NESHPORE, 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.

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).
TITLE: INTERPRETATION OF THE INFRARED ABSORPTION SPECTRUM OF BORON OXIDE

AUTHOR: NIKITIN, V.S.; MALTSEV, A.A.

COUNTRY OF INFO: USSR


DATE PUBLISHED: ---70

SUBJECT AREAS: CHEMISTRY

TOPIC TAGS: IR SPECTRUM, ABSORPTION SPECTRUM, BORON OXIDE

CONTROL MARKING: NO RESTRICTIONS

DOCUMENT CLASS: UNCLASSIFIED

PROXY REEL/FRAME: 1989/0609

CIRC ACCESSION NO: AP0107206
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 OBSERVED
BANDS IN THE SPECTRA (535, 740, 1320, AND 2030 CM PRIME NEGATIVE1)
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 NEGATIVE1 REGION AT SIMILAR TO 1350-1600 DEGREES
IN DRY AR (5-20 TORR). THE SAMPLE OF B SUB2 O SUB3 WAS PRELIMINARILY
DEHYDRATED AND DEGASED AT 1000-1600 DEGREES. THE NEW EXPTS. CONFIRMED
THAT THE BANDS AT 2035, 1320, AND 760 CM PRIME NEGATIVE1 BELONG TO B
SUB2 O SUB3 AND ITS MOL. HAS THE V SHAPE CONFIGURATION WITH C SUB2V
SYMMETRY.
TITLE—FUNGUS DAMAGE AND ITS PREVENTION IN TISSUES PRESERVED IN A POLYMER

AUTHOR—(102)—CHAYKA, N.A., NIKITIN, V.V.

COUNTRY OF INFO—USSR


DATE PUBLISHED—-1970

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/FRA ME—3001/0521

CIRC ACCESSION NO—AP0126269

UNCLASSIFIED
CIRCUIT 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 0.03-0.25 PERCENT 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,
GOS. INST. USGUVERSH. VRACH. IM. KIROVA, LENINGRAD, USSR.

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

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.

1/1
"On the Question of Generating a Stabilized, Ring-Resonator Laser Frequency"


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.
ALEKSEYEYEV, 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 width.
USSR


structure of the line, conducted with a laser containing a mixture of Ne^{20} and Ne^{22}, is described.
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 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.
"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 ($\varepsilon_{\parallel} > \varepsilon_{\perp}$). 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.

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

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

Abstract: A method is proposed for graduating a pulsed laser-spectroscopy 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 rotates 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 $\Delta v/v = 10^{-9}$, where $\Delta v$ is the line width and $v$ is the basic frequency, for injection lasers of GaAs and Pb$_{0.88}$Sn$_{0.12}$Tc. 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-
tion wave of the laser with time was investigated in order to graduate the spectroscope 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 $5 \times 10^5$. 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 $9.2 \pm 0.1$ GHz, corresponding to a value obtained by radiospectroscopy methods.
ZAKHAROV, YU.P., NILOTEN, Y.I., 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.N. Divil'kovskiy's group for assistance in the work. Received by editors, 12 Feb 71; after revision, 12 Apr 71. 2 fig. 1 ref.
"Power Resonances and Frequency Stabilization of a Gas Laser With a Nonlinearly Absorbing Cell"

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.
Masers and Lasers

USSR

UDC: 621.373:530.145.6

BASOV, N. G., BELENOV, E. M., DANIILEYKO, 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.
BASOV, N. G., KOMPANETS, O. N., LETOKHOV, V. S. and NYKITTIN, V. V.
Physics Institute imeni P. N. Lebedev, Academy of Sciences, USSR

"Investigating Narrow Resonance Within the Doppler Line of Rotational-Oscillating Transitions of the SF\textsubscript{6} Molecule during Absorption Saturation"

Moscow, Zhurnal Experimental'noy i Teoreticheskoy 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 Doppler line of rotational-oscillating transitions of the SF\textsubscript{6} molecule during the saturation of adsorption of a quasi-travelling wave from a CO\textsubscript{2} laser. The object of the experiment was to demonstrate the possibility of spectroscopy within the Doppler 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 CO\textsubscript{2} laser frequency. The properties of a nonlinear spectroscopy with a quasi-travelling wave are analyzed.

