from RZH-Metallurgiya, No 11, Nov 70, Abstract No 11G175 P)

Translation: A method is proposed for the electrolytic deposition of an alloy of Ge solution based on Ge salt and ammonium oxalate. To ensure uniform Ge-Fe alloy plating, salt Fe and H_2SO_4 is introduced into solution with the following ratio of components (in g/l): Ge (in the form of GeO_2) 0.1-1, Fe (in the form of $Fe_2(SO_4)_3$) 0.1-1, ammonium oxalate 5-10, H_2SO_4 up to pH 1.5, with the process being conducted at temperatures of 25-80°C and D_k of 1-5 a/dm².

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USSR

UDC 669.721.074.2

FIALKOV, Yu. G., TARAT, E. Ya., PICHUKOV, A. P., NIKITINA, A. P., SHKODINA, V. G.

"Purification of Magnesium Production Gases to Remove Chlorine in Hollow Scrubber"

Tr. Vses. N-i. i Proyechn. In-ta. Alyumin., Magn. i Elektrodn. Prom-sti [Works of All-Union Scientific Research and Planning Institute of the Aluminum, Magnesium and Electrode Industry], 1970, No. 72, pp. 123-132. (Translated from Referativnyy Zhurnal Metallurgiya, No. 5, 1971, Abstract No. 5 G203 by the authors).

Translation: The influence of the composition of the absorbent, speed and direction of gas flow, and sprinkling density on absorption of Cl by lime milk was studied in an industrial scrubber. The decrease in the degree of gas purification resulted from a change in the hydrodynamic conditions in the scrubber due to foaming of the absorber. Foaming began at concentrations of $\text{Ca}(\text{ClO})_2$ of 45-60 g/l with various contents of $\text{Ca}(\text{OH})_2$ and resulted from decomposition of the $\text{Ca}(\text{ClO})_2$. Addition of CaCl_2 to the absorbent (initial content 100 g/l) did not change the indices of absorption. With counterflow movement of the phases, increasing the gas speed from 1 to 2.5 m/sec improved purification. The effectiveness of operation of the direct flow zone of the scrubber was decreased with increasing gas speed. Increasing the sprinkling density from 18 to 60 $\text{m}^3/\text{m}^2\cdot\text{hr}$ helps to improve the absorption indicators. With counterflow, the empirical equation $K_v = 2.75 \cdot W^{1.25} \cdot L^{0.67}$ was produced, where K_v is the volumetric coefficient of the rate of absorption, $\text{kmol}/\text{m}^3\cdot\text{hr}\cdot\text{bar}$, W is the gas speed, m/sec, and L is the sprinkling density, $\text{m}^3/\text{m}^2\cdot\text{hr}$. 6 figs.

USSR

UDC 632.938:616.992:632.4

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

"Plant Immunity to Different Kinds of Parasites"

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

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

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UDC 582.288

USSR

NIKITINA, A. V., Division of Phytopathology, Institute of
Biology, Khar'kov University, Khar'kov

"The Effect of Trace Elements on the Development of the Pathogen
of Millet Smut"

Kiev, Ukrainskiy Botanicheskiy Zhurnal, Vol 28, No 4, Jul/Aug 71,
pp 514-518

Abstract: The direct effects of Mn and Cu on *Sphacelotheca
panici miliacei* (Pers.) Bub., the pathogen of millet smut, in
pure cultures of the fungus were studied and some characteristics
of the development of this fungus were outlined. Germination
of chlamydospores in control cultures on a wort-agar medium
(6% sugar + 3% agar) proceeded intensively and the fungus formed
well-developed colonies. On addition to the same medium of 250
mg/l. Mn or 100 mg/l. Cu, development of the fungus was slowed
down and the diameter of the mycelium hyphae reduced. Addition
of Mn in a concentration of 500 mg/l. reduced the thickness of
the mycelium hyphae to a still greater extent and also reduced

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USSR

NIKITINA, A. V., Ukrainskiy Botanicheskiy Zhurnal, Vol 28, No 4, Jul/Aug 71, pp 514-518

the size of conidia. Cu in a concentration of 500 mg/l. had a pronounced effect in slowing down the development of the fungus, as shown by the duration of individual stages of its life cycle, while the diameter of mycelial hyphae and of conidia was the same as for the control culture. Cu in this concentration also inhibited to a considerable extent the germination of chlamydospores, which took place only in rare instances.

