

USSR

UDC 621.762:619.018

BILYK, I. I., NAVROTSKIY, B. S., and SHARAPOV, Y. G., Kiev Polytechnic Institute

"Cermet Hard Alloys"

Kiev, Akademiya Nauk Ukr SSR, Poroshkovaya Metallurgiya, No 7, Jun 72, pp 28-33

Abstract: Conditions are investigated for obtaining titanium carbonitrides by synthesis from titanium carbides and nitrides in a Tamman furnace at temperatures of 2000, 2100, and 2200°C in a nitrogen atmosphere. The properties of alloys produced on the basis of titanium carbonitrides mixed with nickel are studied and presented in graphs and tables. The analysis shows that an increase in nitrogen content (up to 1%) in titanium carbonitride alloys leads to an increase in their existence in cutting 20 Kh steel. This is explained by a probable increase in alloy plasticity while retaining relatively high hardness.

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USSR

UDC 51.621.391

ROMANOVSKIY, I. V., FREYMAN, M. I., and SHARAPOV, V. I.

"The Application of Operations Research Methods to Solve a Problem of Technical Diagnosis"

V sb. Issled. operatsiy i stat. modelir. (Operations Research and Statistical Modeling -- collection of works), First Edition, Leningrad, Leningrad University, 1972, pp 152-159 (from RZh-Matematika, No 11, Nov 73, Abstract 11 V670)

Translation: The following problem in technical diagnosis is considered. The system to be diagnosed consists of m arbitrarily connected elements, each of which can be in one of two states: working or not working. The set of all possible states of the system is given, each characterized by an n -dimensional vector. With a probability of p_i the system will be in state i . A finite set of all possible tests τ is given, each of which has two possible results -- positive or negative. There is a state table, in which the outcome of each test is shown for any state. The costs of the tests c_{τ} are known. The system diagnosis involves determining its state by performing some series of tests (in the process of diagnosis the system will not change from one state to another). It is required that a diagnosis program be constructed with the minimum average cost.

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ROMANOVSKIY, I. V., et al., v sb. Issled. operatsiy i stat. modelir., First Edition, Leningrad, Leningrad University, 1972, pp 152-159

The method of branches and bounds is suggested for solving this problem. Two variations of the calculation of the lower bound of the goal function on subsets of solutions are developed. Examples illustrating the operation of the algorithm are given.

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SHARAPOV, V. I.

SPRS 59223
6.73

IV-5. INTENSIFICATION OF THE GROWTH PROCESSES OF EPITAXIAL LAYERS BY PHOTO EXCITATION AND THE APPLICATION OF ELECTROMAGNETIC FIELDS

Article by Yu. D. Chistyakov, G. B. Gerasimov, Yu. P. Baranova, A. N. Paliyenko, V. A. Kirovskaya, V. I. Sharapov, Moscow; Novodibirsk. Izv. Stepanovskogo Politehnicheskogo Universiteta, Seriya Fiziko-Matematicheskie Nauki, 1972, p 45

The effect on the system from photoirradiation and electromagnetic fields reactions, in contrast to the chemical effect, stimulation of defined chemical reactions both in the volume and at the phase interface. Each chemical act, depending on the electronic transitions taking place in it requires irradiation by light of a strictly defined wave length. The photoirradiation offers the possibility of simple realization of a selective crystal growth with respect to area.

In the papers by Frazer and Kuznetsov, it was demonstrated that irradiation by ultraviolet light lowers the autoepitaxial temperature of the silicon in the presence of hydrogen reduction of SiCl₄ and Si₂Cl₆ respectively, and with a constant temperature it increases the growth rate.

In the experiments of the authors by application of an electric field with an intensity of 3 kv/cm in the chloride process of silicon autoepitaxy, it was possible to increase the growth rate of the epitaxial layers and also to reduce the process temperature. In addition, the variation in intensity of the electromagnetic field permits variation of the alloying level without varying the composition of the vapor-gas mixture.

The indicated effects also opens up new possibilities for increasing the technological processes.

USSR

UDC 8.74

FREYMAN, M. I., SHARAPOV, V. I.

"Execution of the Algorithm of the Branch and Boundary Method for Constructing Technical Diagnostics Programs on Computers"

V sb. Tekhn. diagnostika (Technical Diagnostics -- collection of works), Moscow, Nauka Press, 1972, pp 265-270 (from RZh-Kibernetika, No 7, Jul 72, Abstract No 7V634)

Translation: A study was made of the problem of executing the "branches and boundaries" method on a computer to find the optimal provisional diagnostic procedures. Two versions of constructing the lower bounds and the results of a machine experiment are presented.

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USSR

UDC: 621.396.96.004

LATINSKIY, S. M., SHARAPOV, V. I., KSYONZ, S. P., AFANAS'YEV, S. S.

"Theory and Practice in Radar Systems Operation"

Teoriya i praktika ekspluatatsii radiolokatsionnykh sistem (cf. English above), Moscow, "Sov. radio", 1970, 432 pp, ill. 1 r. 20 k. (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12G62)

Translation: Light is thrown on some problems in the theory and practice of radar systems operation. Methods of maintaining the parameters of radar systems are considered: effective range, precision in determining the coordinates of the target, reliability on the given level. Considerable attention is given to the problem of maintaining reliability in the face of failures. Some phases of technical diagnosis are outlined and examples are given of setting up programs for troubleshooting and for monitoring radar systems for operability. Principles and methods are described for effective adjustment and regulation of radar equipment. Considerable space is devoted to the use of quantitative methods in solving problems of utilization. The book is written for engineers involved in the design, production and use of radar equipment as well as for students of advanced courses in radio engineering schools. 245 illustrations, 10 tables, bibliography of 69 titles. Annotation.

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USSR

UDC 533.15

ZAKHAROV, A. P., SHARAPOV, V. M., and YEVKO, E. I., Institute of Physical Chemistry, Moscow

"Hydrogen Permeability of Molybdenum and Tungsten Polycrystals and Single Crystals"

Kiev, Fiziko-Khimicheskaya Mekhanika Materialov, Vol 9, No 2, 1973, pp 29-33

Abstract: The coefficients of permeability and diffusion of hydrogen in polycrystals and single crystals of molybdenum and tungsten were determined and relationships describing these processes were obtained for the 400-1200 C temperature range 1-200 torr hydrogen pressure interval. It was established that as grain size increases, hydrogen permeability in polycrystals gradually decreases, approaching values possessed by single crystals. Thus it was concluded that grain boundaries have a decided effect on diffusion of hydrogen in polycrystals. Expressions for diffusion coefficients of hydrogen in molybdenum and tungsten were obtained from test results. 4 figures, 2 tables, 14 bibliographic references.