END
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.
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 ONE NEGATIVE1) WITH IR
ABSORPTION SPECTRA OF POLYSTYRENE.

FACILITY: FIZ.-TEKHN. INST.
IM. IOFFE, LENINGRAD, USSR.

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. F. Litvinov for their assistance with the experiments.
USSR
LITVINOV, V. F., KOLOCHEV, V. I., MOTOROZOV, V. H., NIKITIN, V. M., SEREBROV, A. S., and KHATYREV, N. F.

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

Moscow, Evantovaya 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.

1/1
USSR

BURNOV, M. M., DIANOY, Ye. M., and NIKITIN, Ye. P.

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


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.

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

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

Translation: Annotation: Data on the utilization of low temper-
atures 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 bio-
logical preparations, and certain problems on the nature of
anabiosis of microorganisms, practical recommendations on lyo-
philization of different biopreparations are presented in the
monograph.

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

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

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"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 52-65
(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 ionospheric conditions was studied. Parameters characterising the ion jet-ionospheric plasma interaction, as well as parameters of neutral atmosphere were measured. Scientific data on conducted experiments is presented. 8 figures, 1 table, 11 references.
NIKTIN, 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 nasvoshchenii koefitsiyenta usileniya v poluprovodnikovykh kvantovykh generatorakh i usiliteleyakh (cf. English above), Leningrad, 1970, 10 pp., bibl. of 3 titles (from RZh-Radioteknika, 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 $E > 10^6 \text{ V/m}$, $t_{eg} \approx 3 \cdot 10^{-11} \text{ s}$ (ie is the collision time for nonequilibrium carriers), this contribution is small and is determined by the expression $10^{-2} \kappa$, where $\kappa$ is the amplification factor without regard to deformation. Authors' abstract.

1/1
NIKYPHER, Ya. Yu.

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


Translation: Let \( \{\xi_n\} \) 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 \( \{\xi_n\} \). \( W(t) \) is a Wiener type process. An investigation is made of the rate of convergence of \( f(W^{(n)}(t)) \) to \( f(W(t)) \) for a certain class of continuous functionals. Author's abstract.
NIKITIN, Ye. N., BREKHOV, A. M., LIVSHITS, S. Ye.

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


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

"Parametric "Time-Cost" Problem"


NO ABSTRACT.
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


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/FRAME: 1984/0132

CIRC. ACCESSION NO: AP0054928

UNCLASSIFIED
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
INSTITUTE, 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
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 AKKUMULATOR. IN THE PROCESS
OF BEING ESTABLISHED IS THE FIFTH CORPORATION, THE ELEKTROKIVD.
DESIGN PLANNING AND TECHNOLOGICAL BUREAUS HAVE BEEN ESTABLISHED AT EIGHT
LARGE INDUSTRIAL ENTERPRISES THAT FORMERLY HAD NONE.
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.


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.

PLANNING ECONOMY ADMINISTRATION. FACILITY: FINANCE ADMINISTRATION. FACILITY: TECHNICAL ADMINISTRATION.
CIRC ACCESSION NO.--AN0113890
ABSTRACT/EXTRACT--FACILITY: MINISTRY OF THE ELECTROTECHNICAL INDUSTRY.
TITLE: LUBRICATING COOLING LIQUID FOR COLD WORKING OF METALS

AUTHOR: NIKITIN, YU.I.; SKRIPKO, G.F.; SOKHIN, S.M.; POGORELYY, B.V.

COUNTRY OF INFO: USSR

SOURCE: U.S.S.R. 263,799
REFERENCE: OTKRYTIYA, IZOBRETYA, 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/FRAME: 3004/0844

CIRC ACCESSION NO: AA0131437
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 TETRARorate 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.
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 CRYSTALLIZATION 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 THERMAL MECHANICAL TREATMENT, ENHANCES APPRECIABLY THE STRENGTH PROPERTIES OF VULCANIZATES BASED ON NCN CRYSTALLIZING, AND TO A LESSER EXTENT, OF THOSE BASED ON CRYSTALLIZING RUBBERS.

FACILITY: NII MONOMEROV DLYA SINTETICHESKOGO KAUCHUKA, YAROSLAVL’.

