

USSR

UDC 681.3

YELISEYEV, V. G., PIVOVAROV, A. N.

"Study of Tabular Method in Solution of Certain Problems of Residual Class Notation"

Probl. Tekhn. Elektrodinamiki, [Problems of Engineering Electrodynamics--Collection of Works], No. 24, Kiev, Nauk. Dumka Press, 1970, pp 178-180, (Translated from Referativnyy Zhurnal Kibernetika, No 5, 1971, Abstract No. 5V607, by the authors).

Translation: Problems are studied for decoding the states of a system for coding pulses, represented by counters with numbers of positions which are mutually simple in pairs. Due to the possibility of performing arithmetic operations digit by digit and the absence of number carrying, parallel ring counters have significantly higher speed than series binary and decimal counters. A table of mutually simple basis is presented for decoding of the states of parallel ring counters and the method of its composition is described.

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USSR

UDC 621.9.048.4:669.018.25

MUKHANOV, I. I., FILIMONENKO, V. N. and PIVOVAROV, B. Kh., Novosibirsk
Electrical Engineering Institute

"Physical and Mechanical Condition of the Surface Layer of Hard Alloy
Products After Electric Spark Treatment"

Kiev, Fiziko-Khimicheskaya Mekhanika Materialov, Vol 6, No 6, 1970, pp 3-6

Abstract: Results are presented from a study of the physical and mechanical state of the surface layer of hard alloy products made of alloys in group WC after treatment by electric spark tools operating in the RC generator mode. A metallographic study of the surface layer after electric spark treatment showed that there was a fused layer present, which arises even when there are no cracks on the surface. The fused layer is divided into two zones. The upper zone has a finely dispersed structure, resulting from rapid cooling of the fused alloy. The lower zone shows unmelted grains of tungsten carbide.

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USSR

UDC 632.95

PIVOVAROV, G. A., and SAKODYNSKIY, K. I.

"Identification of Certain Chloro- and Phosphoorganic Pesticides on the Basis of Retention Time"

V sb. Novyye Sorbenty Dlya Khromatografii (Collection of Works on New Sorbents for Chromatography), Vyp 16, Moscow, 1971, pp 115-118 (from Referativnyy Zhurnal -- Khimiya, Svodnyy Tom (I, L-S), No 1(II), 1973, Abstract No IN444 by I. A. Revel'skiy)

Translation: The relative retention time of pesticides on sorbents was used for the identification of pesticides in multicomponent mixtures with the electron capture detector. Data are presented on the retention time of 23 chloro- and phosphoorganic pesticides with respect to aldrin. Glass columns containing the following sorbents were used: 3% methyl silicone SE-30; 3% fluorine silicone QF-1 and 3% methyl silicone SE-30; 3% fluorine silicone QF-1; 3% diethylene glycol succinate DEGS on chromosorb W containing silane.

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USSR

UDC 632.95

PIVOVAROV, G. A.

"Requirements for the Gas Chromatographic Apparatus Used for the Analysis of Residual Amounts of Pesticides"

V sb. Problemy Analiticheskoy Khimii (Collection of Works of Analytical Chemistry), Vol 2, Moscow, Nauka, 1972, pp 104-110 (from Referativnyy Zhurnal -- Khimiya, Svodnyy Tom (I, L-S), No 1(II), 1973, Abstract No 1N441 by T. A. Belyayeva)

Translation: The use of thermionic and electron-catching detectors having a radioisotope source and capable of functioning at 250-300°C should be considered in design of the gas chromatographic apparatus. In order to produce a complete analysis of complex mixtures, such as pesticide residues and their metabolites in biological material, it is necessary to have a detecting system functioning alone with the chromatographic equipment. After passing the column and separator, the sample should be supplied to two detectors the signals from which are recorded on the same chromatogram by a two-channel recorder. The flame ionization detector is more suitable for use in a general evaluation of background and for detection of accompanied impurities. The analysis procedures requires recording of the column system
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USSR

PIVOVAROV, G. A., Problemy Analiticheskoy Khimii, Vol 2, Moscow, Nauka, 1972, pp 104-110

temperature up to 300°C, and of detecting system up to 350°C with an accuracy of $\pm 0.1^\circ\text{C}$. The chromatographic unit should be equipped with an additional device for the introduction of solid samples. A completely glass column system and absorbent trap should also be available.

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USSR

UDC 632.95

SAKODYNSKIY, K. I., PIVOVAROV, G. A.

"Identification of Organochloride and Organophosphorus Pesticides by Relative Retention Times"

Tr. 2-go Vses. soveshch. po issled. ostatkov pestitsidov profilakt. zagryazneniya imi produktov pitaniya, kornov i vnesh. sredy (Works of the Second All-Union Conference on the Investigation of Pesticide Residues and Preventive Contamination of Food Products, Fooder and Environment), Tallin, 1971, pp 120-123 (from RZh-Khimiya, No 12, Jun 72, Abstract No 12N420).

Translation: Data are presented on the relative retention times (with respect to aldrin) obtained for 23 organochlorine and organophosphorus pesticides by means of a chromatograph with an electron capture detector in the following columns: 1) nonpolar with 3% methylsilicone (SE-30) in silanized chromosorb W; 2) mixed (1:1) with 3% fluorosilicone (QF-1) and methyl silicone (SE-30) in the same carrier; 3) polar with 3% fluorosilicone (QF-1) in the same carrier; 4) polar with 3% diethyleneglycol succinate and the same carrier (temperature 180°).

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USSR

UDC 632.95

PIVOVAROV, G. A.

"Characterization of Some Operational Parameters of Gas Chromatography Apparatus in Analysis of Organophosphorus and Organochlorine Pesticides"

Tr. 2-go Vses. soveshch. po issled. ostatkov pestitsidov i profilakt. zagryazneniya imi produktov pitaniya, kormov i vnesh. sredy (Transactions of the Second All-Union Conference on the Study of Pesticide Residues and Prevention of Their Contamination of Food Products, Fodder and the External Environment), Tallinn, 1971, pp 89-92 (from RZh-Khimiya, No 13, 10 Jul 72, Abstract No 13N442 by T. A. Belyayeva)

Translation: The article describes results of a study of the comparative sensitivity of three detectors, viz. electron capture, thermionic and flame ionization, to 30 organochlorine and organophosphorus pesticides and their minimum detectable concentrations. The thermionic detector permits selective determination of picogram quantities of organophosphorus pesticides, the electron capture detector picogram concentrations of organophosphorus and organochlorine compounds. The sensitivity of the flame ionization detector is within a "gamma" or tenths of a "gamma".

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USSR

UDC 632.95

PIVCHAROV, G. A., and NOVIKOVA, K. F.

"Determination of Residual Quantities of Metaphos in Products of Vegetable Origin and Water by Gas-Liquid Chromatography Method"

Tr. 2-go Vses. soveshch. po issled. ostatkov pestitsidov i profilakt. zagryazneniya imi produktov pitaniya, Kormov i vnesh. sredy (Transaction of the Second All-Union Conference on the Study of Pesticide Residues and Prevention of Their Contamination of Food Products, Fodder and the External Environment), Tallinn, 1971, pp 85-88 (from RZh-Khimiya, No 13, 10 Jul 72, Abstract No 13N476 by T. A. Belyayeva)

Translation: One-hundred milliliters of acetone are poured over a 50 g vegetable sample, shaken for 15 min. and the extract is filtered. The operation is repeated twice. The extract is boiled down to a volume of 15-20 ml, passed through an N4 porous filter, stirred with a double volume of distilled water and 20 ml hexane for 1-1.5 min. The acetone-aqueous solution is extracted with 4 x 20 ml hexane. The extracts are combined, dried over Na_2SO_4 , passed through an N1 porous filter, boiled down, and 5 ml of hexane is added to the residue. Five microliters of the solution are introduced into 1/2

- 67 -

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PIVOVAROV, G. A., et al., Tr. 2-go Vses. soveshch. po issled. ostatkov pestitsidov i profilakt. zagryazneniya imi produktov pitaniya, kormov i vnesh. sredy, Tallinn, 1971, pp 85-88

the evaporator of the chromatograph. The GLC method is used with an electron-capture and thermionic detector. Columns are identical, with 5% methyl-silicone on chromosorb W (100-120 mesh), temperature 170°. Carrier gas H₂. Sensitivity of method for vegetable sample 0.02 mg/kg, for water 0.01 mg/l.

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USSR

UDC 621.762.001:669.27

TRET'YAKOV, V. I., PIVOVAROV, L. Kh., NOVIKOVA, M. B., LIDER, V. Ya.,
NOVIKOVA, T. A., VRZHESHCH, Ye. Ya., and KARASEV, G. F.

"Influence of Surface Layer on Plates of Titanium-Tungsten Hard Alloys
on Wear Resistance During Cutting"

Sb. tr. Vses. n.-i. i proyekt. in-t tugoplavk. met. i tverd. splavov
[Collected Works of All-Union Scientific Research and Planning Institute
for Refractory Metals and Hard Alloys], No. 10, 1970, pp. 55-60
(Translated from Referativnyy Zhurnal-Metallurgiya, No. 2, 1971, Abstract
No. 2 G413 by the authors)

Translation: Results are described from determination of the resistance
factor to cutting of specimens of titanium-tungsten hard alloys, when
layers of altered composition and structure are formed on the cutting
edges with certain sintering modes. It is established that the presence
of surface layers on the cutting edges of the cutting plates increases
their wear resistance during cutting by an average of 1.6 times.
2 figures; 2 tables; 3 bibliog. refs.

1/1

USSR

UDC 616-072.85

PIVOVAROV, M. A., Candidate of Medical Sciences

"The Dynamics of Sensomotor Reactions and Tremors During Repeated Measurements"

Moscow, Voyenno-Meditsinskiy zhurnal, No 10, 1972, pp 63-67

Abstract: The methods of measuring sensorimotor, static tremors, and dynamic tremors are often used by psychographologists to determine the neurodynamic characteristic and the motor reactions of military specialists in determining states of fatigue and activity under various living conditions. The purpose of this paper is to show the course of variations and characteristics of the exercise of sensorimotor reactions and tremors in people of the same age, sex, profession, and life styles, using a stable method, the same instruments, and the same experimenters. The measurements were conducted using 72 young, healthy males (students) of whom 59 were kept in the same place (group A) while the other 13 were observed under ambulatory conditions (group B) both for the period of one month. Details of the experimental method and instruments are given together with the measurement results. Curves are plotted for the dynamics of simple and selective reactions.

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- 36 -

USSR

UDC 550.822.7

PIVOVAROV, V. D., All-Union Petroleum Scientific Research Institute for
Technical Safety

"A Health Evaluation of Labor Conditions in Drilling Oil Wells at Sea"

Gigiyenicheskaya otsenka usloviy truda pri burenii neftyanykh skvazhin na more (cf. English above), Baku, 1972, 6 pp, 4 bibliographic citations (manuscript deposited in VNIIONEG, No 29, 8 Dec 1972) (RZh-Geologiya, No 4, 1973, Abstract No 4 L12)

Translation: Questions of labor health in drilling petroleum wells under sea conditions of the Azerbaydzhan SSR are explained. The specific characteristics of drilling at sea which distinguish it from similar operations on land and superimpose certain characteristics on the organization and conduct of drilling operations are shown. An analysis is given of the parameters of production factors which can influence the worker's condition in offshore drilling teams, including the important role of the unfavorable weather and micro-climatic conditions, the illumination of the work place and the noise and vibration of the drilling equipment. In addition the labor of workers in offshore drilling requires higher physical and nervous-emotional loads than dry land drilling. On the basis of the studies and observations made, practical suggestions and recommendations leading to healthier conditions of labor in offshore drilling are made.