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UDC 582.288

USSR

NIKITINA, A. V., Division of Phytopathology, Institute of
Biology, Khar'kov University, Khar'kov

"The Effect of Trace Elements on the Development of the Pathogen
of Millet Smut"

Kiev, Ukrainskiy Botanicheskiy Zhurnal, Vol 28, No 4, Jul/Aug 71,
pp 514-518

Abstract: The direct effects of Mn and Cu on *Sphacelotheca
panici miliacei* (Pers.) Bub., the pathogen of millet smut, in
pure cultures of the fungus were studied and some characteristics
of the development of this fungus were outlined. Germination
of chlamydospores in control cultures on a wort-agar medium
(6% sugar + 3% agar) proceeded intensively and the fungus formed
well-developed colonies. On addition to the same medium of 250
mg/l. Mn or 100 mg/l. Cu, development of the fungus was slowed
down and the diameter of the mycelium hyphae reduced. Addition
of Mn in a concentration of 500 mg/l. reduced the thickness of
the mycelium hyphae to a still greater extent and also reduced

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- 17 -

USSR

NIKITINA, A. V., Ukrainskiy Botanicheskiy Zhurnal, Vol 28, No 4,
Jul/Aug 71, pp 514-518

the size of conidia. Cu in a concentration of 500 mg/l. had a pronounced effect in slowing down the development of the fungus, as shown by the duration of individual stages of its life cycle, while the diameter of mycelial hyphae and of conidia was the same as for the control culture. Cu in this concentration also inhibited to a considerable extent the germination of chlamydo spores, which took place only in rare instances.

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1/2 016 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--INFECTION AND LYSIS OF GRAM, NEGATIVE BACTERIA BY PARASITIC
BACTERIA DELTOVIBRIO BACTERIOVORUS -U-
AUTHOR--(02)--MISHUSTIN, YE.N., NIKITINA, E.S. N
COUNTRY OF INFO--USSR
SOURCE--IZVESTIYA AKADEMII NAUK SSSR, SERIAY BIOLOGICHESKAYA, 1970, NR 3,
PP 423-426
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--ESCHERICHIA COLI, PSEUDOMONAS, SERRATIA MARCESCENS,
BACTERIOLOGY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/0499 STEP NO--UR/0216/70/000/003/0423/0426
CIRC ACCESSION NO--AP0126247
UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0126247

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SMALL BACTERIAL CELLS MORPHOLOGICALLY IDENTICAL WITH BDELLOVIBRIO BACTERIOVORUS WERE ISOLATED FROM NATURAL SUBSTRATES. THESE MICROORGANISMS ARE ABLE TO THRIVE ON SUCH GRAM NEGATIVE BACTERIA AS : ESCHERICHIA COLI B, PORTEUS VULGARIS, PSEUDOMONAS FLUORESCENS SERRATIA MARCESCENS. THE SEQUENCE OF PHASES OF INFECTION OF BACTERIAL HOST CELLS BY THE PARASITE, BDELLOVIBRIO BACTERIOVORUS WAS STUDIED. THE VARIABILITY OF THE SHAPE AND SIZE OF BDELLOVIBRIIC BACTERIOVORUS CELLS DEPENDING ON AGE, MEDIUM COMPOSITION AND INCUBATION CONDITIONS WERE DETERMINED. FACILITY: INSTITUTE OF MICROBIOLOGY, ACADEMY OF SCIENCES, USSR.

UNCLASSIFIED

1/2 016 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--CORRELATION BETWEEN FUNCTIONAL DEVELOPMENT OF THE HIPPOCAMPUS AND
THE SEPTUM IN RABBITS IN ONTOGENESIS -U-
AUTHOR--(02)-BORAVOVA, A.I., NIKITINA, G.M.
COUNTRY OF INFO--USSR
SOURCE--ZHURNAL VYSSHEY NERVNOY DEYATEL'NOSTI, 1970, VOL 20, NR 3, PP
593-601
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--HIPPOCAMPUS, BRAIN, BIOPENTIAL, RABBIT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/1912