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1/2 027

UNCLASSIFIED

PROCESSING DATE--16OCT70

TITLE--EFFECT OF RADICAL CHEMISORPTION ON THE ELECTROPHYSICAL PARAMETERS OF THE REAL SURFACE OF GERMANIUM -U-

AUTHOR--(04)-KOZLOV, S.N., NOVOTOTSKIYVLASOV, YU.F., KISELEV, V.F., SHARAPOV, V.M.

COUNTRY OF INFO--USSR

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SOURCE--FIZ. TEKH. POLUPROV. 1970, 4(2), 356-8

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--CHEMISORPTION, GERMANIUM SEMICONDUCTOR, CRYSTAL SURFACE, CHARGE EXCHANGE, OXIDE FILM, EPR SPECTRUM, QUINONE, BENZENE DERIVATIVE, MOLECULAR INTERACTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0084

STEP NO--UR/0449/70/004/002/0356/0358

CIRC ACCESSION NO--AP0105170

UNCLASSIFIED

2/2 027

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0105170

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

ABSTRACT. THE CHEMISORPTION OF STRONG ACCEPTOR MOLS. (N-BENZOQUINONE) ON N TYPE GE WITH HIGH RESISTIVITY (27 OHM CM) WAS STUDIED TO DET. THE MECHANISM OF CHARGE TRANSFER BETWEEN A SEMICONDUCTOR AND MOLS. CHEMISORBED ON THE SURFACE OF A SEMICONDUCTOR OXIDE FILM. ALTERATIONS IN ELECTROPHYS. PROPERTIES OF THE SURFACE WERE STUDIED AT 300DEGREEK ON GE PLATES ETCHED IN BOILING H SUB2 O SUB2, WHILE ON GE POWDER, CHEMISORPTION WAS STUDIED BY EPR. WHEN N BENZOQUINONE WAS LET IN, THE SURFACE WAS QUICKLY CHARGED NEG. (TAU LESS THAN 2 MIN), THE CONC. OF FAST SURFACE STATES INCREASED, AND THE MAX. RECOMBINATION RATE INCREASED SLIGHTLY (FROM 1050 TO 1350 CM-SEC). THE EPR PEAK INTENSITY AFTER 1 HR CORRESPONDED TO A SPIN CONC. OF 1.1 TIMES 10 PRIMEL1-CM PRIME2 AND WAS NOT CHANGED IN THE COURSE OF A FEW DAYS, AS WELL AS ELECTROPHYS. PROPERTIES OF GE IN N BENZOQUINONE VAPOR. IT IS ASSUMED THAT NEW SURFACE STATES CAN BE CREATED BY DIFFUSION OF ADSORBENT MOLS. TO THE SEMICONDUCTOR OXIDE INTERFACE. FACILITY: MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 621.382.2

KOVALEV, I. S., MEYERSON, V. M., KOVALEV, S. I., SHARAPOV, V. V. [Corresponding
Members of AS, BSSR]

"Calculation Of Electronic Retuning Of Oscillator Based On a Tunnel Diode With
The Aid Of a Varactor"

Doklady Akademii Nauk BSSR, Vol XVI, No 7, July 1972, pp 607-609

Abstract: An experimental study is made of an oscillator based on a non-symmetrical strip with varactor retuning. The equation of an oscillator based on a tunnel diode with a varactor connected to it is solved graphically, which makes it possible to calculate its retuning curve. An analysis is made of the dependence of the frequency retuning of the oscillator on the parameters of the varactor and the resonance system of the generator. The design of the resonance system of the oscillator makes it possible to change the coupling factor of the varactor. The results of the experimental study of varactor retuning of a tunnel-diode oscillator agree well with calculated data. 2 ill. 2 ref. Received, 7 December 1971.

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Gyroscopic

USSR

UDC 531.383

SHARAPOV, YE. M., Leningrad Institute of Precision Mechanics and Optics

"Influence of Random Disturbances With Respect to the Main Axis of a Gyro-compass Upon the Readings of a Ground-Based Gyrocompass

Leningrad, Priborostroyeniye, Vol 16, No 4, 1973, pp 74-79

Abstract: Formulas are obtained for calculating the dispersions of the equilibrium position of a ground-based pendulum-type gyrocompass with torsional suspension. The equilibrium position is computed on the basis of reversion points of azimuthal fluctuations, under the action of random disturbances in the form of "white noise" with respect to the main axis of the gyroscope. The procedure is illustrated by an example. 1 figure, 1 table, 4 references.

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SHARAPOV, Ye. M.

Gyroscopes

1. TITLE PERFORMANCE OF VARIOUS TYPES OF GYROSCOPES DISCUSSED		3	
2. AUTHOR O. N. KONTSEVOY, B. B. SAMPOLKO, Ye. M. SHARAPOV, et al.		12 JULY 1973	
3. ADDRESS Institute of Precision Engineering and Instrumentation Research Service 1000 North Glebe Road Arlington, Virginia 22201		4. REPORT TYPE AND NUMBER	
5. PERFORMING ORGANIZATION NAME AND ADDRESS As Above		6. AUTHORING ORGANIZATION NAME(S) AND ADDRESS(ES)	
7. AVAILABILITY STATEMENTS In Abstracts		8. DISTRIBUTION STATEMENTS (to be indicated by block number)	
9. SUBJECT TERMS ISSR Naval Battalion Guidance Gyroscopes		10. DISTRIBUTION STATEMENTS (to be indicated by block number)	
11. ABSTRACT The report contains four articles on free gyroscopes, gyroscopic orbit errors, gyroscopes reading and apparatus for measuring friction moments in radials, thrust ball bearings and gas dynamic bearings of gyro motors.		12. SECURITY CLASSIFICATION UNCLASSIFIED	
13. NUMBER OF PAGES 176		14. PRICE 21	
15. DISTRIBUTION STATEMENTS (to be indicated by block number)		16. DISTRIBUTION STATEMENTS (to be indicated by block number)	

THIS FORM MAY BE REPRODUCED

Gyroscopic

USSR

SHARAPOV, Ye. M.