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- 84 -

1/2 020 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--MECHANISM GOVERNING THE FORMATION OF BAINITE STRUCTURE IN
HYPEREUTECTOID STEELS -U-
AUTHOR-(03)-LEVCHENKO, A.A., PIVOVAROV, V.M., TANANKO, I.A.
COUNTRY OF INFO--USSR
SOURCE--FIZIKA METALLOV I METALLOVEDENIE, FEB. 1970, 29, (2), 329-334
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--STEEL MICROSTRUCTURE, BAINITE, HIGH CARBON STEEL, CARBIDE
PHASE, ELECTRON MICROSCOPY, ALLOY PHASE TRANSFORMATION, HYPEREUTECTOID
STEEL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3003/0339 STEP NO--UR/0126/70/029/002/0329/0334
CIRC ACCESSION NO--AP0129571

UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0129571

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FORMATION OF THE BAINITE STRUCTURE IN HIGH C STEELS BY ISOTHERMAL QUENCHING AT 300-500DEGREESC WAS STUDIED IN AN ELECTRON MICROSCOPE AND THE RESULTS WERE CORRELATED WITH X RAY DIFFRACTION DATA. THE CARBIDE PHASE PRECIPITATING IN THE INITIAL STAGES OF THE TRANSFORMATION HAD AN ACICULAR FORM AND RESULTED IN THE DEVELOPMENT OF RELIEF ON THE POLISHED SURFACE OF THE MICROSCETION. THE AUSTENITE DECOMPOSITION PRODUCTS OBTAINED IN THE TEMP. RANGE INDICATED CONSTITUTED A FERRITE-CARBIDE MIXTURE WITH A CLEAR PREFERRED ORIENTATION OF THE CARBIDE PARTICLES.

UNCLASSIFIED

USSR

UDC 681.327+621.367:61.004.14

ZHANDAROV, M. Ye., and PIVOVAROV, V. T.

"A Method for Decreasing False Information Fed Into a Computer From a Television Transmitting Tube"

Leningrad, Elementy Tsifrovyykh Sistem Upravleniya, "Nauka," 1971, pp 44-50

Abstract: Highly sensitive television tubes are in wide usage today for analyzing the light fields carrying information concerning the state of a unit. However, a fluctuating noise also exists at the output of the television transmitting tube in addition to the signals carrying the desired information at low levels of illumination of the unit's light field. This fluctuating noise results in errors in the operation of the registering circuit (the threshold device which reacts to the instantaneous value of the signal). These false signals complicate the processing of the real information and increase the number of computations required. With a low signal-to-noise ratio in the channel for converting the light signal into an electrical signal it is simply impossible to analyze the information with the aid of a digital computer. The authors conclude that the automatic identification of a unit with a television transmitting tube and a computer

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USSR

ZHANDAROV, M. Ye., and PIVOVAROV, V. T., Elementy Tsifrovyykh Sistem Upravleniya, "Nauka," 1971, pp 44-50

can be done using the method of logical comparison of the data and that the amount of false information created by the fluctuating noise and registered in the memory block of the computer can be substantially reduced. The article contains 3 illustrations and 2 bibliographic entries.

2/2

- 123 -

USSR

UDC 537.311.3:546.18'681

PIVOVAROV, V. Ya., and TKACHEV, V. D.

"Energy Spectrum of Radiation Damages in Epitaxial N-Type Gallium Phosphide"

V sb. Radiats. fiz. nemat. kristallov (Radiation Physics of Nonmetallic Crystals -- Collection of Works), Vol 3, Part 2, Kiev, "Nauk. dumka," 1971 pp 3-10 (from RZh--Elektronika i yeye primeneniye, No 10, October 1971, Abstract No 10B54)

Translation: The energy spectrum is investigated of local levels in epitaxial n-type gallium phosphide introduced by fast reactor neutrons. During the time of irradiation, the temperature of the specimens did not exceed 70° C. All the specimens were irradiated by an integral flow of $2 \cdot 10^{17} \text{ cm}^{-2}$. The spectra of photoconductivity and transmission were plotted at room temperature and 50° K and the temperature dependence of electrical conductivity in the interval 80 - 300° K. After irradiation, resistance in all the specimens increased, but the type of conductivity remained. The relative change of resistance depended on the initial concentration of free electrons. After irradiation a strong increase was observed of absorption in the region of energies from 0.7 - 0.9 ev up to 2.3 ev, and with $h\nu < 0.7 \text{ ev}$ absorption in the irradiated crystals decreased, which is connected with a decrease of the concentration of free electrons. A comparison of the energy spectra of the levels in irradiated and non-irradiated crystals showed that in irradiated material the energy spectrum of

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PIVOVAROV, V. Ya., and TKACHEV, V. D., Radiats. fiz. nemat. kristallov
(Radiation Physics of Nonmetallic Crystals -- Collection of Works), Vol 3,
Part 2, Kiev, "Nauk. dumka," 1971, pp 3-10 (from RZh--Elektronika i veye
primeneniye, No 10, October 1971, Abstract No 10B54)

the defects is considerably richer. Photoconductivity after irradiation is principally increased in the region of energies < 2 ev which is accounted for by the increase of concentration of imperfections of the lattice which gives a deep energy level in the forbidden band. 4 ref. I.I.

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- 111 -

PIVOVAROV, Yu. L.

radio engr

SO: JPRS 66143
01 June 1974

GURIA

UDC 629.7.056.24.001

STATISTICAL ERROR ANALYSIS OF
AN FM RADIO ALGORITHM WITH PULSE FLUCTUATION

Pages 148-153

Yu. L. PIVOVAROV, Engineer

Abstract: In order to obtain for autonomous measurement of the frequency parameters of signals, continuous signals with angular modulation have been used more frequently. By generation of other forms of modulation, the receiver and transmitter, suppression of echoes from structural elements of the aircraft, compensation of wavefronts at low altitudes, and so on) mentioned in reference [1] which improve the technical-cyclic parameters of the investigated process. It is most expedient to use angular modulation when constructing radar ensuring handling of an aircraft on a surface where it is necessary to measure small ranges and velocities.

A characteristic feature of the investigated autonomous receiver is that they operate by signals from extended surfaces the angles to the elements of which and radial velocities (the projection of the vector velocity V of the aircraft on the observation direction) are different. The signal at the receiver input carries information about the power distribution of the echo with respect to range and radial velocities for all directions of the irradiated surface, however, as a result of processing the received signal usually an effort is made to determine the range or radial velocity to one element of the surface located nearest on the continuation of the axis of the radiation pattern of the radar antenna (range finding) or in the direction of the local vertical (altitude). Therefore, the primary problem when optimizing the accuracy of these measurements must be considered to be the problem of how the initial distortions are depicted and how they change in certain parameters of the signal during signal processing in the receiver.

In this paper, the representation of the power distribution of the echo with respect to range (within the required range-finding operation) is found by the method of projecting rays to the surface for one time of angular modulation when the range information is extracted from the phase of the converted signal and additionally included when respect to frequency. Formulas are derived for estimating the systematic and fluctuation measurement errors.

USSR

UDC 621.396.96:629.7.054'842

PIVOVAROV, Yu. L.

"Statistical Analysis of Errors of an FM Radio Altimeter With Phase Reading"

Tr. Mosk. aviats. in-ta (Works of Moscow Aviation Institute), 1971, vyp. 207, pp 120-133 (from RZh-Radiotekhnika, No 12, Dec 71, Abstract No 12G69)

Translation: An investigation is made of distribution of the power of an echo signal from an extended surface in FM radio altimeter signal parameters during signal processing. Systematic and fluctuation errors in range measurement are determined. Six illustrations, bibliography of five titles. Resumé.

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1/2 006 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--THE POPULATION OF SOCIALIST COUNTRIES OF EUROPE OUTSIDE THE SOVIET
UNION. STRUCTURAL GEOGRAPHIC SHIFTS -U-
AUTHOR--PIVOVAROV, YU.L. P
COUNTRY OF INFO--COMMUNIST WORLD
SOURCE--THE POPULATION OF SOCIALIST COUNTRIES OF EUROPE OUTSIDE THE SOVIET
UNION. STRUCTURAL GEOGRAPHIC SHIFTS. (NASELENIYE SOTSIALISTICHESKIKH
DATE PUBLISHED--70
SUBJECT AREAS--BEHAVIORAL AND SOCIAL SCIENCES
TOPIC TAGS--DEMOGRAPHY, ECONOMIC GEOGRAPHY, POLITICAL GEOGRAPHY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1988/0422 STEP NO--UR/0000/70/000/000/0001/0173
CIRC ACCESSION NO--AM0105444
UNCLASSIFIED

2/2 006

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AM0105444

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ON THE BASIS OF SUMMARIZED RESULTS OF THE LATEST NATIONAL CENSUS AND OTHER NEW MATERIALS THIS MONOGRAPH INVESTIGATES THE PROCESSES THE CHANGES IN THE NUMBER, STRUCTURE AND DISTRIBUTION OF THE POPULATION OF THE GERMAN DEMOCRATIC REPUBLIC, POLAND, CZECHO-SLOVAKIA, HUNGARY, ROUMANIA, BOLGARIY AND JUGO-SLAVIA AFTER THE SECOND WORLD WAR. IN DETAIL IS ANALYZED THE PRESENT URBAN AND RURAL SETTLEMENT IN THESE SOCIALIST COUNTRIES, ESPECIALLY THE PROCESSES OF URBANIZATION, DEVELOPMENT OF AGLOMERATIONS AND NETWORK OF CITIES AND THE CHANGES IN THE FUNCTIONAL STRUCTURE OF INHABITED PLACES.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--BAC. CEREUS AS A CAUSATIVE AGENT OF FOOD POI QNGS IN MAN -U-
AUTHOR--(05)-PIVOVAROV, YU.P., SIDORENKO, G.I., TKACHENKO, A.V., GOLDBERG,
YE.S., AKIMOV, A.M.
COUNTRY OF INFO--USSR
SOURCE--VOPROSY PITANIYA, 1970, NR 3, PP 25-28
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--FOOD CONTAMINATION, BACILLUS, POISON
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1999/1164 STEP NO--UR/0244/70/000/003/0025/0028
CIRC ACCESSION NO--AP0123141
UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0123141

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN RECENT YEARS FOOD POISONINGS CAUSED BY BAC. CEREUS HAVE BEEN AN OBJECT OF LARGE SCALE STUDIES IN A NUMBER OF COUNTRIES. SINCE 1967 THE QUESTION AS TO THE ETIOLOGICAL ROLE OF BAC. CEREUS IN THE CAUSATION OF POISONINGS IN THIS COUNTRY HAS BEEN STUDIED AT THE CHAIR OF GENERAL HYGIENE OF THE 20 MOSCOW MEDICAL INSTITUTE IN COOPERATION WITH MICROBIOLOGICAL LABORATORIES OF THE SANITARY EPIDEMIC STATIONS OF THE MOSCOW AND LUGANSK REGIONS. TWO MAJOR, 4 FAMILIAL OUTBREAKS AND 29 ISOLATED CASES OF THIS AFFECTION WERE REGISTERED IN THE PAST PERIOD. IN THE CASES UNDER REVIEW A DISTINCT SEASONAL NATURE AND A GREAT VARIETY IN THE CLINICAL COURSE COULD BE DISCERNED AMONG CAUSES (SUPPORTED BY BACTERIOLOGICAL ANALYSES) RESPONSIBLE FOR THE POISONINGS WERE PRODUCTS OF BOTH ANIMAL AND VEGETABLE ORIGIN. BACKGROUNDS OF CRITERIA FOR DIAGNOSING THE AFFECTIONS UNDER DISCUSSION ARE OFFERED. FACILITY: KAFEDRA OBSHCHEY GIGIYENY II MOSKOVSKOGO MEDITSINSKOGO INSTITUTA IM. N. I. PIROGOVA.