STEP NO--UR/0247/70/020/003/0593/0601

CIRC ACCESSION NO--AP0120567

UNCLASSIFIED

272 016

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0120567

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EVOLUTION OF EVOKED POTENTIALS (EP) IN THE HIPPOCAMPUS AND THE SEPTUM LUCIDUM TO ELECTRIC CUTANEOUS STIMULATION WAS STUDIED IN RABBITS AGED FROM ONE TO 90 DAYS. EP IN THE HIPPOCAMPUS ARE RECORDED BEGINNING WITH THE 5TH TO 6TH DAYS OF LIFE, THEIR CONFIGURATION AND TEMPORAL PARAMETERS REACHING A DEFINITIVE LEVEL BY THE 17TH TO 20TH DAYS, WITHOUT APPRECIABLE SUBSEQUENT CHANGES. EP IN THE SEPTUM HAVE A SIMILAR AGE DYNAMICS. THE DIFFERENCE IS FOUND IN THE CONFIGURATION OF HIPPOCAMPUS AND SEPTUM EP: THE NEGATIVE POSITIVE OSCILLATION IN THE SEPTUM IS OFTEN PRECEDED BY AN INITIAL POSITIVE WAVE. THE PARALLEL EVOLUTION OF THE HIPPOCAMPUS AND SEPTUM EP AND ITS CLOSE CONNECTION WITH ONTOGENETIC DEVELOPMENT OF THE THETA RHYTHM ENABLE AN EARLY FUNCTIONAL INTERACTION BETWEEN THESE STRUCTURES OF THE LIMBIC SYSTEM IN THE CENTRAL MECHANISMS OF THE ORIENTING REACTION. FACILITY: LABORATORY OF COMPARATIVE ONTOGENESIS OF NERVOUS ACTIVITY, INSTITUTE OF BRAIN, USSR ACADEMY OF MEDICAL SCIENCES, MOSCOW.

UNCLASSIFIED

NIRITINA, G.V.

SPRS 59208
6-73

111-4. THERMAL AND DIFFUSION SUPERCOOLING OF A MELT AND ITS RELATION TO THE GROWTH PROCESSES

Article by G. V. Niritina, K. V. Orentina, V. N. Romanenko, V. S. Kheyfets, Leningrad; Novosibirsk, III Shkhetium po Professam Kozta i Shtrokan Poluprovodnikov Khimicheskii Pribor, Kuznetsk, 13-17 Jena, 1972, p. 28

Directional crystallization is accompanied by the occurrence of a temperature gradient and a concentration gradient in front of the growth front. The magnitude of both gradients is connected with the growth rate of the crystal and the magnitude of the external temperature gradient in the device. At high concentrations of the admixture, the exceeding of a critical value of the growth rate leads to the occurrence of diffusion or concentration supercooling of the melt in the crystal. In the solid phase concentration inhomogeneities are observed in this case. It was demonstrated previously [1] that the value of k essentially depends on the concentration. Experimental data are presented on the growth of the crystals of the binary-alloy system containing these calculations. However, for low concentrations of the admixture, the usual theory of diffusion supercooling gives an increase in the value of the critical growth rate. In this paper it was demonstrated that in this case it is necessary to consider two new factors: diffusion supercooling which occurs on crystallization of complex compounds as a result of deviation of the composition from stoichiometry (in this case the α -component plays the role of the admixture) and the occurrence of thermal supercooling of the melt. It occurs as a result of the fact that as increased growth rates, the amount of heat which must be removed deep in the melt increases sharply. On occurrence of this effect structural defects appear in the growing solid phase. The theoretical principles of this effect were developed. They permit calculation of the magnitude of the critical growth rate for the effect of thermal supercooling. A comparison was made with the experiment. It confirmed the correctness of the calculations.

BIBLIOGRAPHY

1. G. V. Niritina, V. N. Romanenko, TEOR [Expansion Unknown], Vol. 4, No. 6, 839, 1970.

NIKITINA, I. A.

CALCULATING THE TRANSIENT PROCESSES IN LIQUID-METAL MAGNETOHYDRAULIC DEVICES

(Abstract of a Paper by Yu. M. Nikitina, I. A. Nikitina given at a Magnetohydrodynamic Conference, pp 123-125)

A study was made of the transient processes in liquid-metal magnetohydrodynamic devices with a rectangular channel of length l , the two walls of which are perpendicular to the applied magnetic field are insulators, and the other two are well-conducting electrodes. The external circuit can contain a source of emf \mathcal{E} and the complex load resistance Z (Figure 1). In addition, in the case of circuits with self-excitation the excitation windings must be included correspondingly in the external circuit. During the analysis it was assumed that $l \gg a$ and $l \gg b$ which permitted neglect of the terminal effects and consideration of the flow developed and described by the equations

$$\frac{\partial v}{\partial t} = -\frac{\partial \mathcal{E}}{\partial t} + \Delta v + \text{th} \frac{v}{l} \quad (1)$$

$$\text{th}(\mathcal{E} l) = R_{\text{ext}} I = R_{\text{ext}} (b d \int_0^l E) dx \quad (2)$$

$$\text{th} E = -\frac{\partial \mathcal{E}}{\partial t} \quad (3)$$

with the boundary conditions $v|_{x=0} = v|_{x=l} = 0$.