UDC: 531.01

"Experimental Characteristics of Perturbations Relative to the Principal Axis of a Gyroscope"

Sb. nauch. tr. aspirantov. Leningr. in-t tochnoy mekh. i optiki (Collected Scientific Works of Graduate Students. Leningrad Institute of Precision Mechanics and Optics), Leningrad, 1972, pp 115-118 (from RZh-Mekhanika, No 9, Sep 72, Abstract No 9A85)

Translation: The author points out that perturbing moments due to a number of causes act on the rotor of a gyromotor during steady-state operating conditions. These disturbing actions on the gyroscope rotor are random functions of time. The paper describes an installation designed for experimental study of the perturbations which act relative to the principal axis of the gyroscope. This installation was used to test several gyromotors of asynchronous type for which the above-mentioned perturbations are realized. These realizations were processed on a special correlator, which is described. The instrument can be used to graph the normalized correlation function. For specific graphs, approximating functions are pre-

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SHARAPOV, Ye. M., Sb. nauch. tr. aspirantov. Leningr. in-t tochnoy mekh. i optiki, Leningrad, 1972, pp 115-118

sented for the above-mentioned functions, and a procedure is given for determining the numerical values of the parameters which appear in these expressions. S. S. Rivkin.

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SHARAPOV, Ye. M.

SO: JPRS 51504
14 NOV 72

Gyro

UNC 531.783

EXPERIMENTAL DETERMINATION OF THE PROBABILITY FACTORS OF DISTURBANCES
RELATIVE TO THE PRINCIPAL AXIS OF A GYROSCOPE

Article by Ye. M. Sharapov, Leningrad, Izvestiya VUZ, Priborostroyeniye,
Russian, No 8, 1971, pp 70-73]

This article presents estimates of certain probability
characteristics for disturbances relative to a principal
gyro axis, obtained as a result of processing experimental
readings.

The disturbing torques acting relative to the principal axis of a
sensing element is a gyro chamber suspended by a torsion bar within the
instrument case, while the gyro rotor rotation axis is vertical. The
amplitude of a disturbance was estimated by the angle of the torsion's
twist, measured by an induction frame angle-data transmitter and recorded
on graph paper.

Tests were conducted on three gyro motors of various brands: GMA-2.5,
GMA-23, and GM-10. A 36 volt semiconductor static converter supplied the
gyromotors at a frequency of approximately 400 Hz. Several (5-10)
realizations of the disturbances were obtained for each of the gyro motors
tested.

In order to derive the probability characteristics for the disturban-
ces (the mathematical expectation, correlation functions, and distribution
function of the random process ordinates), a number of experimental readings
were processed on an electronic TVM (digital computer), for which the
ordinates of continuous realizations were measured over discrete time
intervals, recorded in tables, and then fed into the TVM.

Five realizations obtained in testing the GMA-2.5 gyro motor were
processed in order to determine the mean value. For each of the realizations,
the computations were made for 720 ordinate values, which were measured over
time intervals at $\tau = 2.5$ sec.

Kathy

1/2 020

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--INDUCTOTHERMIA FOR PATIENTS WITH PSORIASIS -U-

AUTHOR--(02)-SHARAPOVA, G.YA., TAJTS, K.T.

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COUNTRY OF INFO--USSR

SOURCE--VESTNIK DERMATOLOGII I VENEROLOGII, 1970, NR 5, PP 20-23

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--SKIN DISEASE, ADRENAL CORTEX, CLINICAL MEDICINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1998/0690

STEP NO--UR/0206/70/000/005/0020/0023

CIRC ACCESSION NO--AP0121351

UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121351

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INDUCTOTHERMIA OF THE LUMBAR AREA WAS USED IN TREATMENT OF 102 PATIENTS WITH PSORIASIS AMONG WHOM 76 WERE IN THE PROGRESSIVE STAGE OF THE DISEASE, 24 IN THE STATIONARY AND 2 HAD PSORIATIC ARTHROPATHY. THE TREATMENT WAS TOLERATED WELL. MARKED IMPROVEMENT WAS OBSERVED AFTER 2-3 SEANCES, AND STABLE RESOLUTION OF INFLAMMATORY PHENOMENA WAS ACHIEVED AFTER 15-20 SEANCES. TOTAL 17-OKS WERE DETERMINED IN DAILY SAMPLES OF URINE OF 31 PATIENTS WITH PSORIASIS BY THE METHOD OF PORTER-SILBER MODIFIED BY KREKHOVA. INDUCTOTHERMIA OF THE LUMBAR AREA EXERTED A MARKED STIMULATING EFFECT ON THE ADRENAL CORTEX FUNCTION: IN 24 PATIENTS EXCRETION OF 17-OKS INCREASED MARKEDLY AND IN 11, WAS NORMALIZED TO THE LEVEL OF THE LOWER LIMIT OF THE NORMAL. ON THE BASIS OF THE EVIDENCE OBTAINED, INDUCTOTHERMIA MAY BE CONSIDERED TO BE AN EFFECTIVE METHOD FOR TREATMENT OF PSORIASIS AND PHYSIOLOGICAL STIMULATOR OF THE ADRENAL CORTEX. FACILITY: KAFEDRA KOZHNYKH BOLEZNEY II MOSKOVSKOGO MEDITSINSKOGO INST. IM. N. I. PIROGOVA AND MOSKOVSKIY GORODSKOY KOZHNO-VENEROLOGICHESKIY DISPANSER.

UNCLASSIFIED

1/3 025

UNCLASSIFIED

PROCESSING DATE--13NOV70

TITLE--ON MECHANISMS OF DEVELOPMENT OF HYPERCORTICISM IN TREATMENT WITH
CORTICOSTEROIDS OF PATIENTS WITH CERTAIN INFECTIOUS ALLERGIC DERMATOSES.
AUTHOR--(03)-SKRIPKIN, YU.K., SHARAPOVA, G.YA., NARYZHNYUK, N.D.