UNCLASSIFIED

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USSR

UDC 616.981.513-022.38-059:616.3-003.1

~~PIVOVAROV, Ye. P.~~, SIDORENKO, G. I., TKACHENKO, A. V., GOL'DBERS, Ye. S.,
AKIMOV, A. M., VOLKOVA, R. S., and SHELAKOVA, V. V., Chair of General Hygiene,
Second Moscow Medical Institute imeni N. I. Pirogov

"Bacillus cereus as an Agent of Food Poisoning in Man"

Moscow, Voprosy Pitaniya, No 3, 1970, pp 25-25

Abstract: During an investigation of food poisonings treated in several clinics and hospitals in Moscow, Moscow Oblast, and Roven'kovskiy Rayon, Luganskaya Oblast (Ukraine) since 1967, it was found that two general outbreaks, four familial outbreaks, and 29 isolated cases involving a total of over 150 persons were caused by Bacillus cereus. The microorganism was isolated in large quantities from the intestinal contents, vomited material, and suspected food products (sausage, beet and potato soup, stewed cabbage, boiled meat, sardines, canned duck and beef). Most of the cases were reported in the summer and fall. The course was generally mild and brief. After an incubation period of 10 to 16 hours, sometimes 4 to 6 hours, symptoms appeared - stomach pains, nausea, diarrhea. The symptoms subsided in 11 to 16 hours, less commonly in 24 to 48 hours. About 2% of the cases followed a more severe and longer (3 to 5 days) course.

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USSR

UDC 616.89-008.46-053.2-085.356:577.164.1

DERGACHEV, V. V., PIVOVAROVA, G. N., KHAMAGANOVA, T. G., SHAGINYAN, Ye. V.,
KRASNUSHKINA, N. A., KULIKOVA, N. V., and MOKROVSKIY, V. B., Medico-Biological
Faculty, Second Moscow Medical Institute imeni N. I. Pirogov and Department of
Higher Nervous Activity Institute of Hygiene of Children and Adolescents,
Ministry of Health USSR

"Orotic and Folic Acids and Vitamin B₁₂ in the Treatment of Children with Memory
Disorders"

Moscow, Sovetskaya Meditsina, Vol 33, No 7, Jul 70, pp 78-82

Abstract: Since the genetic apparatus contained in all cells preserves not only phylogenetic but also ontogenetic information, and since nucleoproteins and nucleic acids are essential constituents of the memory mechanism, a study was undertaken in which the cofactors and precursors of proteins and nucleic acids -- orotic acid, folic acid, and vitamin B₁₂ -- were administered to a group of children with disturbed memory. The results indicated, that even though short-term memory, attention, and certain other mental functions were not affected, long-term memory improved significantly. Positive results can be obtained only if treatment is begun early, before marked organic changes develop in the central nervous system.

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1/2 029

UNCLASSIFIED

PROCESSING DATE--02OCT70

TITLE--TREATMENT OF THE SURFACE OF TITANIUM ALLOYS -U-

AUTHOR--(04)-BTRAKOV, V.P., PIVOVAROVA, L.N., VASKAN, L.A., YEGOROVA, T.M.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 261,091

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRATSY, TOVARNYE ZNAKI 1970;

DATE PUBLISHED--06JAN70

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SUBJECT AREAS--MATERIALS

TOPIC TAGS--TITANIUM ALLOY, METALLURGIC PATENT, NITRIC ACID, HYDROFLUORIC ACID, SURFACE AREA, HYDROGENATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/1788

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

CIRC ACCESSION NO--AA0109749

UNCLASSIFIED

2/2 029 UNCLASSIFIED PROCESSING DATE--02OCT70
CIRC ACCESSION NO--AA0109749
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SURFACE OF TI ALLOYS WAS
TREATED IN A SOLN. OF HF AND HNO SUB3. TO REMOVE A HYDROGENATED LAYER
FROM THE SURFACE, THE SOLN. CONSISTED OF: HNO SUB3 (SP. GR. 1.4) 62-83,
HF (SP. GR. 1.13) 16-17 WT. PERCENT AND WATER THE REMAINDER, AND THE
PROCESS TOOK PLACE AT ROOM TEMP. FOR 3-10 MIN.

UNCLASSIFIED

1/2 033

UNCLASSIFIED

PROCESSING DATE--13NOV70
TITLE--EFFECTIVE ELECTRON COLLISION FREQUENCY IN AURORAL IONOSPHERE -U-

AUTHOR--(02)-OSIPOV, N.K., PIVOVAROVA, N.B.

P

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, GEOMAGNETIZM I AERONOMIYA, VOL X, NO 3, 1970, PP 551-552

DATE PUBLISHED-----70

SUBJECT AREAS--ATMOSPHERIC SCIENCES

TOPIC TAGS--AURORA, -IONOSPHERE, ELECTRON COLLISION, ELECTRON TEMPERATURE,
ELECTRON CONCENTRATION, ELECTROMAGNETIC WAVE SCATTERING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/1926

STEP NO--UR/0203/70/010/003/0551/0552

CIRC ACCESSION NO--AP0133775

UNCLASSIFIED

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CIRC ACCESSION NO--AP0133775

UNCLASSIFIED

PROCESSING DATE--13NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SINCE THE ALTITUDES OF THE ELECTRON CONCENTRATION MAXIMA OF SPORADIC FORMATIONS CHANGE FROM CASE TO CASE IN THE RANGE FROM 110 TO 140 KM, THE RESULTS OF OBSERVATIONS OF SPORADIC FORMATIONS OVER A QUITE LONG PERIOD MAKE IT POSSIBLE TO DETERMINE THE ALTITUDINAL VARIATION OF THE EFFECTIVE COLLISION FREQUENCY FOR THE E REGION IN THE AURORAL IONOSPHERE. FIG. 1 SHOWS THE MEAN VALUES OF THE EFFECTIVE COLLISION FREQUENCIES FOR TIKSI FOR SEPTEMBER NOVEMBER 1967. THESE ARE COMPARED WITH DATA FOR THE MIDDLE LATITUDE IONOSPHERE. THERE IS A GENERAL TENDENCY IN THE AURORAL IONOSPHERE FOR A DISPLACEMENT IN THE DIRECTION OF HIGH V SUBEFF VALUES IN COMPARISON WITH THE MIDDLE LATITUDES. IT IS MOST NATURAL TO RELATE THIS CIRCUMSTANCE TO THE PRESENCE OF ELECTRON HEATING, BEING A RESULT OF INJECTION OF FLUXES OF CHARGED PARTICLES. THERE IS SOME POSSIBILITY OF INCREASING THE EFFECTIVE COLLISION FREQUENCY DUE THE SCATTERING OF AN ELECTROMAGNETIC WAVE ON ELECTRON CONCENTRATION INHOMOGENEITIES, WHOSE PRESENCE IS SO CHARACTERISTIC FOR THE AURORAL IONOSPHERE. HOWEVER, AS INDICATED BY THE MICROSTRUCTURE OF THE AURORAL IONOSPHERE, THE SPORADIC IONIZATION ACCOMPANYING QUIESCENT AURORAL FORMS IS CHARACTERIZED BY THE PRESENCE OF SMALL SCALE INHOMOGENEITIES WHOSE EFFECT CANNOT BE VERY SIGNIFICANT. ALL THE DATA INDICATE THAT ELECTRON HEATING EXERTS AN EFFECT ON THE DETERMINED COLLISION FREQUENCIES.

FACILITY: RADIOELECTRONICS INSTITUTE.
 FACILITY: INSTITUTE OF SPACE PHYSICS RESEARCH AND AERONOMIYA, YAKUTSK AFFILIATE SIBERIAN DEPARTMENT ACADEMY OF SCIENCES.

UNCLASSIFIED

1/3 027 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--STRUCTURE AND PARAMETERS OF SPORADIC FORMATIONS IN THE AURORAL
IGNOSPHERE -U-
AUTHOR--(03)--USIPOV, N.K., PIVCVAKOVA, N.B., CHIRYAYEV, A.G.
COUNTRY OF INFO--USSR
SOURCE--MOSCOW, GEOMAGNETIZM I AERONOMIYA, VOL X, NO 3, 1970, PP 553-554
DATE PUBLISHED-----70
SUBJECT AREAS--ATMOSPHERIC SCIENCES
TOPIC TAGS--IGNOSPHERE, AURORA, E LAYER, ELECTRON DENSITY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3005/0534 STEP NO--UR/0203/70/010/003/0553/0554
CIRC ACCESSION NO--AP0132724
UNCLASSIFIED

2/3 027

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0132724

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS DESCRIBE THE RESULTS OF SPECIAL IONOSPHERIC MEASUREMENTS MADE DURING THE NIGHTTIME IN WINTER (1965-1967) AT TIKSI STATION. THE OBJECT OF STUDY WAS SPORADIC FORMATIONS ASSOCIATED WITH QUIESCENT AURORAL FORMS (E SUBS OF TYPES A AND K). THE ELECTRON CONCENTRATION LAYER IS CHARACTERIZED BY THREE PARAMETERS: N SUBMAX IS THE MAXIMUM ELECTRON CONCENTRATION, Z SUBMAX IS THE ALTITUDE OF THE MAXIMUM ELECTRON CONCENTRATION, A IS THE HALF THICKNESS OF THE LAYER. FREQUENTLY THERE IS A TRANSITION OF SPORADIC FORMATIONS OF ONE TYPE TO ANOTHER. SUCH TRANSITIONS, CAUSED BY A CHANGE IN THE CORRESPONDING PARAMETERS OF ELECTRON FLUXES, ARE ACCOMPANIED BY A CHANGE IN THE ALTITUDE OF THE MAXIMUM ELECTRON CONCENTRATION. IN MOST CASES AN INCREASE IN THE ALTITUDE OF THE ELECTRON CONCENTRATION MAXIMUM IS RELATED TO AN INCREASE IN HALF THICKNESS OF THE LAYER. THESE CHANGES ARE QUITE SLOW AND EVIDENTLY REFLECT CHANGES IN THE ELECTRON ENERGY AND PITCH ANGLE DISTRIBUTIONS. THE PULSED REGISTRY OF VERTICAL SOUNDING SIGNALS ALSO MAKES IT POSSIBLE TO OBTAIN SOME INFORMATION ON THE MICROSTRUCTURE OF SPORADIC FORMATIONS IN THE AURORAL ZONE. THE MOST IMPORTANT CHARACTERISTICS OF MICROSTRUCTURE OF THE IONOSPHERE AS A TRANSLUCENT TURBID MEDIUM IS THE DEGREE OF TURBIDITY β PRIME2 EQUALS $E_{SUBO} PRIME2 - \sigma$ SUBS S PRIME2, WHERE E_{SUBO} IS THE AMPLITUDE OF THE MIRROR REFLECTED SIGNAL COMPONENT, E_{SUBS} IS THE AMPLITUDE OF THE CORRESPONDING COMPONENT OF THE SPECTRUM OF SCATTERED WAVES, AND ALSO THE DISTRIBUTION FUNCTION OF THE REFLECTED SIGNAL AMPLITUDES.

UNCLASSIFIED

3/3 027

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NU--AP0132724

ABSTRACT/EXTRACT--THE BETA PARAMETER IS DETERMINED FROM EXPERIMENTAL DATA OBTAINED FROM 65 SERIES OF PULSED REGISTRY OF THE AMPLITUDE OF REFLECTED SIGNALS FOR TYPES A AND R. IT WAS FOUND THAT IN 90PERCENT OF THE CASES BETA GREATER THAN 1; FOR SPORADIC FORMATIONS OF TYPE A BETA IS APPROXIMATELY EQUAL TO 2, WHEREAS FOR SPORADIC FORMATIONS OF TYPE R THERE IS A PREDOMINANCE OF BETA GREATER THAN 2. THE RESULTS INDICATE AN INTERRELATIONSHIP BETWEEN THE MACROPARAMETERS OF SPORADIC FORMATIONS OF THE E REGION IN THE AURORAL IONOSPHERE AND THEIR FINE STRUCTURE. FOR EXAMPLE, WITH A DECREASE IN ALTITUDE OF THE ELECTRON CONCENTRATION MAXIMUM THE INTERNAL STRUCTURE OF SPORADIC FORMATIONS BECOMES MORE COMPLEX.