UNCLASSIFIED
USSR

UDC 669.14.046.094.52

NIKITIN, Yu. P., PRIVLOVA, T. P., BARNIN, 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.
UNCLASSIFIED

TITLE—THE COAGULATION PROPERTIES OF THE BLOOD IN THE PLEURAL CAVITY

AUTHOR—NIKITIN, Yu.P., SHUNKOVA, Ye.I., SEVERNIY, V.YA.,

COUNTRY OF INFO—USSR

SOURCE—KHIRRUKGYOA, 1970, NR 6, PP 76-80

DATE PUBLISHED—70

SUBJECT AREAS—BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS—BLOOD COAGULATION, LUNG, SURGERY, FIBRINOLYSIS, THROMBOCYTE, ERYTHROCYTE

CONTROLLER MARKING—NO RESTRICTIONS

DOCUMENT CLASS—UNCLASSIFIED

PROXY REEL/FRAME—3002/1784

STEP NO—UR/0931/70/000/006/076/0080

CIRC ACCESSION NO—AP0129152

UNCLASSIFIED
ABSTRACT. INVESTIGATION OF THE BLOOD 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 REVEALED 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 USOYERSHENSTVOVANIYA VRACHEY, 1-YA GORODSKAYA KLINICHESKAYA BOL'NIIA.
TITLE--THE COAGULATION AND FIBRINOLYTIC PROPERTIES OF THROMBOCYTES OF RABBITS IN EXPERIMENTAL ATHEROSCLEROSIS

AUTHOR--RUDCHENKO, S.A., NIKITIN, YU.P., FEDENKOY, V.I.

COUNTRY OF INFO--USSR

SOURCE--BYULLETIN' EKSKPERIMENTAL'NOY BIOLOGII I MEDITSYNY, 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/FRAME--1982/0849

CIRC accession #0--UNCLASSIFIED
CIRC ACCESSION NO.--AP0052223
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. UNDER INVESTIGATION WERE THE
PLASMA-WASHED THROMBOCYTES, A SUSPENSION OF THEIR STRONG 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

TITLE: THE INFLUENCE OF ADRENALINE ON THE ADHESION OF THROMBOCYTES IN VIVO AND IN VITRO

AUTHOR(S): NIKITIN, YU.P., HELNIKOVA, V.S.

COUNTRY OF INFO: USSR

SOURCE: BYULETTIN' 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/FRAME: 1982/0861

STEP NO: UR/0219/70/069/003/0017/0018

CIRC ACCESSION NO: AP0052275

CIA-RDP86-00513R002202220006-5
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 0.1 PERCENT 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

PROCESSING DATE--16OCT70

1/2 011

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

AUTHOR--(05)--AKSHINSKAYA, N.V., ZAYTSEVA, G.YE., KISELEV, N.V., NIKITIN, YU.S., STRIZHKOV, B.V.

COUNTRY OF INFO--USSR

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

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
A geometric modification of high purity silica gel prepared by hydrolysis of tetraethoxysilane 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 2500 Ångström. 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.
CIRC Accession No.--AP0137908

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

ABSTRACT. HEAT OF ADSORPTION OF A SERIES OF SATD. AND AROMATIC HYDROCARBONS, ETH, TETRAHYDROGURAN, ADN ET SUB3 N ON SILICA GEL CONTG. 0.02-0.38 PERCENT AL HAS DETD. CALORIMETRICALLY AND BY GAS CHROMATOGR. 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. LOMOHOLOVA, MOSCOW, USSR.
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.
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 waterprooving 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 waterprooving degree, the thickening ability of aerosil diminishes. With the same waterprooving 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.
CIRC ACESSION NO.--AP0105637
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. (4.2-350DEGREESK). 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(2PI PRIME2 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.
NIKTINA, 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 HZH-Metallurgiya, No 11, Nov 70, Abstract No 116175 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 H₂SO₄ is introduced into solution with the following ratio of components (in g/l): Ge (in the form of GeO₂) 0.1-1, Fe (in the form of Fe₂(SO₄)₃ 0.1-1, ammonium oxalate 5-10, H₂SO₄ up to pH 1.5, with the process being conducted at temperatures of 25-80°C and Dk of 1-5 a/dm².