COUNTRY OF INFO--USSR

SOURCE--VESTNIK DERMATOLOGII I VENEROLOGII, 1970, NR 6, PP 12-16

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--SKIN DISEASE, ALLERGIC DISEASE, URINE, CHROMATOGRAPHIC
ANALYSIS, CORTICOSTEROID, SYNDROME, DRUG TREATMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3005/1351

STEP NO--UR/0206/70/000/005/0012/0016

CIRC ACCESSION NO--AP0133304

UNCLASSIFIED

2/3 025

CIRC ACCESSION NO--AP0133504
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--13NOV70

ABSTRACT. THE CONTENT OF 17 OCS IN THE BLOOD WAS DETERMINED BY SILBER PORTER'S METHOD MODIFIED BY N. A. YUDAEV AND YU. A. PANKOV, IN THE URINE BY THE SAME METHOD MODIFIED BY M. A. KREKHOVA, THE CONTENT OF INDIVIDUAL CORTICOSTEROID COMPOUNDS IN SEPARATE FRACTIONS OF 17 OCS OF THE URINE WAS STUDIED BY PAPER CHROMATOGRAPHY METHOD OF BUSH MODIFIED BY M. A. KREKHOVA. STUDIES WERE CARRIED OUT IN 29 APPARENTLY NORMAL SUBJECTS (CONTROL GROUP) AND IN 42 PATIENTS WITH DERMATOSES IN THE ETIOPATHOGENESIS OF WHICH A CONSIDERABLE ROLE BELONGED TO THE FACTOR OF INFECTIOUS ALLERGY (LUPUS ERYTHEMATOSUS, PSORIATIC ARTHRITIS, PEMPHIGUS VULGARIS). AMONG THE 42 PATIENTS 23 SHOWED MANIFESTATIONS OF KUSHING'S SYNDROME (GROUP 1), 1 SUBJECTS HAD BEEN TREATED WITH CORTICOSTEROIDS FOR A LONG TIME BUT SHOWED NO MANIFESTATION OF MEDICINAL HYPERCORTICISM (GROUP 3); 11 PATIENTS HAD NOT BEEN TREATED WITH CORTICOSTEROID HORMONES (GROUP 2). THE PATIENTS WITH DERMATOSES OF THE INFECTIOUS ALLERGIC GENESIS BOTH PREVIOUSLY UNTREATED WITH CORTICOSTEROIDS AND EXAMINED IN THE PERIOD OF TREATMENT WITH THESE HORMONES WERE CHARACTERIZED BY INCREASED EXCRETION IN THE URINE OF UNCONJUGATED 17 OCS DUE TO RECEIVED DEXAMETHAZONE, TRIAMISOLONE OR PREDNISOLONE, AND REDUCED EXCRETION OF GLUCURONIDES (DUE TO REDUCED EXCRETION OF ENDOGENOUS CORTICOSTEROIDS) MUCH MORE MARKED IN PATIENTS WITH KUSHING'S SYNDROME MANIFESTATIONS.

UNCLASSIFIED

3/3 025

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0133304

ABSTRACT/EXTRACT--A COMPARISON OF THE RESULTS OF LOADING WITH CORTISONE AND CORTISOLE OF PATIENTS WITH DERMATOSES IN WHOM TREATMENT WITH CORTICOSTEROIDS HAD GIVEN NO COMPLICATION WITH THOSE IN WHOM THIS THERAPY HAD BEEN ACCOMPANIED BY MANIFESTATIONS OF HYPERCORTICISM PERMITS A CONCLUSION THAT THE LATTER SHOW DISORDERS OF INACTIVATION OF BIOLOGICALLY ACTIVE CORTICOSTEROIDS. FACILITY: KAFEDRA KOZHNYKH BOLEZNEY II MOSKOVSKOGO MEDITSINSKOGO INSTITUTA IM. N. I. PIRGOVA I BIOKHMICHESKAYA LABORATORIYA. FACILITY: MOSKOVSKOGO OBLASTNOGO NAUCHNO ISSLED. KLINICHESKOGO INSTITUTA.

UNCLASSIFIED

USSR

Diagnosis

UDC 616-002.71-07

SEROV, G. D., Lt Col, Med Serv, Candidate of Medical Sciences;
SHARAPOVA, T. A., Candidate of Medical Sciences

"Bacteriological Diagnosis of Pseudotuberculosis"

Moscow, Voyenno-Meditsinskiy Zhurnal, No 9, Sep 71, pp 54-57

Abstract: An improved, fast method of identifying Pasteurella pseudotuberculosis is described. The sample material collected in the early stage of the disease is emulsified with an indicator solution (aqueous glucose and peptone solution with phenol red as indicator), and 0.5 ml of the liquid is placed on an indicator medium. The culture is incubated until a yellow color develops, and then a differential medium is inoculated with it. The growing colonies resembling P. pseudotuberculosis are transferred onto a slant column containing urea and an agar slant. If no gas develops in the first column but urea is hydrolyzed (development of a red color), the culture grown on the agar column is further tested for its biochemical properties (fermentation of glucose, lactose, sucrose, lactose, and mannose,

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SEROV, G. D., et al, Voyenno-Meditsinskiy Zhurnal, No 9, Sep 71,
pp 54-57

indole reaction, and urease activity) and for its serological properties, such as stability with respect to specific pseudo-tuberculosis bacteriophages and interaction with agglutinating sera. The proposed series of tests can be easily performed in any laboratory.

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USSR

UDC 576.852.215

SHARAPOVA, T. A. and DASHKOVA, N. F., Vladivostok Institute of Epidemiology and Microbiology

"Microbiological Characteristics of Strains of Pasteurella Pseudotuberculosis Isolated From Patients With Far-Eastern Scarletina-Like Fever in Primorskiy Kray"

Moscow, Zhurnal Mikrobiologii, Epidemiologii, i Immunologii, Vol 48, No 6, Jun 71, pp 76-79

Abstract: The widespread prevalence of scarlatina-like fever in Far-Eastern regions of the country and the outbreak of the disease in Leningrad in 1969 prompted a comparative study of the cultural, serological, and biochemical characteristics of the various strains of Pasteurella pseudotuberculosis, the agent of the infection. A total of 173 strains of the microbe isolated from patients in Primorskiy Kray during the years 1967-1969 were studied. A liquid medium for accumulation and a solid medium for differential diagnosis (developed by Serov in 1967-68) were used to isolate the bacteria. Serological tests were conducted, including the agglutination reaction on glass with sera prepared from cultures of five bacterial types: Nos 855 (I), 861 (II), 826 (III), 807 (IV), 810 (V) and local strains Nos 37 and 98 (type (I) and six of type (III)). The organisms were grown on agar slant cultures at room

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SHARAPOVA, T. A., et al, Zhurnal Mikrobiologii, Epidemiologii, i Immunologii,
Vol 48, No 6, Jun 71, pp 76-79

temperature for periods of 20-22 hours. A suspension containing one billion cells per ml was used as an antigen for immunizing rabbits. It was given to the animals in doses of 250 million, 1, 1.5, 2, 5, and ten billion cells at intervals of 5-6 days. Blood was drawn 7-8 days after the final injection and titrated. Biochemical properties of the bacteria were studied at the time of their isolation and after one year's storage at room temperature. It was established that the strains of sero types (I), (III), and (IV) of *P. pseudotuberculosis* are causative agents of scarlatina-like fever. Strains isolated from the patients in Primorskiy Kray do not differ from strains isolated from patients in other regions of the country and abroad. It was concluded that the disease may far more widespread than assumed at present.