FACILITY: RADIOELECTRONICS INSTITUTE, LENINGRAD DIVISION, INSTITUTE OF TERRESTRIAL MAGNETISM, IONOSPHERE AND RADIO WAVE PROPAGATION.

FACILITY: INSTITUTE OF SPACE PHYSICS RESEARCH AND AERONOMY, YAKUTSK AFFILIATE ACADEMY OF SCIENCES USSR, SIBERIAN DEPARTMENT.

UNCLASSIFIED

Plant Pathology

USSR

UDC 582.285.22:632.952

PIVOVAROVA, T. M., and RUBIN, B. A., All-Union Research Institute for Chemical Plant Protection, Moscow, and the Department of Plant Physiology, Moscow State University

"The Effects of Some Chemical Compounds with Fungicidal Properties on *Puccinia graminis* Pers."

Leningrad, Mikologiya i Fitopatologiya, Vol 7, No 5, 1973, pp 440-446

Abstract: Investigations were conducted on the effects of o-oxyphenyl-semicarbazide (named fenzalin by us) and N-(6-chloro-benzoxazolinone)-acrylamide (named akrizalon). Fenzalin inhibited wheat rust due to *Puccinia graminis* by 99%, and akrizalon was 96% effective in inhibiting wheat rust due to this agent on susceptible wheat strain FPG-599. The effects of fenzalin were primarily due to inhibition of infectious structure formation, through lysis of the growth tubules and other changes. The fungicidal effects of akrizalon were largely due to toxic effects on the uredospores on contact.

1/1

USSR

UDC 51.801

PIVOVAROVA, YE. P.

"Some Characteristic Features of the Spread of Like Members of a Sentence in Syntactic Construction with Like Members of the Russian Language"

V sb. Mat. i inform. probl. prognozir. i upr. naukoy (Mathematical and Information Problems of Forecasting and Control of Science -- collection of works), Kiev, 1971, pp 289-301 (from RZh-Kibernetika, No 9, Sep 72, Abstract No 9V703)

Translation: A study was made of the examples of syntactic constructions with like members in connection with analysis of grammatical organization. The classification of such constructions is presented in the process of applying them in stylistically well-organized texts, and some laws of the syntax of the language are isolated,

1/1

- 91 -

1/2 025

TITLE--VERTICAL ELECTRIC FIELDS IN THE HYDROGEN ARC REGION--U-
UNCLASSIFIED
PROCESSING DATE--20NOV70

AUTHOR--PIVBYAROV, V.G.

COUNTRY OF INFO--USSR

SOURCE--GEOMAGNETIZM I AERONJMIJA, VOL. 10, NO. 1, 1970, P. 101-106

DATE PUBLISHED-----70

SUBJECT AREAS--ATMOSPHERIC SCIENCES

TOPIC TAGS--PROTON, ELECTRIC FIELD, UPPER ATMOSPHERE, IONOSPHERE, POLAR AREA

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1986/1068

STEP NO--UR/0203/70/010/001/0101/0106

SECTION NO--AP0102998 UNCLASSIFIED

PROCESSING DATE--20NOV70

UNCLASSIFIED

2/2 025
CIRC ACCESSION NO--AP0102998
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. ANALYSIS OF THE EFFECTS ARISING FROM THE INTERACTION BETWEEN A PROTON FLUX AND THE ATMOSPHERE AT HEIGHTS RANGING FROM 100 TO 1000 KM. CALCULATIONS ARE PERFORMED FOR A UNIDIIRECTIONAL MULTIENERGY FLUX OF A WIDTH GREATER THAN 100 KM. IT IS SHOWN THAT THE ELECTRIC FIELDS IN THE POLAR IONOSPHERE CAN BE CREATED BY PARTICLE FLUXES ENTERING THE IONOSPHERE. ESTIMATES OF THE VERTICAL ELECTRIC FIELDS ARE OBTAINED, AND THE SPACE CHARGE DISTRIBUTION RESPONSIBLE FOR A VERTICAL MAGNETIC FIELD IN A HYDROGEN ARC CAN LEAD TO THE FOLLOWING EFFECTS: AN ELECTRIC FIELD DIRECTED UPWARD CAN CAUSE A DRIFT OF THE ION COMPONENT WHICH IN TURN, CAN DISPLACE ATMOSPHERIC COMPONENTS FROM THE LOWER LEVELS OF THE E AND F LAYERS TO HEIGHTS OF MORE THAN 1000 KM; A FLUX OF SLOW ELECTRONS IS CAPABLE OF HEATING THE IONOSPHERE, BECAUSE OF THE FINITE CONDUCTIVITY OF THE IONOSPHERE.

UNCLASSIFIED

USSR

MAKHNENKO, V. I., et al., *Avtomaticheskaya Svarka*, No 7(244), Jul 73, pp 24-29
on the location of the elasto-plastic deformation center, but also
on the direction of the tangential stress vector in each section.
The torsional deformations are essentially affected by the linear
energy and the direction and order of seam welding. By the discus-
sed calculation methods, the degree of torsional strain can be ra-
ted. Seven figures, eleven formulas, six bibliographic references.

2/2

USSR

MAKHNENKO, V. I., Doctor of Technical Sciences, PIVTORAK, N. I.,
Engineer, and SHEKERA, V. M., Engineer, Electric Welding Institute
imeni Ye. O. Paton of the Academy of Sciences UkrSSR
"Calculation of Bending-Torsional Deformation in Welding Rods of
Thin-Walled Open Sections"

Kiev, *Avtomaticheskaya Svarka*, No 7(244), Jul 73, pp 24-29
Abstract: An algorithm, suggested for the rated estimate of ben-
ding-torsional deformations in welding longitudinal seams of
thin-walled linear rods of open section, is based on ordinary hy-
potheses of the technical theory of thin-walled rods generalized
for the case of elasto-plastic strain under non-isothermic con-
ditions. Application is made of the method of sequential tracing
of elasto-plastic deformations on various lengthwise sections of
the rod in the heating process of welding and in temperature leve-
ling. Main correlations determining the mathematical model are ana-
lyzed. Numerical results of calculations of a strip-angle type open
profile are discussed by reference to diagrams. Unlike bending, tor-
sional deformations of thin-walled open section rods depend not only

1/2

UDC: 681.128

USSR

KIYASHEV, A. I., Engineer, PIVTSAYEV, I. I., Engineer, POLE-TAYEV, B. K., Engineer, SHAROV, V. A., Engineer

"A Resonance Level Indicator for Measuring the Level of the Interface Between Two Media"

Moscow, Pribory i Sistemy Upravleniya, No 1, Jan 72, pp 46-48

Abstract: The paper describes a resonance level indicator for measuring the level of the interface between a "light" dielectric liquid and a "heavy" electrically conductive liquid. The instrument is based on a resonance method of measurement developed at the Institute of Control Problems, Academy of Sciences of the USSR. The device is designed for use with a dielectric liquid having a permittivity of 1.8-2.5 and a conductive liquid with conductivity of more than 2 mho/m. The pickup is a section of nonhomogeneous long line shorted at the end with a resonance frequency which changes in proportion with the level of the liquid interface. The pickup parameters are calculated and a block diagram of the level indicator is

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UDC: 621.387.41

USSR

ANTSIFEROV, V. V., PIVTSOV, V. S., UGOZHAYEV, V. D., and FOLIN,
K. G.

"Some Problems in the Dynamics of Solid-State Laser Oscillation"
Novosibirsk, Avtometriya, No 5, 1972, pp 98-105

Abstract: An explanation is given of the uncontrolled, unattenuated pulsations of a solid-state laser, and an expression is obtained for the coefficient of amplification as a function of the mode number. This is followed by a discussion of the thermal and mechanical perturbations in the active solid-state rod for one with spherical mirrors. The authors present the results of experiments they performed with a ruby laser having plane mirrors, in which oscillation in TEM_{00q} modes was obtained with the use of two diaphragms 1.4 mm in diameter on both sides of an active rod measuring 7 mm in diameter by 120 mm long with sapphire terminals, in a resonator more than 150 cm long. Oscillograms of the kinetics of the laser radiation are shown together with the radiation spectra. The results obtained in these experiments are compared

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UDC: 621.387.41

USSR

ANTSIFEROV, V. V., et al, Avtometriya, No 5, 1972, pp 98-105

with those of other experimenters. Authors of the present article express their gratitude to A. S. Kuch'yanov and A. V. Gayner for their assistance.

2/2

- 34 -

UDC: 621.381.41

USSR

ANTSIFEROV, V. V., DERZHI, N. M., PIVTSOV, V. S., UGOZHAYEV, V. D.,
FOLIN, K. G.

"Selection and Retuning Ruby Laser Frequencies in the Giant Pulse
Mode"

Novosibirsk, *Avtometriya*, No 5, 1972, pp 94-97

Abstract: Results are given of an experimental investigation of three-mirror and four-mirror variants in a superregenerative laser amplifier using an industrial ruby crystal with sapphire terminations, 12 or 18 cm long and 7 mm in diameter. In a second laser, also part of the experimental apparatus, the active element was also a ruby crystal with a sapphire envelope 12 cm long and a diameter of 7 or 9 mm. The basic idea of the apparatus is that the radiation of the first laser is applied to the second to produce a giant pulse. Radiation under this system was recorded with a photoelement type PEK-15, a type I2-7 oscillograph, and a Fabry-Pérot standard with a limited resolution of $2 \cdot 10^{-2}$ Å. A diagram of the apparatus is given, together with an oscillogram of the giant pulse and an interferogram of the combined spectra of the two lasers. It is noted that the possibility of controlling the

1/2

UDC: 621.381.41

USSR

ANTSIFEROV, V. V., et al, Avtometriya, No 5, 1972, pp 94-97
duration of the giant pulse by changing the parameters of the
first laser's resonator may be useful in several applications.

2/2

- 35 -

Optics & Spectroscopy

USSR

UDC 621.373 : 535] : 548.0

ANTSIFEROV, V. V.; PIVTSOV, V. S., UGOZHAYEV, V. D., and FOLIN, K. G.

"Nonspiking Generation of Ruby Laser With Frequency Selection and Tuning"

Leningrad, Optika i Spektroskopiya, Vol 32, No 6, Jun 72, pp 1159-1162

Abstract: The authors report that they are the first to obtain a partially regular mode, stable over a wide pumping range and close to single-frequency, for the generation of a ruby laser with a frequency which is practically constant throughout the lasing time ($\sim 10^{-3}$ sec.) and with frequency tuning. The stable and reproducible mode is obtained by the compensated phase modulation method, with the use of series-produced ruby rods 120 mm long and 7 mm in diameter and a geometric cavity length of $L \geq 150$ cm. To smooth transient spiking, a KS-14 filter is placed in the cavity to provide weak negative, passive feedback. The Fabry-Perot etalon is used for frequency selection and tuning. The half-intensity width of the integral spectrum does not exceed 0.003 \AA , and the tuning is in the $5\text{-}\text{\AA}$ range. The generation mode is stably reproduced over a wide pumping range (up to four times above the

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USSR

ANTSIFEROV, V. V., et al., Optika i Spektroskopiya, Vol 32, No 6, Jun 72, pp 1159-1162

threshold). Half-intensity divergence does not exceed 3.5' (diffraction divergence 1.8'). Thus, the authors obtained a nonspiking ruby laser with close-to-diffraction divergence and a spectral width which is comparable to a He-Ne laser but considerably exceeds it in the tuning range and the possible spectral radiation density value.

The authors thank G. V. KRIVOSHCHIEKOV for his interest in the work and A. S. KUCH'YANOV and N. M. DERZHI for their assistance in the experiment.

2/2

USSR

UDC: 577.4

PIYI' Ye. I.