1/1
"Purification of Magnesium Production Gases to Remove Chlorine in Hollow Scrubber"


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 Ca(ClO)₂ of 45-60 g/l with various contents of Ca(OH)₂ and resulted from decomposition of the Ca(ClO)₂. Addition of CaCl₂ 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 m²/m²-hr helps to improve the absorption indicators. With counterflow, the empirical equation \( K_v = 2.75 \times W^{1.25} \times 10^{0.67} \) was produced, where \( K_v \) is the volumetric coefficient of the rate of absorption, kmol/m³-hr·bar, \( W \) is the gas speed, m/sec, and \( L \) is the sprinkling density, m²/m²-hr. 6 figs.
YAROCHENKO, T. V., GREECHEYUK, Ye. A., NIKITINA, A. V., and KUZICHIVA, 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 zeae, Curcospora beticola, Peronospora schachtii, Tilletia
tritici, Sphacelotheca panicelli, 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 in-
duced by different agents.
NIKITINA, A. V., Division of Phytopathology, Institute of Biology, Kharkov University, Kharkov

"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 Sphaeciotheca panici milieaei (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 chlamydoospores 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 1/2
NIKITINA, A. V., Ukrainskiy Botanicheskiy Zhurnal, Vol 28, No 4, Jul/Aug 71, pp 514-516

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.
NIKTTINA, A. V., Division of Phytopathology, Institute of Biology, Kharkov University, Kharkiv

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Abstract: The direct effects of Mn and Cu on Sphacelotheca panici miliaeci (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 1/2

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 chlamydespores, which took place only in rare instances.
TITLE: INFECTION AND LYSIS OF GRAM-NEGATIVE BACTERIA BY PARASITIC BACTERIA

AUTHOR: MIKHUSIN, YE. N., NIKITINA, E. S.

COUNTRY OF INFO: USSR


DATE PUBLISHED: 1970

SUBJECT AREAS: BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS: ESCHERICHIA COLE, PSEUDOMONAS, SERRATIA MARCESCENS, BACTERIOLOGY

CONTROL MARKING: NO RESTRICTIONS

DOCUMENT CLASS: UNCLASSIFIED

STEP NO: UR/0216/70/000/003/0423/0426

CIRC. ACCESSION NO: AP0126247
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, 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
BDELLOVIBRIO BACTERIOVORUS CELLS DEPENDING ON AGE, MEDIUM COMPOSITION
AND INCUBATION CONDITIONS WERE DETERMINED. FACILITY: INSTITUTE
OF MICROBIOLOGY, ACADEMY OF SCIENCES, USSR.
UNCLASSIFIED

TITLE--CORRELATION BETWEEN FUNCTIONAL DEVELOPMENT OF THE HIPPOCAMPUS AND THE SEPTUM IN RABBITS IN ONTOGENESIS

AUTHOR--BORAVOVA, A.I.; NIKITINA, G.M.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL VYSSHEY NERVNOY DЕYATEL'NOSTI, 1970, VOL 20, NR 3, PP 593-601

DATE PUBLISHED--1970

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

TITLE—REACTION OF ELECTRONS WITH MERCURY ATOMS IN GASFILLED DEVICES

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

STEP NO—UR/0146/70/013/001/0009/0012

CIRC ACCESSION NO—AT0118622

CLASSIFIED
ABSTRACT: INVESTIGATION OF SINGLE COLLISIONS EFFECTIVE CROSS SECTIONS OF ELASTIC AND NONELASTIC ELECTRON COLLISIONS WITH HG ATOMS AS A FUNCTION OF THE 6P PRIME3 P SUB30, 6P PRIME3 P SUB30, 6P PRIME1 P SUB1 LEVELS. FACILITY: LENINGRAD, INST. TOCHNOI MEKH. OPT., LENINGRAD, USSR.
ABSTRACT. The effect of spaceflight factors on the biological effectiveness of seeds 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 year, 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 (germination energy and germination of seeds, growth of the primary root), and also on the appearance of aftereffects of the studied phenomena 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 radiosensitivity 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 irradiation 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.
ROLE OF MOLECULAR OXYGEN IN THE METABOLISM OF MICROORGANISMS -U-