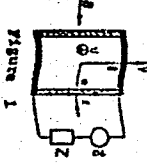


Figure 1

SPRS 6063/103
27 November 1983

(7)

NIKITINA, I. A.

INTEGRAL METHOD OF STUDYING THE TERMINAL AND BOUNDARY EFFECTS IN MAGNETOHYDRODYNAMIC CHANNELS WITH NONUNIFORM DISTRIBUTION OF THE PARAMETERS OF THE CONDUCTING LIQUID

(Abstract of a Paper by D. A. But, Ya. K. Kouzlev, Yu. M. Nikitina, I. A. Nikitina, V. A. Kudrin given at a Magnetohydrodynamic Conference, pp 112, 113)

The study of the terminal and boundary effects in magnetohydrodynamic channels, it was decided to use the kinematic approximation where the velocity distribution v and the conductivity distribution σ are given from the velocity terminal effects problem or from the experiment [1]. A study was made of solutions were obtained in the form of infinite series. In which the v and σ can turn out to have a noticeable effect on the electrical characteristics of the magnetohydrodynamic channel. Some of the problems with the solution of the terminal and boundary effects permit consideration of the non-uniformity of the velocity and conductivity profiles and obtaining an exact solution in a broad class of problems.

The potential distribution for ϕ and the current density \vec{j} during the flow of a conducting liquid with $\sigma = \text{const}$, $R \ll 1$ and $\beta \ll 1$ are found from the equations

$$\Delta \phi = \text{div } \vec{j}, \quad \int_{\Omega} -\sigma^{-1} \nabla \phi \cdot \vec{r} \times \vec{d} \quad (1), (2)$$

Form has the form

$$\phi(r, \theta) = \sum_{n=0}^{\infty} \int_{\Omega} \int_{\Omega} \frac{\sigma(\vec{r}')}{|\vec{r} - \vec{r}'|} \text{div } \vec{j}(\vec{r}') d\Omega' - \sum_{n=0}^{\infty} \int_{\Omega} \frac{\sigma(\vec{r}')}{|\vec{r} - \vec{r}'|} \nabla \phi(\vec{r}') \cdot \vec{r}' \times \vec{d} d\Omega'$$

where $C(\vec{r}, \theta)$ is the Green function.

For a number of problems the Green function can be constructed by using the conformal transforms of the given regions into canonical. This method can be used to solve the problems of the entry and exit of the conducting medium to the magnetic field in the constant-cross section and variable-cross section

SPRS 60634
87 DECEMBER 1972

1/2 015
 TITLE--REACTION OF ELECTRONS WITH MERCURY ATOMS IN GAS FILLED DEVICES -U-
 AUTHOR--NIKITINA, I.A.
 COUNTRY OF INFO--USSR
 SOURCE--IZV. VYSSH. UCHEB. ZAVED., PRIBOROSTR. 1970, 13(1), 9-12
 DATE PUBLISHED-----70
 SUBJECT AREAS--PHYSICS
 TOPIC TAGS--ELECTRON COLLISION, EXCITATION CROSS SECTION, ELECTRON SHELL
 STRUCTURE, MERCURY
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAME--1996/1643
 CIRC ACCESSION NO--AT0118622
 UNCLASSIFIED
 PROCESSING DATE--20NOV70
 STEP NO--UR/0146/70/013/001/0009/0012

UNCLASSIFIED

PROCESSING DATE--20NOV70

2/2 015
CIRC ACCESSION NO--AT0113622

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. INVESTIGATION OF SINGLE COLLISIONS BY THE ELEC. METHOD WERE CARRIED OUT ON A SPECIAL INSTRUMENT FOR DETG. EFFECTIVE CROSS SECTIONS OF ELASTIC AND NONELASTIC ELECTRON COLLISIONS WITH HG ATOMS AS A FUNCTION OF ELECTRON ENERGY WITHIN THE RANGE 4-120 EV. EFFECTIVE EXCITATION CROSS SECTIONS OF THE 6P PRIME3 P SUB0, 6P PRIME3 P SUB2 AND 6P PRIME1 P SUB1 LEVELS WERE OBTAINED AS A FUNCTION OF ACCELERATION POTENTIAL. FACILITY: LENINGRAD, INST. TOCHNOI MEKH. OPT., LENINGRAD, USSR.