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USSR

UDC 616-002.71-078.73

KOROZYUK, A. M., SOMOV, G. P., and SHARAPOVA, T. A., Vladivostok
Institute of Epidemiology and Microbiology

"Study and Laboratory Diagnosis of Pseudotuberculosis (Far Eastern
Scarlet Fever-like Disease) Using the Indirect Hemagglutination
Inhibition Test"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii,
No 1, 1970, pp 106-110

Abstract: The indirect hemagglutination inhibition reaction is a sensitive and specific method for detecting and titrating *Bacillus pseudotuberculosis* antigen even in very small quantities. The use of different immune sera with definite antibody spectra permits differential titration of group and type antigens. The test is of value in studies on experimental pseudotuberculosis, because it reveals the amount of antigen in different organs and tissues as well as the time it appears. The test is also an aid in laboratory diagnosis of the disease in humans, because it indicates the presence of the antigen in feces and in urine in almost one-half and one-third of the cases, respectively. The results of the test are known within 4-6 hours.

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Acc. Nr: APC036825

S

Ref. Code: UR 0016

PRIMARY SOURCE: Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, 1970, Nr 1, pp 106-111

UTILIZATION OF THE REACTION OF INHIBITION OF INDIRECT HEMAGGLUTINATION FOR THE STUDY AND LABORATORY DIAGNOSIS OF PSEUDOTUBERCULOSIS (FAR-EASTERN SCARLATINA-LIKE FEVER)

A. M. Korolyuk, G. P. Somov, T. A. Sharapova

The authors elaborated a method of reaction of inhibition of indirect hemagglutination for indication and titration of Bacillus pseudotuberculosis antigens. Determination of the antigens in bacterial suspensions demonstrated the high sensilivity and specificity of this method. Utilization of immune sera with a definite antibody spectrum for the mentioned reaction offered a possibility of differential titration of type and group Bacillus tuberculosis antigens. P. pseudotuberculosis rodentium antigen was revealed in the feces (46%) and urine (31%) of patients, with the aid of reaction of inhibition of indirect hemagglutination. This technique is recommended as an express method for laboratory diagnosis of pseudo-tuberculosis.

REEL / FRAME
1072 / 742

6

Thin Films

USSR

UDC 543.70

GANOPOL'SKIY, V. I., SHARAPOVA, V. S., KHARKOVER, M. Z., and SHELEG, M. U.,
Institute of Solid State Physics and Semiconductors, Academy of Sciences
Belorussian SSR, and Ural State University imeni A. M. Gor'ky, Sverdlovsk,
Ministry of Higher and Secondary Specialized Education RSFSR

"Extraction Photometric Analysis of Thin Magnetic Films Fe-Co-Ni by Means of
 δ -Mercaptoquinoline"

Moscow, Zhurnal Analiticheskoy Khimii, Vol 25, No 5, May 70, pp 982-986

Abstract: A method of analysis of thin ferromagnetic films Fe-Co-Ni is described. The method is based on the following: 1) the thiooxinate stability increases in the series Fe-Ni-Co, the difference in this stability being especially marked between iron and nickel on one hand, and cobalt on the other; 2) the absorption spectra of the above thiooxinates have wide, intensive bands in the visual region suitable for analytical purposes. The absorption bands of iron thiooxinate ($\lambda_{\max} = 450 \text{ m}\mu$) and cobalt thiooxinate ($\lambda_{\max} = 470 \text{ m}\mu$) are practically superimposable, while each of them individually, when paired with the absorption band of nickel thiooxinate ($\lambda_{\max} = 540 \text{ m}\mu$) can be resolved spectrophotometrically. These

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GANOPOL'SKIY, V. I., et al, Zhurnal Analiticheskoy Khimii, Vol 25, No 5, May 70,
pp 982-986

properties permit the analysis of two-component mixtures of thiooxinates (Fe-Ni and Co-Ni) to be carried out without separating the components. It also simplifies analysis of the Fe-Co-Ni system; the prolonged method of sequential reextracting of iron and nickel is avoided by separating Fe-Ni mixture from Co, which is left behind.

2/2

1/2 C29

UNCLASSIFIED

PROCESSING DATE--20NOV70

TITLE--ANALYSIS OF FERROMAGNETIC MATERIALS. USE OF 8 MERCAPTOQUINOLINE FOR THE EXTRACTION AND PHOTOMETRIC ANALYSIS OF AN IRON, COBALT, NICKEL

AUTHOR--(05)-GANOPOLSKIY, V.I., KHARKOVER, M.Z., BARKOVSKIY, V.F., SHARAPOVA, V.S., KOSTYUKKULGAVCHUK, L.P.