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/FRAME--3001/1904

STEP NO--UR/0221/70/069/001/0072/0094

CIRC ACCESSION NO--AP0127305

UNCLASSIFIED
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.
Preparation of mesitylene and durene by the isomerization and disproportionation of pseudocumene. Kol'vand, L. Ya.; Privalkov, V. E.; Fomenko, G. M.; Nikitina, A. A.; Lukshina, L. S.; Kochergin, V. A.; Kharitkov, N. M.; Koltova, A. P.; Blym, L. M.; Grebennik, V. G. (Khimiya, Nauka, Moskva, Russ.) 1,2,4-Me$_3$C$_6$H$_2$ (I) of 90-95% purity was prepared by rectifying coke chem. solvents (30-55 and 10-20% Me$_3$C$_6$H$_2$, 4-6 and 2-3% m + p-Et$_3$C$_6$H$_2$, 15-17 and 10-12% 1,3,5-Me$_3$C$_6$H$_2$ (II), 1-1.2 and 0.7-0.9% o-Et$_3$C$_6$H$_2$, 16-18 and 12-14% I, 1-2 and 2-3% 1,2,3-Me$_3$C$_6$H$_2$, 2-6 and 1-3% unsatd. compds.) on columns having 50 theoretical plates at a reflux no. of 69-100. Isomerization and disproportionation in the presence of 30-50% of an AlCl$_3$-I$_2$ complex at 127° for 3 hr in exptl. app. yielded 4.00% C$_6$H$_4$-complex, 17.27% Me$_3$C$_6$H$_2$, 17.02% II, 33.09% 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 97.8% purity in 30-34% yield. After rectification to increase III concn. to 55.94% in the III fraction, recryst. at 5 to -18° yielded III of ~89% purity and further recryst. 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
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%.
CIRC ACCESSION NO—AP0124326

CIRC ACCESSION NO.--AP0108949
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FIXED RABIES V RVIRUS (SAD STRAIN) WAS PASSED SERIALLY IN PRIMARY CULTURES OF SYRIAN HAMSTER KIDNEY AT 37 DEGREES CELSIUS FOR 47 PASSAGES, AT 32 DEGREES FOR 31 PASSAGES AND AT 28-26 DEGREES FOR 11 PASSAGES. THE "COLD" VARIANTS OF THE VIRUS WERE SHOWN TO MULTIPLY VERY POORLY AT HIGH TEMPERATURES (40 DEGREES CELSIUS) (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 CULTURES AT 40 DEGREES AND ITS LOW VIRULENCE FOR LABORATORY ANIMALS.
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 FAUL'TETSKOY KHIRURGI 2-60 LECHEBNOGO FAKUL'IETA I MOSKOVSKOGO MEDITINSKOGO INSTITUTA IM. I. N. SECHENOVA AND NNIIP MINISTERSTVA RADIOPROMYSHLENNOSTI SSR.
UNCLASSIFIED

TITLE—THIN LAYER CHROMATOGRAPHY OF PRECIOUS ELEMENTS. SEPARATION OF CHLORIDE COMPLEXES OF PRECIOUS METALS BY PARTITION CHROMATOGRAPHY

AUTHOR—Volynets, M.P.; Yermakov, A.N.; Nikitina, L.P.

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NIKITYNA, 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, Gigiyeona Truda i Professional'nyye Zabolevaniya, 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

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CIRC ACCESSION NO—AP0113752

ABSTRACT/EXTRACT—(U) GP-O—ABSTRACT. THIN LAYER CHROMATOGRAPHY CAN BE USED SUCCESSFULLY IN THE SEPARATION OF TRACER ANTS. MULTICOMPONENT MIXTURES. CONTO. PT, PD, RH, IR, AND AU CAN BE SEP. INTO 3 OR 4 GROUPS BY A PARTITION CHROMATOGRAPHIC METHOD ON SILICA GEL BY USING BU SUB3 PG SUB4, ME SUB2 CO, CYCLOHEXANE, AND MECUET AS MOBILE SOLVENTS. MAX. DIFFERENCES IN THE R SUBAF 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 MECUET. THE SEP. OF NONPRECIOUS METALS (CU, CO, FE, NI) IS POSSIBLE UNDER THE SAME CONDITIONS AS FOR PT METALS. TRACER ANTS. OF AU, PT, AND PD CAN BE DET. DIRECTLY BY REFLECTANCE DENSITOMETRY WITH A RELATIVE STD. DEVIATION OF 2.9, 18.5, AND 10.2 PERCENT, RESPECTIVE. FACILITY: INST. GEOCHEM. ANAL. CHEM., MOSCOW, USSR.