UNCLASSIFIED

NIKITINA, I. V.

SO: JPRS 55100
4 FEB 72

UDC 629.78.048:582.998.4.057

CHANGE IN GROWTH PROCESSES IN IRRADIATED LETTUCE SEEDS

Article by Yu. I. Shvaydov, A. I. Miller, I. V. Nikitina, L. V. Alekseyenko, A. D. Kravtsov and V. N. Zhukovskaya. Moscow, Kosmosgenetika Biologiya i Meditsina, Vol 3, No 6, 1971, submitted for publication 25 June 1971, pp 21-27

Abstract: The effect of spaceflight factors on the biological effectiveness of X-rays was studied with respect to lettuce seeds. It was found that the flight exerted no significant effect on the energy of seed germination. The length of the primary root in flight specimens irradiated before flight was similar to that in the ground controls. According to this test, flight factors increased the effectiveness of postflight irradiation insignificantly. The influence of a synchronous exposure inhibited the weight of 30-day plants to the greatest extent. The seed exposure to all the doses tested during the flight resulted in a slight decline of plant weight in comparison with the laboratory control.

We studied the influence of flight factors and ionizing radiation on initial growth processes (sprouting energy and germination of seeds, growth of the primary root), and also on the appearance of aftereffects of the studied phenomenon in growing plants. The experimental plan provided for a clarification of the influence of flight factors on the appearance of a radiobiological effect (seed irradiation prior to flight) and the radioresistance of seeds (seed irradiation after flight). As is well known, the radiation effect on dry seeds begins to appear with the onset of their germination. At that time one observes both the realization of the damage and the oppositely directed processes associated with a normalization of plant growth mechanisms. During the initial growth period the damaging effect of radiation is most clearly manifested. With an increase in plant age recovery processes begin to predominate and in the case of small irradiation doses the radiation effect can be smoothed out.

172 020 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--ROLE OF MOLECULAR OXYGEN IN THE METABOLISM OF MICROORGANISMS -U-
AUTHOR--(02)-GUSEV, M.V., NIKITINA, K.A. ✓
COUNTRY OF INFO--USSR
SOURCE--USP. SOVREM. BIOL. 1970, 69(1), 72-94
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--MICROORGANISM, PHOTOSYNTHESIS, OXYGEN METABOLISM, ENZYME
ACTIVITY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3001/1904 STEP NO--UR/0221/70/069/001/0072/0094
CIRC ACCESSION NO--AP0127305
UNCLASSIFIED

2/2 020 UNCLASSIFIED PROCESSING DATE--27NOV70
CIRC ACCESSION NO--AP0127305
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A REVIEW IS PRESENTED WHICH
COVERED THE FOLLOWING TOPICS: O EVOLUTION BY PHOTOSYNTHESIZING
MICROORGANISMS, TYPES OF O PARTICIPATION IN METABOLISM, AND OXYGENASE
SYSTEMS. 97 REFS. FACILITY: BIOL. POCHV. FAK., MOSK. GOS.
UNIV., MOSCOW, USSR.