COUNTRY OF INFO--USSR

SOURCE--VESTSI AKAD. NAVUK BELARUS. SSR, SER. KHIM. NAVUK 1970, (1), 58-63

DATE PUBLISHED-----70

15

SUBJECT AREAS--CHEMISTRY, MATERIALS, PHYSICS

TOPIC TAGS--MERCAPTAN, QUINOLINE, PHOTOMETRIC ANALYSIS, IRON, COBALT, NICKEL, FERROMAGNETIC FILM, SOLVENT EXTRACTION

CENTRCL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/2105

STEP NO--UR/0419/70/000/001/0058/0063

CIRC ACCESSION NO--AP0125689

UNCLASSIFIED

2/2 029

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSIGN NO--A0125689

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE USE OF 8 MERCAPTOQUINOLINE (I) IN THE EXTN. AND PHOTOMETRIC ANAL. OF 2, AND 3, COMPONENT FERROMAGNETIC FILMS (FE,CO,NI, FE,NI, FE,CO, AND CO,NI) WAS STUDIED BY USING SYNTHETIC SAMPLES. I CAN BE USED SUCCESSFULLY IN THE ANAL. OF FERROMAGNETIC MATERIALS. THE SAMPLE OF THE FERROMAGNETIC MATERIAL IS DISSOLVED IN H SUB2 SO SUB4 OR HCL, TREATED WITH AQ. SOLN. OF 1, NH SUB4 OH, AND CHCL SUB3. THE CHCL SUB3 EXT. IS TREATED WITH AQ. 6-8N H SUB2 SO SUB4 TO REMOVE FE, THEN WITH AQ. HCL TO REMOVE NI. THE AQ. SOLNS. ARE REEXTD. WITH CHCL SUB3. THE ABSORBANCES OF THE CHCL SUB3 EXTS. OF FE, CO, AND NI 8 MERCAPTOQUINOLINATES ARE MEASURED AT 450, 470, AND 540 NM, RESP. FACILITY: INST. FIZ. TVERD. TELA POLUPROV., MINSK, USSR.

UNCLASSIFIED

Radiobiology

USSR

UDC 616-001-026

DZHANDZHGAVA, M. M., NADAREYSHVILI, K. SH., and SHARASHENIDZE, N. B.,
Institute of Physiology, Academy of Sciences Georgian SSR

"Changes in the Phase Structure of the Cardiac Cycle During Continuous Whole-
-Body Irradiation of Rabbits"

Tbilisi, Soobshcheniya Akademii Nauk Gruzinskoy SSR, No 1, 1973, pp 193-195

Abstract: The first signs of approaching radiation shock appeared in rabbits within 30 to 35 minutes of continuous whole-body irradiation at 10 to 16 krad, although blood pressure remained fairly high. The period of contraction increased while the duration of ejection decreased. Blumberger's mechanical coefficient also decreased and Hegglin's interval became sharply negative. Thus, despite the fact that blood pressure, pulse, and respiratory rate at this time had not changed significantly, there were clear indications of the phase syndrome of hypodynamia of the left ventricle. After exposure to doses ranging from 18 to 25 krad, the animals' blood pressure began to fall quickly, the pulse and respiration slowed, and the symptoms characteristic of radiation shock appeared. The animals died within 20 to 30 minutes in a state of deep shock. The phase structure of the cardiac cycle was severely disrupted.

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USSR

UDC 681.323:519.1

SHARASHIDZE, G. K.

"Problem of Constructing Specialized Computers to Solve Some Combinatory Problems of Applied Mathematics"

Seminar In-ta prikl. mat. Tbilis. un-t. Annotatsii dokl. T.3 -- V sb. (Seminar of the Institute of Applied Mathematics of Tbilisi University. Abstracts of the Reports. Vol 3 -- collection of works), Tbilisi, 1970, pp 7-10 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 6, Jun 71, Abstract No 6 B500)

Translation: The possibility of constructing a nonalgorithmic specialized computer to solve the problem of minimum coloring of the vertexes of a graph on the basis of the extremal properties of electric circuits is investigated. The operation of a specialized computer to solve the problem of minimum coloring of the vertices of a planar graph is described. The bibliography has 7 entries.

1/1

USSR

UDC 681.3.06:51

SHARASHIDZE, G. K.

"The Problem of Construction of Specialized Computer Devices for the Solution of Certain Combinatorial Problems in Applied Mathematics"

Seminar In-ta Prikl. Mat. Tbilis. Un-t. Annotatsii Dokl. P. 3, [Seminar of Institute of Applied Mathematics, Tbilisi University, Annotations of Reports, Vol. 3--Collection of Works], Tbilisi, 1970, pp 7-10, (Translated from Referativnyy Zhurnal Kibernetika, No 5, 1971, Abstract No. SV641, unsigned).

Translation: The principle of construction of a specialized hybrid computer system for solution of problems of minimal coloring of points of a graph is developed, allowing this problem to be solved in a few hundredths of a second.

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- 52 -

Acc. Nr: **AP0036531**

5

Ref. Code: UR 0069

PRIMARY SOURCE: Kolloidnyy Zhurnal, 1970, Vol 32, Nr 1,
PP 74-77

ON THE STRUCTURE AND RHEOLOGICAL PROPERTIES
OF AQUEOUS EMULSIONS OF POLYETHYLENE TEREPHTHALATE

Mikhaylov, N. V.; Sharay, T. A.; Khavkina, B. L.; Arsen'yev, A. N.

Summary

A study has been made of the rheological properties of aqueous suspensions of polyethylene terephthalate (PETPH) stabilized with rosin soap as well as of some compositions consisting of PETPH dispersion and a polymer thickener-polyvinyl alcohol. The viscosity of the compositions has been found to be much higher (50-100 times) than those of its components. A mechanism of structure formation in compositions has been suggested. An empirical linear equation $\eta=f(P)$ in a logarithmic form is given and some assumptions are made regarding the physical significance of the constants in these equations.

11

REEL/FRA
19721379

D.N.

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1/2 016
 TITLE--OPTICAL STUDY OF THE DESTRUCTION OF A GLASS FIBER DURING ALKALINE
 TREATMENT -U-
 AUTHOR--(03)-MAZO, E.E., KAMINSKAYA, V.S., SHARAY, V.N.

PROCESSING DATE--23OCT70

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK BELORUSS. SSR 1970, 14(3), 226-9

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--GLASS FIBER, BOROSILICATE GLASS, SOLUTION ALKALINITY,
ZIRCONIUM OXIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/1139

STEP NO--UR/0250/70/014/003/0226/0229

ACCESSION NO--AT0119993

UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AT0119993

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

ABSTRACT. FIBERS OF GLASS CONTG. 14PERCENT AND 8.5PERCENT ZRO SUB2 AND OF ALKALI FREE ALUMINOBOROSILICATE GLASS WERE EXPOSED TO 2, 4, AND 6 N NAOH FOR 2-112 HR AND THEN EXAMD. UNDER THE MICROSCOPE. THE ALKALI RESISTANCE INCREASES WITH THE ZRO SUB2 CONTENT. THE REACTION PROCESS CONSISTS OF HYDRATION, SURFACE LAYER DESTRUCTION, AND THE FORMATION OF AN INTERMEDIATE LAYER.

FACILITY: INST. OBSHCH. NEORG. KHIM., MINSK, USSR.