"Coding of Input States in a Microprogrammed Automaton"

Avtomaty i Upr. [Automata and Control--Collection of Works], Moscow, Nauka Press, 1972, pp 3-16 (Translated from Referativnyy Zhurnal Kibernetika, No 11, 1972, Abstract No 11V332)

Translation: A method is suggested for coding the input states of a micro-programmed automaton, allowing the number of terms in the logic system of the algorithm of functioning of the microprogrammed automaton to be minimized.

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USSR

UDC: 577.4

PIYL', Ye. I.

"Coding of Pulse Automata, and Integration of Potential-Pulse Functions"

V sb. Avtomaty i unr. setyami svyazi (Automata and Control of Communications Networks--collection of works), Moscow, "Nauka", 1971, pp 128-136 (from RZh-Kibernetika, No 4, Apr 72, Abstract No 4V366)

[no abstract]

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USSR

UDC 577.4

PIYL', Ye. I.

"Coding of Input States in a Microprogrammed Automaton"

V sb. Avtomaty i upr. (Automata and Control -- Collection of Works),
Moscow, "Nauka", 1972, pp 3-16 (from RZh-Matematika, No 11, Nov 72,
Abstract No 11V332)

Translation: A method is proposed for coding the input states of a micro-
programmed automaton which minimizes the number of terms in the logical
design of the algorithm in accordance with which the microprogrammed automa-
ton will function.

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1/2 024

UNCLASSIFIED

PROCESSING DATE--04DEC70

TITLE--INTERACTION OF COLOR CENTERS WITH OTHER LATTICE DEFECTS IN ZINC
SULFIDE PHOSPHORS -U-

AUTHOR--(02)-PIYR, K., REBANE, K.

COUNTRY OF INFO--USSR

SOURCE--EESTI NSV TEAD. AKAD. TOIM., FUUS., MAT. 1970, 19(1), 75-83

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--ZINC SULFIDE, CRYSTAL PHOSPHOR, LUMINESCENCE QUENCHING,
COPPER, IRON, NICKEL, COBALT, IMPURITY LEVEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1996/1694

STEP NO--UR/0458/70/019/001/0075/0083

CIRC ACCESSION NO--AP0118672

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--04DEC70

2/2 024

CIRC ACCESSION NO--AP0118672

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

ABSTRACT. THE RELAXATION TIME MAX. OF THE EXCITATION ABSORPTION (EA) OF ZNS PHOSPHORS IS AT 5400 ANGSTROM. THE EA AND THE RESPECTIVE RELAXATION TIMES INCREASE UPON ADMIX. OF CU, FE, NI OR CO. THE IR LUMINESCENCE QUENCHING AS A FUNCTION OF CONC. OF CU AND FE WAS DETD. THE INTERACTION OF THE COLOR CENTERS IS CONSIDERED TO HAVE MAINLY AN ELECTRON HOLE CHARACTER. TUNNELLING MECHANISM IS POSSIBLE.

FACILITY: TARTU. GOS. UNIV., TARTU, USSR.

UNCLASSIFIED

UDC 535.343.2

USSR

PIYR, K. Yu., REBANE, K.-S. K.

"On the Nature of Edge Absorption of ZnS and SnO₂"

Minsk, Zhurnal Prikladnoy Spektroskopii, vol 15, No 5, Nov 71, pp 837-842

Abstract: The absorption spectra of films of SnO₂ and ZnS, as well as the ZnS-SnO₂ system, were measured in the 3.1-5.2 eV region. The edge of the absorption spectrum for SnO₂ corresponding to direct transitions is located at about 4.4 eV, while the edge of the absorption spectrum corresponding to indirect transitions lies at 3.4-3.6 eV. The typical bump on the long-wave decline of the absorption spectrum for ZnS films at $E_0 = 3.8-3.9$ eV is compared with direct transitions $\Gamma_{15}-\Gamma_1$. On the long-wave side, E_0 overlaps with the absorption of various lattice defects, while on the short-wave side of the band, E_0 reflects absorption due to various direct and indirect transitions. The absorption spectrum of the ZnS-SnO₂ system is determined chiefly by ZnS absorption. Four figures, bibliography of twenty-two titles.

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USSR

UDC: 518.5:681.3.06

PIYTER, M. V.

"Standard Program for Solving a System of Linear Algebraic Equations up to the 200-th Order by the Method of Optimum Eliminations. In M-20 and M-220 Computer Codes"

V sb. Mat. obespecheniye avtomatizir. sistem proyektir. elektro- i radio-tekhn. ustroystv (Software for Automating Systems for Design of Electronic and Radio Equipment), vyp. 3, Kiev, 1970, pp 149-171 (from RZh-Kibernetika, No 11, Nov 71, Abstract No 11V847)

Translation: The author describes a flowchart of a standard program and instructions for its use. A program of a checking and debugging example in M-20 computer codes is given. The flowchart of a standard program for solving algebraic equations of up to 200-th order on the M-20 digital computer is given as well as the corresponding program in M-20 computer codes.

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UDC: 621.396.677.497

USSR

PIYUK, L. A.

"Short-Wave Log Periodic Antenna"

Moscow, Radiotekhnika, Vol. 25, No. 11, 1970, pp 98-100

Abstract: Because of the deficiencies of rhombic and other types of antenna in radio communication lines, the author proposes and describes an antenna design which satisfies the stability requirements for radio communication over distances of two to three kilometers. The geometric dimensions of the antenna were chosen for a particular frequency range, with special attention to simplicity of construction. It consists of two identical sections -- a diagram of one of which is shown -- connected in parallel. The author describes the method which led to his design, and gives the results of experiments for plotting the antenna's directional diagram. This diagram shows the antenna to be strongly unidirectional with a minimum angle of about 40° in the horizontal plane at a frequency of 16.5 MHz.

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AA0044641

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

2/70

238214 QUALITY CHECK RIG FOR ADHESIVE JOINTS has a rotating brush cylinder with a thin line of bristles arranged as a spiral with a pitch equal to the length of the cylinder. The sandwich strip to be tested is pulled by rollers under the brush. A defective bond leads to a sharp rise of the sonic vibrations in the 8 kHz range. This is picked up by a microphone with filters and cathode followers, amplified and operates an electromagnetic marker for the defective spot.

1.8.67 as 1176930/29-33.A.A.PIZHURIN et al. MOSCOW
 TIMBER INST. (3.7.69) Bul 9/20.2.69. Class 42k.
 Int.Cl.G 01 n.

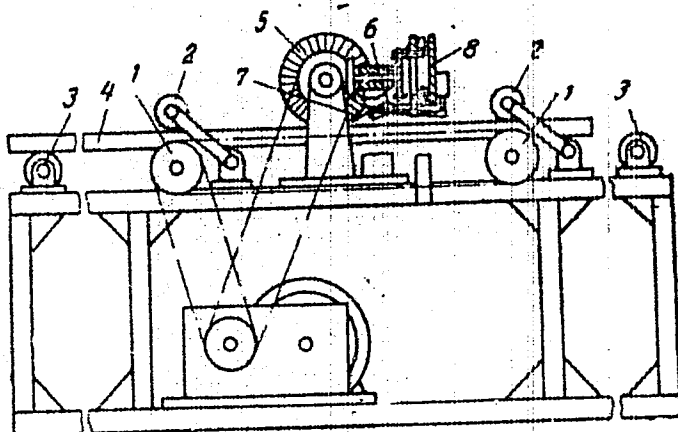
AUTHOR: Pizhurin, A. A.; Polishchuk, A. N.; Kaynov, Ye. S.;
Moskovskiy Lesotekhnicheskii Institut

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19771343

AA0044641



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19771344

9

1/2 017 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--EFFECT OF CITRIC ACID ON THE RESYNTHESIS OF RABBIT MUSCLE ADENINE
NUCLEOTIDES -U-
AUTHOR--(02)-KOMISSARENKO, S.V., PKHAKADZE, G.A. P
COUNTRY OF INFO--USSR
SOURCE--DOPOV. AKAD. NAUK UDR. RSR, SER. B 1970, 32(2), 171-3
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--RABBIT, MUSCLE PHYSIOLOGY, HEART MUSCLE, ADENOSINE
TRIPHOSPHATE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3005/1465 STEP NO--UR/0442/70/032/002/0171/0173
CIRC ACCESSION NO--AT0133570
UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AT0133570

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. I.V. INJECTION OF CITRIC ACID (10 MU G-G) (I) DID NOT CHANGE ADENINE NUCLEOTIDES CONTENT IN RABBIT HEART AND SKELETAL MUSCLES BUT INCREASED INCORPORATION OF GLYCINE, I, C PRIME 14 INTO ADP OF SKELETAL, AND ATP, ADP, AND AMP OF HEART MUSCLE. IN VITRO I (4 MU MOLES) INCREASED SP. RADIOACTIVITY OF ADENINE NUCLEOTIDES OF DIAPHRAGM MUSCLE. FACILITY: INST. BIOKHM., KIEV. USSR.

UNCLASSIFIED

USSR

UDC 621.373.826:621.396

KABANOV, M. V., PKHALAGOV, Yu. A., and ONTIKOVA, N. M.

"Experimental Investigation into the Intensity Fluctuations of Narrow Light Beams in Precipitation"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl. (Tenth All-Union Conference on the Propagation of Radio Waves; Report Theses--collection of works) "Nauka," 1972, pp 165-169 (from RZh--Radiotekhnika, No 10, 1972, Abstract No 10D393)

Translation: A report is given of the results of measuring the fluctuations of light beams in snowfalls for the purpose of investigating the dependence of the light fluctuations on the parameters of the receiver system as well as the optical width and microstructure of the precipitation. It is established that the nature of the light fluctuations is determined by the statistical processes in aerosol dispersion. The signal fluctuations are interpreted as the screening effect of the light beam by the dispersion system. Three illustrations, bibliography of three. A. L.

1/1

- 79 -

USSR

UDC 551.521.3.593.52

ZUYEV, V. YE., KABANOV, M. V., and PKHALAGOV, YU. A., Institute of Atmospheric Optics, Siberian Department of the Academy of Sciences USSR

"Equipment and Procedure for Measuring Spectral Transmittance of Atmosphere in 0.48-12 Micron Range With Average Resolution"

Tomsk, Izvestiya Vysshikh Uchebnykh Zavedeniy -- Fizika, No 5, 1972, pp 42-46

Abstract: The article describes measuring equipment and procedure for a comprehensive study of atmospheric transmittance in the visible and infrared regions of the spectrum on extended ground routes, for the purpose of separating radiation attenuation into individual components. The apparatus for measuring the spectral atmospheric transmittance includes a radiation source and a receiving and recording device, situated at opposite ends of the measuring route, whose length is 3500 m. The receiving and recording system consists of a telescope and a spectrometric and a photoelectric channel mounted on a common rotating device. A special cam is used to open the slits, making it possible to automate the process of recording the spectrum by means of the equipment described and obtain a direct atmospheric transmis-

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USSR

ZUYEV, V. YE., et al., Izvestiya Vysshikh Uchebnykh Zavedeniy -- Fizika, No 5, 1972, pp 42-46

sion curve in relative units. Processing of the experimental data is simplified. The equipment described was used in the summer and fall of 1970 for systematic measurements of spectral atmospheric transmittance in haze of varying density. A large number of atmospheric transmission spectra were obtained, with the optimum time for recording the complete spectrum from 0.48 to 12 microns equal to 25 min. or several times less than with the usual procedure. The measurement results will be described in a separate article.