UNCLASSIFIED

Acc. Nr: **AP 0036758**

Abstracting Service:
CHEMICAL ABST. 4-70

Ref. Code:
UR 0068 6

78550k Preparation of mesitylene and durene by the isomerization and disproportionation of pseudocumene. Kolvandr, L. Ya.; Privalov, V. E.; Fomenko, G. M.; Nikitina, S. A.; Lokshina, L. S.; Kochergin, V. A.; Khvatkov, N. M.; Krish-topa, A. P.; Bilym, L. M.; Grebinnik, Z. G. (Kadiev, S. G. Khim. Zavod, Kadievka, USSR). *Koks Khim.* 1970, (1), 33-40 (Russ). 1,2,4-Me₃C₆H₃ (I) of 90-5% purity was prepd. by rectifying coke chem. solvents (20-35 and 10-20% Me₃C₆H₃, 4-6 and 3-5% *m* + *p*-EtC₆H₄Me, 15-17 and 10-12% 1,3,5-Me₃C₆H₃ (II), 1-1.2 and 0.7-0.9% *o*-EtC₆H₄Me, 16-18 and 12-14% I, 1-2 and 2-3% 1,2,3-Me₃C₆H₃, 2-6 and 1-3% satd. hydrocarbons, and 0 and 2-3% unsatd. compds.) on columns having 50 theoretical plates at a reflux no. of 69-100. Isomerization and disproportionation in the presence of 30% of an AlCl₃-I complex at 127° for 3 hr in exptl. app. yielded 4.00% C₆H₄-PhMe-satd. compds., 17.27% Me₃C₆H₃, 17.02% II, 35.09% I, and 10.71% durene (III). Yields in plant runs were similar. Rectification of the II fraction on a lab. column having 75 theoretical plates at a reflux no. of 80-100 yielded II of 97.5% purity in 39.24% yield. After rectification to increase III concn. to 45.94% in the III fraction, recrystn. at 5 to -18° yielded III of ~82% purity and further recrystn. with 35% PhMe gave III of ~97% purity in ~85% yield (17% selectivity from I and 1.6% from the coke chem. solvent). Lucile S. Davison

RB

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REEL/FRAME
19721671

UDC 546.681'883'78:543.42

USSR

MISKAR'YANTS, V. G., NIKITINA, L. A.

"Spectral Determination of Tantalum and Tungsten in Gallium-Based Alloy"

Moscow, Zavodskaya Laboratoriya, No 12, 1972, pp 1467-1469.

Abstract: A method is described for spectral determination of tantalum and tungsten in a gallium-based alloy. By the use of fluorination and a special method of photography of the spectrum, the sensitivity of the determination is increased to 0.001% and the specimen remains in the electrode channel. The variation factor for a single spectrum in the determination of tungsten is 25%, in the determination of tantalum -- 17%.

1/1

1/2 023 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--HYSTERESIS PROPERTIES OF HIGHLY ELASTIC MATERIALS STUDIED BY
THERMAL MEASUREMENTS -U-
AUTHOR--(03)--INDEYKIN, B.A., NIKITINA, L.B., SEMAK, B.D.
COUNTRY OF INFO--USSR
SOURCE--KAUCH. REZINA 1970, 29(3), 32-5 N
DATE PUBLISHED--70
SUBJECT AREAS--MATERIALS, PHYSICS
TOPIC TAGS--THERMAL CONDUCTIVITY, ELASTIC HYSTERESIS, ELASTICITY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/0654 STEP NO--UR/0138/70/029/003/0032/0035
CIRC ACCESSION NO--AP0124326
UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--30OCT7

CIRC ACCESSION NO--AP0124326

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE THERMAL COND. OF A HIGHLY ELASTIC CYLINDER WAS STUDIED ANAL. THE HEAT EVOLUTION WAS DETD. BY MEASURING THE TEMP. INCREMENTS AT SEVERAL POINTS OF THE STRAINED CYLINDER. METHODS WERE PROPOSED FOR THE DETN. OF TIME DURING WHICH THE TEMP. INCREMENTS SERVED AS AN ADEQUATE CRITERION OF HYSTERESIS PROPERTIES AND STRAIN. FACILITY: DNEPROPETROVSK. FILIAL NAUCH. ISSLED. INST. SHINNOI PROM., DNEPROPETROVSK, USSR.

UNCLASSIFIED

172 012 UNCLASSIFIED PROCESSING DATE--19SEP70
TITLE--ON RCT SUB40, MARKED FIXED RABIES VIRUS -U-
AUTHOR--(02)-SELIMOV, M.A., NIKITINA, L.F.
COUNTRY OF INFO--USSR
SOURCE--VOPROSY VIRUSOLOGII, 1970, NR 2, PP 161-165
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--RABIES VIRUS, TISSUE CULTURE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1990/Q743 STEP NO--UR/0402/70/000/002/0161/0165
CIRC ACCESSION NO--AP0108949 UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--18SEP70