UNCLASSIFIED

1/2 023 UNCLASSIFIED PROCESSING DATE--020CT70
TITLE--PROPERTIES OF ZEOLITES CONTAINING ION EXCHANGE CHROMIUM -U-

AUTHOR--(02)-PANSEVICHKOLYADA, L.V., SHARAY, V.N.

COUNTRY OF INFO--USSR

SOURCE--VESTSI AKAD. NAVUK BELARUS. SSR, SER. KHIM. NAVUK 1970 (1) 85-9

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ZEOLITE, ION EXCHANGE, CHROMIUM COMPOUND, CRYSTAL STRUCTURE,
CATALYTIC HYDROGENATION, ETHANOL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY PEEL/FRAME--1992/1560

STEP NO--UR/0419/70/000/001/0085/0089

CIRC ACCESSION NO--AP0112554

UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0112554

ABSTRACT/EXTRACT--(U) CP-0- ABSTRACT. CR PRIME3 POSITIVE CONTG. ZEOLITES OF THE A, X, Y, AND M TYPES WERE OBTAINED BY ION EXCHANGE BETWEEN A GIVEN ZEOLITE (E.G. OF NAA TYPE) AND 0.01 N CR(OAC) SUB3 (THE PRODUCT DESIGNATED AS CRNAY-1), OR BY MAINTAINING A ZEOLITE IN MOLTEN CR(ND SUB3) SUB3 .9H SUB2 O FOR 2 OR 24 HR (THE PRODUCTS CRNAY-2 AND CRNAY-3, RESP.). IN A AND X ZEOLITES OF LOW STABILITY IN ACIDIC MEDIUM, THE EXCHANGE DEGREE BETWEEN NA PRIME POSITIVE AND CR PRIME3 POSITIVE IONS WAS 6-7PERCENT WHEN USING THE 1ST PROCEDURE. REPEATING THE PROCEDURE OR INCREASING CR(OAC) SUB3 CONCN. LED TO DESTRUCTION OF THE CRYSTAL STRUCTURE OF THE ZEOLITES. BY THE 2ND PROCEDURE, APPLICABLE TO THE Y AND M ZEOLITES OF A HIGH SI CONTENT, THE EXCHANGE DEGREE WAS 37-60PERCENT. REFRACTIVE INDICES OF THE PRODUCTS INCREASED WITH INCREASING CR PRIME3 POSITIVE CONTENT. THE PRODUCTS ALSO HAD INCREASED ADSORPTIVITY TO H SUB2 O VAPORS AND BENZENE AS COMPARED WITH THE PARENT ZEOLITES AND AN APPRECIABLY INCREASED CATALYTIC ACTIVITY IN DEHYDROGENATION REACTION OF ETH.

UNCLASSIFIED

USSR

UDC: 621.385.63

TRUBETSKOV, D. I., ~~SHARAYEVSKIY, Yu. P.~~

"Analogy Between Wave Processes in a Modulated Electron Flux in Crossed Fields and in a Parametric Transmission Line"

Moscow, Radiotekhnika i Elektronika, Vol 17, No 4, Apr 72, pp 811-817

Abstract: The authors consider the possibility of establishing an analogy between the propagation of rf disturbances in an electron stream and the wave processes in a parametric transmission line. The analysis is based on examining a model of an infinitely thin stream of electrons moving between ideally conductive planes with a given steady-state velocity in crossed electric and magnetic fields. It is assumed that the beam is modulated by an rf signal at the input and that further motion takes place in a region where there are no external rf fields. The rise of rf disturbances in the beam takes place only under the effect of the rf fields of the space charge, which are calculated from the condition of cut-off of the normal component of the field strength of the space charge in the plane of the beam. Taking the resultant analogy as a basis, a theorem is found relating to kinetic power for the given electron flux.

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- 111 -

1/2 023 UNCLASSIFIED PROCESSING DATE--11DEC70
TITLE--TO AN ANALYSIS OF A TWO STAGE M TYPE TWT WITH A NEGATIVELY CHARGED
RETARDING SYSTEM -U-
AUTHOR-(C2)-SHARAYEVSKIY, YU.F., LEPILOV, V.A.
COUNTRY OF INFO--USSR
SOURCE--V SB. VOPR. ELEKTRON, TEKNIKI (PROBLEMS OF ELECTRONICS
REFERENCE--RZH-ELEKTRONIKA I YEYE PRIMENENIYE, NO 6, JUNE 1970, ABSTRACT
DATE PUBLISHED-----70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--TRAVELING WAVE TUBE, ELECTRONIC AMPLIFIER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605023/B03 STEP NO--UR/0000/70/000/000/0062/0069

CIRC ACCESSION NO--AR0141240

UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AR0141240

ABSTRACT/EXTRACT--(U) CP-0- ABSTRACT. A VARIATION OF A M TYPE TRAVELING WAVE TUBE AMPLIFIER WHICH CONSISTS OF A UNIT WITH A NEGATIVELY CHARGED RETARDING SYSTEM IS ANALYZED, AND LATER A POSITIVELY CHARGED RETARDING SYSTEM. A QUANTITATIVE EVALUATION IS GIVEN OF THE POSSIBILITY OF A SIGNIFICANT INCREASE OF THE AMPLIFICATION IN THE VARIANT OF THE DEVICE MENTIONED, AS COMPARED WITH AN ORDINARY M TYPE TWT AMPLIFIER.

UNCLASSIFIED

USSR

USS 621.385.532

SHARAYEVSKIY, YU. P., LEPILOV, V.A.

"To An Analysis Of A Two-Stage M-Type TWT With A Negatively-Charged Retarding System"

V sb. Vopr. elektron. tekhniki (Problems Of Electronics Technology--Collection Of Works), Saratov, 1970, pp 62-69 (from RZh--Elektronika i yeye primeneniye, No 6, June 1970, Abstract 6A140)

Translation: A variation of a M-Type traveling-wave tube amplifier which consists of a unit with a negatively-charged retarding system is analyzed, and later a positively-charged retarding system. A quantitative evaluation is given of the possibility of a significant increase of the amplification in the variant of the device mentioned, as compared with an ordinary M-Type TWT amplifier. Summary.