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- 90 -

1/3 021 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--SPECTRAL TRANSPARENCY OF PRECIPITATION FOR INFRARED WAVES -U-
AUTHOR--(02)-KABANOV, M.V., PKHALAGOV, YU.A. P
COUNTRY OF INFO--USSR
SOURCE--MOSCOW, IZVESTIYA AKADEMII NAUK SSSR, FIZIKA ATMOSFERY I OKEANA,
VOL. VI, NO. 2, 1970, PP. 213-217
DATE PUBLISHED-----70
SUBJECT AREAS--ATMOSPHERIC SCIENCES, PHYSICS
TOPIC TAGS--RAIN, SNOW, SPECTROMETER, SPECTRUM, ATMOSPHERIC TRANSPARENCY,
RADIATION SOURCE, PHOTOMETEK/(U)IKS21 SPECTROMETER
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1991/1300 STEP NO--UR/0362/70/006/002/0213/0217
CIRC ACCESSION NO--AP0110892

UNCLASSIFIED

2/3 021

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0110892

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RESULTS OF MEASUREMENTS OF SPECTRAL TRANSPARENCY OF RAIN AND SNOW IN THE RANGE OF WAVELENGTHS 1-10 MU ARE PRESENTED AND THE AUTHORS COMPARE THE COLLECTED EXPERIMENTAL DATA WITH COMPUTED VALUES USING SINGLE SCATTERING FORMULAS. THE MEASUREMENTS WERE MADE ALONG A PATH 3.5 KM IN LENGTH. THE RADIATION SOURCE WAS A LAMP PLACED IN THE FOCUS OF A PARABOLIC MIRROR 900 MM IN DIAMETER AND WITH A FOCAL LENGTH OF 640 MM. THE RECEIVING SYSTEM CONSISTED OF A HORIZONTAL TELESCOPE WITH AN ENTRANCE DIAMETER OF 720 MM AND AN EQUIVALENT FOCAL LENGTH OF 10 M. THE SOURCE RADIATION WAS FOCUSED ON THE ENTRANCE SLIT OF AN IKS-21 SPECTROMETER. IN THE ENTIRE INVESTIGATED RANGE THE DISPERSING SYSTEM WAS A NACL PRISM ENSURING A SPECTRAL RESOLUTION OF 0.04-0 MU. THE MEASUREMENTS WERE ACCOMPANIED BY THE SIMULTANEOUS REGISTRY OF THE DYNAMICS OF TRANSPARENCY OF PRECIPITATION BY A PHOTOMETER. THE ONLY MEASUREMENTS PROCESSED WERE THOSE FOR STEADY AND PERSISTENT PRECIPITATION. THE MEASURED COEFFICIENT OF ATTENUATION BY LARGE PARTICLES $\tau(\lambda)$ IS RELATED TO THE TRUE (THEORETICAL) $\tau_{\text{SUBO}}(\lambda)$ VALUE AS FOLLOWS: $\tau(\lambda) = \tau_{\text{SUBO}}(\lambda) \cdot K(z; z_{\text{SUBO}})$; $K(z; z_{\text{SUBO}})$ IS A COMPLEX FUNCTION OF z AND z_{SUBO} , WHERE $z_{\text{SUBO}} = \rho \cdot \psi$ AND $z = \rho \cdot (D_{\text{SUBENT}} - L)$; ψ IS THE ANGLE OF VIEW OF THE RECEIVING SYSTEM; D_{SUBENT} IS THE ENTRANCE DIAMETER OF THE RECEIVING SYSTEM; L IS THE DISTANCE BETWEEN THE SOURCE AND THE RADIATION RECEIVER. THE FACTOR $K(z; z_{\text{SUBO}})$ VARIES FROM 1 TO 2, DECREASING WITH AN INCREASE IN z .

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--020070

3/3 021

CIPC ACCESSION NO--AP0110892

ABSTRACT/EXTRACT--THE ABOVE EXPRESSION SHOWS THAT FOR FIXED FOR FIXED DISTANCES AND DIAMETERS D OF THE RECEIVING SYSTEM THE MEASURED SCATTERING COEFFICIENT IN PRECIPITATION MUST CHANGE WITH WAVELENGTH. THE RESULTS OF ACTUAL MEASUREMENTS OF THE SPECTRAL DEPENDENCE OF THE IR ATTENUATION COEFFICIENTS FOR WAVELENGTHS FROM 1 TO 10 MU IN PRECIPITATION AGREE QUALITATIVELY WITH COMPUTATIONS BY THE ABOVE FORMULA. FACILITY: SIBERIAN PHYSICAL TECHNICAL INSTITUTE.

UNCLASSIFIED

1/2 026 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--EUROPIUM (I) CENTERS IN POTASSIUM IODIDE -U-
AUTHOR--(04)-VARENKO, G.D., AVDONIN, V.P., ZAZUBOVICH, S.G., PLACHENOV,
B.T.
COUNTRY OF INFO--USSR
SOURCE--OPT. SPEKTROSK. 1970, 28(2), 284-8
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, PHYSICS
TOPIC TAGS--SINGLE CRYSTAL, LUMINESCENCE, EUROPIUM, CRYSTAL LATTICE
STRUCTURE, BETA IRRADIATION, POTASSIUM IODIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1984/0087 STEP NO--UR/0051/70/028/002/0284/0288
CIRC ACCESSION NO--AP0054884
UNCLASSIFIED

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2/2 026

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0054884

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. LUMINESCENCE OF KI SINGLE CRYSTALS CONTG. EU1 SUB3 WAS INVESTIGATED, THESE CRYSTALS EXHIBIT A WEAK BAND AT 480 NM, IN ADDN. TO THE MAIN BAND AT 428, WHEN THE CONC. OF EU DOES NOT EXCEED 10 PRIME NEGATIVE4 MOLE PERCENT. CONVERSION OF 1 BAND INTO ANOTHER WAS INVESTIGATED AS A FUNCTION OF THE CONC. OF THE F CENTERS, TEMP., AND BETA IRRADN. POLARIZATION CHARACTERISTICS OF THE LUMINESCENCE WAS ALSO DETD. THE 480 NM LUMINESCENCE IS DUE TO THE PRESENCE OF EU(II) IN THE LATTICE AND IS ASSOC. WITH POINT DEFECTS, PROBABLY ANIONIC VACANCIES. POLARIZATION STUDIES INDICATE THAT DEFECTS ARE IN THE DIRECTION OF THE C SUB4 CRYST. AXIS.

UNCLASSIFIED

USSR

UDC 541.183

PLACHENOV, T. G., LEZIN, Yu. S., BARANOV, Ye. I., SEBALLO, A. A., KVASHA, V. I., and SHIRYAYEV, A. N.

"Adsorption Dynamics of Mixtures in Moving Layers of Adsorbents"

Leningrad, Zhurnal Prikladnoy Khimii, Vol 46, No 12, Dec 73, pp 2782-2784

Abstract: Continuous adsorption processes are used to purify various substances from impurities. To achieve optimal results, methods must be developed to calculate the concentration distribution in the solid and gas phases along the adsorption column, the rate of movement of the solid phase, and the distance at which the concentration of the recovered material should be the greatest. A theoretical treatment of an equilibrium situation is given, in which the concentrations do not change with time. The data calculated from the formula derived agree well with experimental results obtained, using a binary mixture of n-octane and benzene vapors on a column filled with SKT-2 charcoal.

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- 5 -

USSR

UDC 661.183.123

PLACHENOV, T. G., CUR'YANOV, V. V., SEVRYUGOV, L. B., and MUSAKIN, G. A.

"Porous Structure and Molecular-Sieve Properties of Activated Hydrocarbon Adsorbents From Industrial Furyl Resin FI-2

Leningrad, Zhurnal Prikladnoy Khimii, Vol 44, No 11, Nov 71, pp 2498-2503

Abstract: Conditions prevailing during activation of carbon obtained by carbonization of thermosetting furyl resin, using optimal quantity of an acid catalyst, were studied in respect to their effect on the porous structure and adsorptive properties of the material. Carbon activation was performed by CO₂ in a stationary phase at temperatures of 700-850°. It has been shown that such activation up to 40% charring leads to development of microporous structure only, producing adsorbents with high dynamic activity towards benzene vapors. Lowering the activation temperature results in a more uniform development of the microporous structure due to predominant opening of the pore volumes of the molecular dimensions of the starting charcoal. Hydrocarbon adsorbents activated with CO₂ to low charring at temperatures up to 800° show highly selective molecular sieve properties.

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1/2 015 UNCLASSIFIED PROCESSING DATE--11DEC70
TITLE--CONTINUOUS THERMAL DESORPTION OF HYDROCARBONS IN MOVING LAYERS OF
ZEOLITES -U-
AUTHOR--(04)-PLACHENCO, I.G., REDIN, V.I., SEBALLO, A.A., SHIRYAYEV, A.N.
COUNTRY OF INFO--USSR P
SOURCE--Zh. Prikl. Khim. (Leningrad) 1970, 43(5), 1047-51
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--DESORPTION, CARBON DIOXIDE, BENZENE, ZEOLITE, OCTANE,
HYDROCARBON
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3008/1500 STEP NO--UR/0080/70/043/005/1047/1051
CIRC ACCESSION NO--AP0133501

2/2 015

UNCLASSIFIED

PROCESSING DATE--L1DEL70

CIRC ACCESSION NO--AP0133501

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DESORPTION BY CO SUB2 OF ISOCTANE AND C SUB6 H SUB6 ON NAX ZEOLITE AND OF N-OCTANE ON CAA ZEOLITE MOVING CONTINUOUSLY THROUGH ADSORPTION AND DESORPTION COLUMNS OF THE SAME DIAM. WAS STUDIED. AT 0.5-2.5 L.-MIN, CO SUB2 INPUT RATE HAD ALMOST NO EFFECT ON THE DEGREE OF DESORPTION. AT SIMILAR TO 300DEGREES AND CONCNS. OF 15.6, 20.2, AND 9.1 MG, RESP., HYDROCARBON-L. AIR FLOWING INTO THE DESORPTION COLUMN, DYNAMIC ACTIVITY OF THE ZEOLITES WAS 100.3, 130, AND 58.9 MG-G, DESORPTION WAS QUANT., AND 85PERCENT OF THE DESORBED HYDROCARBONS WAS CONDENSABLE.

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--18SEP70

072-013

TITLE--CHANGES IN THE POROUS STRUCTURE AND GAS PERMEABILITY OF POROUS
GLASS IN RELATION TO HEAT TREATMENT CONDITIONS -U-

AUTHOR--(03)-MASHKOVSKIY, I.K., BELOTSERKOVSKIY, G.M., PLACHENOV, I.G.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(1) 87-92

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--POROSITY, GLASS STRUCTURE, PERMEABILITY MEASUREMENT, PLATE
GLASS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1987/0335

STEP NO--UR/0080/70/043/001/0087/0092

CIRC ACCESSION NO--AP0103990

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--18SEP70

Z/2 013

CIRC ACCESSION NO--AP0103950

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IT IS POSSIBLE TO CHANGE THE
POROUS STRUCTURE OF GLASS PLATE AND ITS GAS PERMEABILITY OVER VERY WIDE
LIMITS BY VARYING THE HEAT TREATING TEMP. AND TREATMENT DURATION; E.G.
HEAT TREATMENT AT 550 TO 680 DEGREES FOR 40 MIN INCREASES THE GAS
PERMEABILITY BY 7 FOLD.

UNCLASSIFIED

1/2 018 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--RESISTANCE OF THE POROUS STRUCTURE OF SILICA GELS PREPARED FROM
CONCENTRATED AQUEOUS SOLS OF SILICIC ACID TO THERMAL TREATMENT -U-
AUTHOR--BELOTSERKOVSKIY, G.M., DOBRUSKIN, V.KH., KIREYEVA, G.YE.,
~~PLACHENOV, T.G.~~
COUNTRY OF INFO--USSR
SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(2), 445-7
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--SILICA GEL, ISOTHERM, GAS ADSORPTION, VAPOR STATE, SOLUTION
CONCENTRATION, AQUEOUS SOLUTION, BENZENE, POROSITY, THERMAL EFFECT,
VACUUM CHAMBER
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1983/0920 STEP NO--UR/0080/70/043/002/0445/0447
CIRC ACCESSION NO--AP0053844

UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0053844

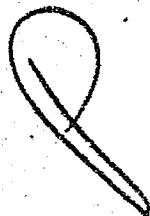
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ADSORPTION QUALITY OF 2 BRANDS OF SILICA GEL WHICH WERE HEATED TO 200, 550, AND 750 DEGREES WAS TESTED BY TAKING THE ADSORPTION ISOTHERMS OF C SUB6 H SUB6 VAPOR AT 20 DEGREES AND OF N AT MINUS 196 DEGREES BY MEANS OF A QUARTZ COIL IN A VACUUM CHAMBER EQUIPPED WITH A BALANCE. THE QUALITY OF THE GEL AT ELEVATED TEMPS. AND ITS RESULTING POROUS STRUCTURE DEPEND MAINLY ON THE AMT. OF RESIDUAL ALKALIES IN SILICA GEL FROM THE MANUFACTURING PROCESS. WHEN THE ALKALIES WERE WASHED WITH HCL AND H SUB2 O, THE POROSITY AFTER HEAT TREATMENT WAS BEST. THE RESULTS OBTAINED WERE VERIFIED BY MEASUREMENTS OF D. AND OF SP. SURFACE.