2/2 012

CIRC ACCESSION NO--AP0108949

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FIXED RABIES VIRUS (SAD STRAIN) WAS PASSAGED SERIALLY IN PRIMARY CULTURES OF SYRIAN HAMSTER KIDNEY AT 37DEGREESC FOR 47 PASSAGES, AT 32DEGREES FOR 31 PASSAGES AND AT 28-26DEGREES FOR 11 PASSAGES. THE "COLD" VARIANTS OF THE VIRUS WERE SHOWN TO MULTIPLY VERY POORLY AT HIGH TEMPERATURES (40DEGREESC) (RCT SUB40 PRIME NEGATIVE MARKER) BUT THE ORIGINAL VIRUS SHOWED QUITE ACTIVE REPRODUCTION (RCT SUB40 PRIME POSITIVE MARKER). COMPLETE CORRELATION WAS OBSERVED BETWEEN LOW REPRODUCTION ACTIVITY OF RABIES VIRUS IN SYRIAN HAMSTER KIDNEY CULTURE AT 40DEGREES AND ITS LOW VIRULENCE FOR LABORATORY ANIMALS.

UNCLASSIFIED

1/2 033 UNCLASSIFIED PROCESSING DATE--09OCT70
 TITLE--ANOMATIC MAINTENANCE AND CONTROL OF DEPTH OF ANESTHESIA -U-
 AUTHOR--(05)-ZHOROV, I.S., SMIRNOV, V.G., MIKHELSON, V.A., KOTOVA, G.P.,
 NIKITINA, L.G.
 COUNTRY OF INFO--USSR
 SOURCE--EKSPERIMENTAL'NAYA KHIRURGIYA I ANESTEZIOLOGIYA, 1970, NR 2, PP
 57-61
 DATE PUBLISHED--70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
 TOPIC TAGS--ANESTHESIA, MEDICAL APPARATUS, ELECTROENCEPHALOGRAPHY, SURGERY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAE--1990/0637

STEP NO--UR/0481/70/000/002/0057/0061

ARC ACCESSION NO--AP0108848
 UNCLASSIFIED

272 033

UNCLASSIFIED

PROCESSING DATE--09OCT70

IRC ACCESSION NO--AP0108848

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE AUTHORS DESCRIBE AN APPARATUS WHICH REGULATES AUTOMATICALLY THE AETHER DOSAGE ACCORDING TO ELECTROENCEPHALOGRAPHIC DATA. OVER 50 IMPORTANT OPERATIONS HAVE BEEN CARRIED OUT WITH THIS METHOD. THIS APPARATUS IS A PROTOTYPE OF THE APPARATUS FOR AUTOMATIC CONTROL OF ALL THE MODERN METHODS OF ANESTHESIA. THIS WILL REQUIRE FURTHER INVESTIGATION AND STUDY. FACILITY: KAFEDRA FAKUL'TETSKOY KHIRURGII 2-GO LECHEBNOGO FAKUL'TETA I MOSKOVSKOGO MEDITSINSKOGO INSTITUTA IM. I. M. SECHENOVA AND MNIIP MINISTERSTVA RADIOPROMYSHLENNOSTI SSSR.

UNCLASSIFIED

1/2 025 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--THE CENTRAL REGULATION OF HUMAN VEGETATIVE FUNCTIONS -U-
AUTHOR--(03)-BONDARCHUK, A.N., NIKITINA, L.I., SHMATKOV, YU.V.
COUNTRY OF INFO--USSR
SOURCE--ZHURNAL NEVROPATOLOGII I PSIKHIATRII IMENI S. S. KORSAKOVA, 1970,
VOL 70, NR 6, PP 852-857
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--BRAIN, CENTRAL NERVOUS SYSTEM, AUTOMATIC REGULATION,
SYMPATHETIC NERVOUS SYSTEM, DIAGNOSTIC MEDICINE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/1171 STEP NO--UR/0246/70/070/006/0352/0857
CIRC ACCESSION NO--AP0126773
UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0126773
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. IN THE PROCESS OF STEROTAXICAL DIAGNOSTIC AND THERAPEUTICAL MEASURES IN PATIENTS WITH HYPERKINESES, THE AUTHORS ACCOMPLISHED A COMPREHENSIVE STUDY OF THE VEGETATIVE AND CARDIOVASCULAR SEMIOLOGY OF SOME DEEP BRAIN STRUCTRES. THESE DATA TESTIFY TO A DIFFERENT DEGREE OF INVOLVEMENT OF THE SUBCORTICAL STRUCTURES AND THALAMIC NUCLEI IN THE MECHANISMS OF CENTRAL REGULATION OF THE VEGETAIVE FUNCTIONS. BESIDES THE THEORETICAL SIGNIFICANCE FOR THE PHYSIOLOGY OF DEPTH HUMAN BRAIN STRUCTURES, THE OBTAINED DATA ARE OF INTEREST FOR THE SELECTION OF "NUCLEARTARGETS" IN SURGICAL TREATMENT OF THE DIFFERENT EXTRAPYRAMIDAL AND OTHER DISEASES ACCORDING TO THE STEROTAXICAL METHOD. FACILITY: INSTITUTA EKSPERIMENTAL'NOY MEDITSINY, AMN SSSR, LENINGRAD.