UNCLASSIFIED

Acc. Nr:
AP0049842

Abstracting Service:
CHEMICAL ABST. 5-70

Ref. Code:
UR 0080



101339j Porous structure of nonactivated carbon adsorbents from industrial types of phenol-formaldehyde resins. Plachev, T. G.; Sevrugov, L. B.; Pulerevich, M. Ya.; Karel'skaya, V. E. (Leningrad. Tekhnol. Inst. im. Lensovet. Leningrad, USSR). Zh. Prikl. Khim. (Leningrad) 1970, 43(1), 97-101 (Russ). Carbonization of a resol-type phenol-HCHO resin and a phenol-PhNH₂-HCHO resin at 400-1000° under N gave C adsorbents having extremely low pore vols. and radii in the range 2.9-250,000 Å. The adsorbents allowed C₆H₆ mols. to pass, but not MeOH mols. A considerable expansion of the pore structure in the range of 2.9-280,000 Å was obsd. when the PhOH-HCHO mole ratio was reduced to 0.85 : 1.

CKJR 772

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19801767

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USSR

IMSHENNIK, V. K., AFANAS'YEV, A. M., GOL'DANSKIY, V. I., MAKAROV, Ye. F.,
PLACHINDA, A. S., SUZDALEV, I. P., Institute of Chemical Physics, USSR
Academy of Sciences

"Investigation of the Dynamic and Static Distortions of Complexes by Using
Gamma-Resonance Spectroscopy"

Leningrad, Fizika Tverdogo Tela, Vol 15, No 9, Sep 73, pp 2656-2660

Abstract: Gamma-resonance spectroscopy is used to study dilute paramag-
netics -- a frozen aqueous solution of FeCl_3 (0.1 M FeCl_3 and 8.3 M HCl)
and a hydrated iron-containing sulforesin at a temperature of 90°K
in an external magnetic field of 450 oersteds. A computer was used to
separate three relaxation times τ_{S_z} corresponding to the Kramers doublets,

$S_z = \pm 5/2, \pm 3/2, \pm 1/2$, and also to determine the parameter λ describing
departure of the crystal field from the axially symmetric. An attempt is made
to relate the quantity λ to static distortion of the complex. From the
fact that the three relaxation times are related through two parameters
 P_1 and P_2 , it is concluded that spin-lattice relaxation is a two-phonon

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USSR

IMSHENNIK, V. K. et al., Fizika Tverdogo Tela, Vol 15, No 9, Sep 73, pp
2656-2660

phenomenon. It is also shown that the relation between P_1 and P_2 gives information on the anisotropy of oscillations of the ligands in the complex. The authors thank Yu. F. Krupyanskiy for valuable advice and comments.

2/2

1/2 030 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--PRESSURE BETWEEN TWO DIFFERENT ANISOTROPIC HALF PLANES WITH
RECTILINEAR SLITS ALONG THE LINE OF JOINT -U-
AUTHOR--PLAKHATNY, P.I. P
COUNTRY OF INFO--USSR
SOURCE--KIEV, AN UKRSSR, PRIKLAADNAYA MEKHANIKA, VOL 6, NR 1, 1970, PP
62-68
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--STRESS ANALYSIS, ROCK, PRESSURE DISTRIBUTION, ELASTICITY
THEORY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1986/1184

STEP NO--UR/0198/70/006/001/0062/0068

CIRC ACCESSION NO--AP0103088

UNCLASSIFIED

2/2 030
CIRC ACCESSION NO--AP0103088

UNCLASSIFIED

PROCESSING DATE--18SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INTERACTION BETWEEN TWO ANISOTROPIC HALF PLANES WITH DIFFERENT ELASTIC CONSTANTS IS ANALYZED. THERE ARE SLITS ALONG THE INTERFACE OF THE HALF PLANES, AND THE STRESS DISTRIBUTION IN THEM IS DETERMINED BY THE GIVEN STRESSES ON THE EDGES OF SLITS AND AT INFINITY. BY USING N. I. MUSKHELISHVILI'S FORMULAS WHICH DESCRIBE THE STRESS STRAIN STATE IN EACH HALF PLANE IN TERMS OF GENERALIZED COMPLEX VARIABLES, FOUR AUXILIARY STREE STRAIN FUNCTIONS ARE DERIVED WHICH SATISFY IDENTICALLY THE BOUNDARY CONDITIONS ON THE INTERFACE UNDER ARBITRARY CONDITIONS ON THE SLITS EDGES. FOUR LINEAR CONJUGATION PROBLEMS ARE DEDUCED FROM THESE FUNCTIONS AND ARE SOLVED, AND FROM FOUR EQUATIONS THUS OBTAINED THE BASIC STRESS AND STRAIN FUNCTIONS ARE DETERMINED. EXAMPLES OF DETERMINING THE STRESS DISTRIBUTION ON THE INTERFACE OF TWO DIFFERENT ROCKS ARE GIVEN, AND EXPRESSIONS FOR STRESSES AT THE ENDS OF SLITS AND BETWEEN THE SLITS ARE DERIVED.

UNCLASSIFIED

USSR

UDC: 669.295.004.2

MOKINA, Ye. P., PLAKHINA, L. N., TASYBAYEVA, N. B.

"Use of Industrially Contaminated Waste Water in Recycle Water Supply of the Ust'-Kamenogorsk Titanium-Magnesium Combine"

Tr. N.-I. i Proyeckt. In-t po Obogashch. Rud. Tsvet. Met. "Kazmekhanobr" [Works of "Kazmekhanobr" Scientific Research and Planning Institute for Dressing of Nonferrous Metal Ores], 1972, Collection 9, pp 150-154 (Translated from Referativnyy Zhurnal Metallurgiya, No 8, 1973, Abstract No 8G216, by the authors).

Translation: Conditions of formation of the industrial wastes of a combine are studied. A plan is suggested for utilization of waste waters in a recycled water supply. The plan calls for two versions of recycling of water: a) with purification of all waste waters in existing purification structures; b) recycling of water with utilization of valuable components and complete purification of waste waters in additional equipment. It is suggested that measures be taken to prevent possible accumulation of salts in the recycled water supply system. 2 figures.

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- 80 -

USSR

PLAKHOTISHIN, A. M.

"Approximate Method of Solution of Certain Distribution Type Problems"

Ekon.-mat. Metody i Programmir. Plan.-ekon. Zadach. [Mathematical Economic Methods and Programming of Planning and Economic Problems -- Collection of Works], Moscow, 1972, pp 236-239 (Translated from Referativnyy Zhurnal, Kibernetika, No 1, 1973, Abstract No 1 V717 by Yu. Finkel'shetyn).

Translation: Suppose there are m suppliers of a certain product (a_i is the capacity of the i -th supplier, $i = 1, \dots, m$) and n consumers (b_j is the demand of the j -th consumer). Suppose $C(i, j)$ is the cost of transportation of one unit of production from supplier i to consumer j , $K(i, j)$ is the loss factor during transportation from supplier i to consumer j (i.e., in order to deliver a unit of production to consumer j , $K(i, j)$ units must be shipped from supplier i ; the expenditures on transportation are calculated per unit of production delivered to the consumer). We must satisfy all consumers with the minimum expenditure, with each consumer associated with only one supplier. The following mathematical model is produced:

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PLAKHOTISHIN, A. M., Ekon.-mat. Metody i Programmir. Plan.-ekon. Zadach, Moscow, 1972, pp 236-239.

$$\sum_{i=1}^m \sum_{j=1}^n C(i, j) x(i, j) \rightarrow \min, \quad (1)$$

$$\sum_{i=1}^m x(i, j) = b_j, \quad j=1, \dots, n, \quad (2)$$

$$\sum_{j=1}^n K(i, j) x(i, j) \leq a_i, \quad i=1, \dots, m, \quad (3)$$

$$x(i, j) \in \{0, b_j\}. \quad (4)$$

Other significant interpretations of this discrete distributed problem are also possible. In order to solve problem (1)-(4), an approximate algorithm is suggested, based on step-by-step solution of the transport problem in a network which does not change from step to step.

2/2

- 60 -

USSR

UDC: 539.214.620.175

BOGATOV, A. A., KOZLOV, G. D., KOLMOGOROV, V. L., KROVSIKOV, R. P., and
PLAKHOTIN, V. S.

"Plasticity of Metals with Sign-Changing Deformation"

Izv. VUZ, Chernaya Metallurgiya, No 6, 1970, pp 83-86

Abstract: Experimental investigations and analytical methods were used to establish the regularity of the growth of plasticity of a number of types of steels and nonferrous alloys under alternating deformation (twisting) with symmetrical and pulsating cycles. The value of the Coffin factor was determined, and the method of determining constant C in Coffin's formula was clarified. Data were obtained on the plasticity of steel and nonferrous alloys with alternating deformation which can be used for the calculation of cracking under cyclical loading. One illustration; six biblio. refs.

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1/2 017 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--BORON ACETATES -U-
AUTHOR-(02)-RYSS, I.G., PLAKHOTNIK, V.N.
COUNTRY OF INFO--USSR
SOURCE--UKR. KHIM. ZH. 1970, 36(5), 423-6
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ORGANOBORON COMPOUND, ACETATE, MELTING POINT, THERMAL
DECOMPOSITION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605019/B12 STEP NO--UR/0073/70/036/005/0423/0426
CIRC ACCESSION NO--AP0140912
UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0140912

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SLOW ADDN. OF 0.443 MOLE H SUB3 BO
SUB3 TO 14 MG ZNCL SUB2 IN 1.33 MOLES AC SUB2 O AT TEMPS. AT 45DEGREES
AND 55-60DEGREES GAVE 94PERCENT B(OAC) SUB3, M. 122-4DEGREES. RAPID
ADDN. OF H SUB3 BO SUB3 TO AC SUB2 O, ALLOWING THE TEMP. TO RISE ABOVE
100DEGREES, GAVE 90PERCENT B SUB2 O(OAC) SUB4, M. 150-2DEGREES. B(OAC)
SUB3 WAS HEATED SEVERAL HR AT 110DEGREES WITHOUT DECOMPN., BUT ABOVE ITS
M.P. IT DECOMP. TO B SUB2 O(OAC) SUB4. FACILITY:
DNEPROPETROVSK. INST. INZH. ZHELEZNODOROZH. TRANSP. DNEPROPETROVSK,
USSR.

UNCLASSIFIED

USSR

UDC 548.52

LYUBOV, B. YA., and PLAKHOTNIK, V. T., Moscow Institute of Electronic Engineering

"Impurity Distribution in an Epitaxial Film Calculated as a Function of the Law of Variation of Its Thickness With Time"

Moscow, Kristallografiya, Vol 16, No 5, Sep-Oct 71, pp 989-993

Abstract: A method for solving the diffusion equation for a region whose boundaries vary in a given manner with time is used by the authors to calculate the concentration profiles of an impurity coming into a film from the substrate. The growth rate variable for the film thickness is represented by a second-degree polynomial. It is shown that by varying the law for the film thickness growth rate as a function of the growth time, it is possible to obtain practically homogeneous distributions of impurities diffusing into the film from the substrate.