UNCLASSIFIED

1/2 015 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--THIN LAYER CHROMATOGRAPHY OF PRECIOUS ELEMENTS. SEPARATION OF
CHLORIDE COMPLEXES OF PRECIOUS METALS BY PARTITION CHROMATOGRAPHY -U-
AUTHOR-(03)-VOLYNETS, M.P., YERMAKOV, A.N., NIKITINA, L.P.
COUNTRY OF INFO--USSR
SOURCE--ZH. ANAL. KHIM. 1970, 25(2), 294-300
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--THIN LAYER CHROMATOGRAPHY, PLATINUM, PALLADIUM, RHODIUM, GOLD,
IRIDIUM, COMPLEX COMPOUND, CHEMICAL SEPARATION, COBALT, COPPER, IRON,
NICKEL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1993/0917 STEP NO--UR/0075/70/025/002/0294/0300
CIRC ACCESSION NO--AP0113752
UNCLASSIFIED

USSR

UDC 616.24-003.668.4-036.12-085.357.453-008.92

NIKITINA, L. S., and ROZENBERG, P. A., Institute of Industrial Hygiene and Occupational Diseases, Academy of Medical Sciences USSR, Moscow

"Effect of Glucocorticoids on Some Indices of Mineral Metabolism in Chronic Berylliosis Patients"

Moscow, Gigiyena Truda i Professional'nyye Zabollevaniya, No 9, Sep 70, pp 31-34

Abstract: Blood and urine magnesium and calcium levels were determined in 22 patients with chronic berylliosis before and 20-30 days after treatment with prednisolone (15 mg daily, total 175 to 250 mg). One group of patients had not previously taken any glucocorticoids, while another group had taken them for 1-1/2 to 7 years. Before treatment, the first group exhibited a marked decrease in, and increased urinary excretion of plasma magnesium, together with a high serum calcium concentration and low calcium excretion. The second group exhibited the same changes in the electrolytes before treatment as the first group, but they were less pronounced. The administration of prednisolone brought these indices up to the control values in both groups and normalized the magnesium-calcium balance. The condition of all of the patients also improved as indicated by a decrease in dyspnea, cyanosis, and inflammation of the lungs. The therapeutic effect of small doses of glucocorticoids is due to their triggering 1/2

2/2 015

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--APO113752

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIN LAYER CHROMATOG. CAN BE USED SUCCESSFULLY FOR THE RAPID SEPN. OF TRACE AMTS. OF 12 METALS IN MULTICOMPONENT MIXTS. CONTG. PT, PD, RH, IR, AND AU CAN BE SEPD. INTO 3 OR 4 GROUPS BY A PARTITION CHROMATOGRAPHIC METHOD ON SILICA GEL BY USING BU SUB3 PG SUB4, ME SUB2 CO, CYCLOHEXANE, AND MECDET AS MOBILE SOLVENTS. MAX. DIFFERENCES IN THE R SUBF EXIST IN 4N HCL WHEN USING BU SUB3 PG SUB4, IN 6N HCL WHEN USING CYCLOHEXANE, IN 2N HCL WHEN USING ME SUB2 CO, AND IN 2-4N HCL WHEN USING MECDET. THE SEPN. OF NONPRECIOUS METALS (CU, CO, FE, NI) IS POSSIBLE UNDER THE SAME CONDITIONS AS FOR PT METALS. TRACE AMTS. OF AU, PT, AND PD CAN BE DETD. DIRECTLY BY REFLECTANCE DENSITOMETRY WITH A RELATIVE STD. DEVIATION OF 2.9, 18.5, AND 10.2PERCENT, RESP. FACILITY: INST. GEOCHEM. ANAL. CHEM., MOSCOW, USSR.

"APPROVED FOR RELEASE: 09/17/2001" "CIA-RDP86-00513R002202220006-5"

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