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- 51 -

USSR

UDC: 621.396.69:621.314.2(088.8)

NEKRASOV, M. M., LAVRINENKO, V. V., PLAKHOTNYI, N. V., KHRASHCHEVSKIY, V. A.,
Kiev Polytechnical Institute

"A Method of Making Multilayered Piezoelectric Transformers"

USSR Author's Certificate No 264497, filed 26 Jul 68, published 12 Jun 70
(from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12V387 P)

Translation: A method is proposed for making multilayered piezoelectric transformers. The procedure is based on making the excitation sections from separate plates with subsequent acoustic joining of the sections. To increase the transformation ratio, useful power and maximum permissible stresses, the plates of the excitation section are made from an unannealed piezoelectric material by pouring the slip onto the substrate, and acoustic joining of the sections is done simultaneously with brazing of the electrodes by pressing the sections in bundles at the ceramic sintering temperature.

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USSR

UDC 539.319

PLAKHOTNYI, P. I. (L'vov)

"Pressure Between Two Different Anisotropic Half-Planes with Rectilinear Slits Along the Line of Joint"

Kiev, AN UkrSSR, Prikladnaya Mekhanika, Vol 6, No 1, 1970, pp 62-68

Abstract: The interaction between two anisotropic half-planes with different elastic constants is analyzed. There are slits along the interface of the half-planes, and the stress distribution in them is determined by the given stresses on the edges of slits and at infinity. By using N. I. Muskhelishvili's formulas which describe the stress-strain state in each half-plane in terms of generalized complex variables, four auxiliary stress-strain functions are derived which satisfy identically the boundary conditions on the interface under arbitrary conditions on the slits edges. Four linear-conjugation problems are deduced from these functions and are solved, and from four equations thus obtained the basic stress and strain functions are determined. Examples of determining the stress distribution on the interface of two different rocks are given, and expressions for stresses at the ends of slits and between the slits are derived. Orig. art. has: 15 formulas and 8 references.

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USSR

UDC: 548.5

TSEYTLIN, M. N., PLAKHOV, G. F., LOBACHEV, A. N., POPOLITOV, V. I., SIMONOV, M. A., and BELOV, N. V.

"Investigating Crystallization in the Hydrothermal System of $\text{GeO}_2\text{-Sb}_2\text{O}_3\text{-KF-H}_2\text{O}$ "

Moscow, Kristallografiya, vol 18, No 4, 1973, pp 836-839

Abstract: An investigation is conducted into the crystallization conditions in the $\text{GeO}_2\text{-Sb}_2\text{O}_3\text{-KF-H}_2\text{O}$ system by the hydrothermal method. The purpose of this investigation is two-fold: first, to fill in the gaps of knowledge concerning the interaction chemistry of germanium dioxide and antimony trioxide in the presence of a solution at high temperatures and pressures; second, to obtain all possible single crystals with no analogs in nature because of their potential value as objects of study with regard to structure and physical characteristics. The experiments were conducted with a charge consisting of GeO_2 and Sb_2O_3 copper lined autoclaves with periodic action. The results of the examination of the crystallization in the system are given individually for each temperature jump in the range of $400\text{-}550^\circ\text{C}$, the jumps being made in $20\text{-}45^\circ$ intervals. Photographs of the crystals are shown, 1/2

- 21 -

USSR

UDC: 548.5

TSEYTLIN, M. N., et al, Kristallografiya, vol 18, No 4, 1973,
pp 836-839

and a table of interplanar distances for $Sb_2Ge_2O_7$ crystals is given.

2/2

UDC 53.07/.08+53.001.5

USSR

LYUBIN, V. M., PLAKHOV, S. A., FEDOROVA, G. A., TSUKERMAN, V. G.

"Experimental Vidicon Sensitive to Soft X-Radiation"

Elektron. tekhnika. Nauchno-tekhn. sb. Elektronoluch. i fotoelektr. pribory
(Electronic Engineering. Scientific-Technical Collection. Electron Ray and
Photoelectric Devices), 1970, No 1(15), pp 3-7 (from RZh-Fizika, No 1, Jan 71,
Abstract No 1A323)

Translation: The characteristics of an experimental x-ray vidicon with a Be window
and a target of vitreous material $Tl_2Se \cdot As_2Se_3$ sensitive to soft x-radiation in
the region 5-30 kev are described. Authors abstract.

1/1

- 78 -

USSR

PLAKHOVA, L. G., Candidate of Medical Sciences

"Comparative Toxicity of Herbicides and Prevention of Poisoning"

Tashkent, Meditsinskiy Zhurnal Uzbekistana, No 8, 1971, pp 30-33

Abstract: A brief description is given of four newly developed herbicides: (i) kotoran - 1,3-trifluoromethylphenyl-N₁N-dimethylurea, C₁₀H₁₁ON₂F₃, (ii) treflan (trifluralin) - 2,6-dinitro-N₁N-dipropyl, α₁-trifluoropara-toluidine (iii) linuron-3 (3,4-dichlorophenyl) - 1-methoxy-1-methylurea (iv) erbon-2 (2,4,5 trichlorophenoxy ethyl 2,2-dichloropropionate. Although low in toxicity (except kotoran which is moderately toxic), they have cumulative effects and after prolonged exposure may cause chronic poisoning. They also act on the skin and mucous membranes. Among the precautions recommended for those handling the herbicides are the wearing of special work clothes, use of masks, and regular medical checkups.

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USSR

UDC: 539.2.01

FLAKIDA, N. M.

"Disjunction of Two-Time Green Functions and a Graphic Technique"

Rastsepleniye dvukhvremennykh funktsiy Grina i diagramnaya tekhnika. Ob'yedin. in-t yadern. issled. Labor. teoretich. fiz. No P4-4919 (Cf. English above. Joint Institute of Nuclear Research. Laboratory of Theoretical Physics. No P4-4919), (Preprint), Dubna, 1970, 14 pp ill (from RZh-Fizika, No 9, Sep 70, Abstract No 9Ye311)

Translation: The author discusses a disjunction procedure in the method of equations of motion for Two-time Green temperature functions. It is proposed that the accuracy of disjunction be evaluated on the basis of graphic analysis of the disjoined Dyson equation for a causal Green function. The discussion is based on the example of an anharmonic lattice with regard to anharmonic terms of all orders.

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- 8 -

1/2 032 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--EQUATION OF STATE FOR FERROMAGNETIC CRYSTAL -U-

AUTHOR--(02)-KONWENT, H., PLAKIDA, N.M. *P*

COUNTRY OF INFO--USSR

SOURCE--TEORETICHESKAYA I MATEMATICHESKAYA FIZIKA, 1970, VOL 3, NR 1, PP
135-142

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--EQUATION OF STATE, FERROMAGNETIC MATERIAL, PHONON INTERACTION,
CRYSTAL PROPERTY, SPIN SYSTEM, CRYSTAL LATTICE ENERGY, CRYSTAL LATTICE
VIBRATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3003/1032

STEP NO--UR/0646/70/003/001/0135/0142

CIRC ACCESSION NO--AP0130067

UNCLASSIFIED

2/2 032

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0130067

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EQUATION OF STATE FOR A FERROMAGNETIC ANHARMONIC CRYSTAL IS DERIVED IN THE WEAK COUPLING APPROXIMATION BETWEEN PHONON AND SPIN SUBSYSTEMS. THE PHONON FREQUENCY IN THE PSEUDOHARMONIC APPROXIMATION WITH THE ACCOUNT OF THE MAGNETIZATION OF THE CRYSTAL AND THE ENERGIES OF SPIN EXCITATIONS IN THE RANDOM PHASE APPROXIMATION WITH THE ACCOUNT OF THE THERMAL MOTIONS OF ATOMS ARE OBTAINED. THE RELATION BETWEEN THE MECHANICAL, THERMAL AND MAGNETIC PROPERTIES OF THE CRYSTAL IS DISCUSSED. FACILITY: OB'YEDINENNIY INSTITUT YADERNYKH ISSLEDOVANIY.

UNCLASSIFIED

1/2 02c UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--THEORY OF ANHARMONIC CRYSTALS III. THREE DIMENSIONAL LATTICE -U-
AUTHOR--(02)-PLAKICA, N.M., SIKLOS, T.
COUNTRY OF INFO--USSR
SOURCE--PHYSICA STATUS SOLIDI, 1970, VOL 39, NR 1, PP 171-180
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--SHELL STRUCTURE STABILITY, CRYSTAL LATTICE DISLOCATION,
PRESSURE EFFECT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1992/1438 STEP NO--GE/0030/70/039/001/0171/0180
CIRC ACCESSION NO--AP0112432

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0112432

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PROPERTIES OF THE F.C.C. LATTICE WITH CENTRAL NEAREST NEIGHBOR INTERACTION ARE INVESTIGATED ON THE BASIS OF THE DYNAMICAL THEORY OF THE ANHARMONIC CRYSTAL DEVELOPED IN (1). IT IS SHOWN THAT IN THE CASE OF CONSTANT EXTERNAL PRESSURE THE LATTICE BECOMES UNSTABLE AT SUFFICIENTLY HIGH ZERO POINT ENERGY OR TEMPERATURE. THE BEHAVIOUR OF THE PHYSICAL QUANTITIES IN THE VICINITY OF THE UNSTABILITY POINT IS INVESTIGATED. FACILITY: JOINT INSTITUTE FOR NUCLEAR RESEARCH, LABORATORY OF THEORETICAL PHYSICS, MOSCOW.

UNCLASSIFIED

Acc. No. **AT0102966** Abstracting Service:
CHEMICAL ABST. 6-70

Ref. Code:
UR0136

114069w Combination of low-temperature steaming and selective flotation of copper-molybdenum concentrates. Plaksa, N. E. (USSR). *Truel. Metal.* 1970, 43(1), 79-82 (Russ). Two series of flotation expts. were performed: one at room temp. (18-20°), and the other with a preheated slurry. Extn. of Mo and the residual concn. are higher during the flotation of the preheated slurry than in expts. at room temp. At increased temp. of the slurry, the decompn. of Na₂S slows down. At >60°, even the oxidn. of Na₂S slows down, with the formation of sulfites. The concns. of O and CO₂ dissolved in the slurry have a definite effect on the decompn. rate. An important role in the described process is also played by the evolution of gases dissolved in the slurry. Under the condition of selective flotation of Cu-Mo concs. on the hydrophobic surface of the molybdenite, there proceeds selective sepn. of a large no. of microbubbles (contg. air). Intensified evolution of gases from the liq. phase, which takes place during heating, brings about increased extn. of molybdenite with increased temp. of the slurry. With increased temp. of the water, its ion product sharply increases. The degree of hydrolysis of the salts present in the hot slurry thereby also increases. Increasing the temp. of the Na₂S soln. from 20 to 90° increases the degree of its hydrolysis by 12%. As the temp. is

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increased from 20 to 80°, the degree of hydrolysis of the xanthate increases by 20 times. With increased temp. of the slurry, the desorption of the reagents from the surface of the minerals intensifies. The results were tested under com. conditions.

S. A. Mersol J

-MC.

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UDC: 51:621.391

PLAKSIN, V. A.

"Graph-Analytic Method of Combination Synthesis of Relay-Contact Devices"

V sb. Teor. kibernetika. Vyp. 1 (Theoretical Cybernetics--collection of works, No 1), Kiev, 1970, pp 63-81 (from RZh-Kibernetika, No 1, Jan 71, Abstract No 1V375)

Translation: The problem of combination synthesis of relay-contact devices is defined as follows. The functions of excitation of the relay device are given in disjunctive normal form, and it is required to construct the contact circuit which would satisfy the given functions of excitation for all outputs, where the number of elements which make up the circuit should be minimized. A graph-analytic method of synthesis is proposed. This method is comprised of 1) representing the excitation functions in the form of an incidence matrix, 2) plotting a graph from this matrix, and 3) eliminating false cycles. G. Blokhina.

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- 12 -