USSR

UDC 612.833.755-057:007.51

GORSHKOV, S. I., SHARDAKOVA, E. F., and ZHAKHMETOV, Ye. G., Institute of Labor Hygiene and Occupational Diseases, Academy of Medical Sciences USSR, Moscow

"Research on the Latent Time of Tendon Reflexes of Keyboard Computer Operators"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 7, 1973, pp 33-36

Abstract: Latent times of hand tendon flexion-extension reflexes and knee reflexes of 18-25-year-old female keyboard computer operators were studied as indexes of the functional state of the neuromuscular apparatus. Within 1 work day latent times of hand tendon reflexes increased significantly, more so for the left hand (flexion -- 39.3, extension -- 19 msec) than the right (flexion -- 8.5, extension -- 5.4 msec), probably because the left hand dominates in keyboard operation. Latent times of the knee reflex increased insignificantly, more so for the left leg. Latent times of all reflexes also increased during the work week, probably due to fatigue buildup. Increases were larger for the left hand (flexion -- 13.5, extension -- 1.4 msec) than the right (flexion -- 7.0, extension -- 8.0 msec) and insignificant for the knee reflex. In all cases the initial latent time was longer for left appendages. It is concluded that tendon reflexes are adequate and sensitive indexes of the state of the motor apparatus.

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1/2 015 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--PHOTOPROTONS FROM THE BORON 11 NUCLEUS -U-
AUTHOR-(04)-SOROKIN, YU.I., SHARDANOV, A.KH., SHEVCHENKO, V.G., YUREV,
B.A.
COUNTRY OF INFO--USSR
SOURCE--YAD. FIZ. 1970, 11(1), 8-18
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--PHOTONUCLEAR REACTION, PROTON SCATTERING, BORON ISOTOPE,
BREMSSTRAHLUNG, ANGULAR DISTRIBUTION, PROTON SPECTRUM, EXCITATION CROSS
SECTION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1980/0176 STEP NO--UR/0367/70/011/001/0008/0018
CIRC ACCESSION NO--AP0048468
UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0048468

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ENERGY DISTRIBUTIONS OF PHOTO P EMITTED FROM PRIME11 B NUCLEI, EXPOSED TO THE 16.5- AND 18.5-MEV BREMSSTRAHLUNG AND THE PHOTO P ANGULAR DISTRIBUTION AT 18.5 MEV WERE MEASURED. THE P WERE REGISTERED IN NUCLEAR PHOTOPLATES. IN THE PHOTO P SPECTRA A GREAT NO. OF MAX. WAS OBSD. THAT WERE DUE TO THE EXCITATION OF LEVELS OF THE PRIME11 B NUCLEUS IN THE ENERGY REGION 12-18.5 MEV. THE CROSS SECTIONS WERE OBTAINED FOR THE REACTION PRIME11 B(GAMMA, P) PRIME10 BE WITH THE FINAL PRIME10 BE NUCLEUS IN THE GROUND STATE AND IN THE 1ST EXCITED STATE. THE RADIATION WIDTHS OF THE OBSD. LEVELS OF PRIME11 B WERE ESTD. THE ANAL. OF THE RESULTS ENABLES ONE TO DEDUCE INFORMATION CONCERNING THE MULTIPOLARITIES OF THE GAMMA TRANSITIONS AS WELL AS SPINS AND PARITIES OF THE EXCITED STATES OF THE PRIME11 B NUCLEUS. FACILITY: INST. YAD. FIZ., MOSK. GOS. UNIV., MOSCOW, USSR.

UNCLASSIFIED

Acc. Nr:

AP0051937

Ref. Code: UR 0219

PRIMARY SOURCE: Byulleten' Eksperimental'noy Biologii i Meditsiny, 1970, Vol 69, Nr. 2, pp 112-114

AMINO ACID COMPOSITION OF MYOSIN AND ACTINE IN THE MUSCLES OF EXPERIMENTAL ANIMALS WITH HEREDITARY MYOPATHY

L. O. Badalyan, Ye. S. Bondarenko, Ye. I. Gusev, Yu. Ye. Lukouanov, G. G. Reuich, P. A. Temin, Yu. D. Sharets

N. I. Pirogov II Moscow Medical Institute

Amino acid composition of myosin and actine was analyzed in 10 healthy, 12 sick and 12 heterozygous mice of the 129/RE line with hereditary myopathy. Increased leucin with isoleucin, valine, alanine and lowered tyrosine and histidine content was found in the amino acid spectrum of myosin in sick mice. In heterozygous animals higher valine and lowered tyrosine and histidine levels were recorded. In the amino acid composition of actine in the sick and heterozygous mice glycine was up and histidine down.

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USSR

UDC 621.385.64

TRUBETSKOV, D. I., SHAREYEVSKIY, YU. P., SHEBCHIK, V. N.

"Theory of the Signal Suppression Effect in a Traveling-Wave Magnetron-Type Tube Amplifier in the Presence of Preliminary Modulation of the Electron Flux"

Kiev, Izvestiya vuzov SSSR, Radioelektronika, Vol XV, No 8, 1972, pp 1007-1014

Abstract: A theoretical analysis is presented for the process of interaction of electrons and a wave in the traveling-wave magnetron-type tube amplifier with preliminary modulation of the electron flux. The conditions were obtained under which the effect of complete or partial suppression of the output wave is observed.

The basic equations are derived which permit analysis of the processes of interaction of the preliminary modulated electron flux with the wave and a traveling-wave magnetron-type amplifier. For defined relations between the input signal and the value characterizing the preliminary modulation the effect of complete or partial suppression of the output signal is observed which is explained by the effect that the modulated electron flux at the input of the interaction space falls in an unfavorable phase of the high-frequency field. The theoretically described mechanism of suppression of the signal in the traveling wave magnetron-type tube in the presence of flux modulation in the vicinity of the gun can lead to worsening of the output characteristics of the

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USSR

TRUBETSKOV, D. I., et al., Izvestiya vuzov SSSR, Radioelektronika, Vol XV, No 8, 1972, pp 1007-1014

amplifier; in particular, it can be the cause of the fact that in a number of cases the traveling wave magnetron type tube amplifier does not amplify weak signals and the stable amplification is observed from some defined value of the input signal.

2/2

- 100 -

1/3 014 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--MECHANISM OF 1,3 DIOL CONVERSIONS IN THE PRESENCE OF ACIDIC
CATALYSTS. 2. CONVERSION OF 2,4 PENTANEDIOL AND 2 METHYL 2,4 PENTANEDIOL
AUTHOR--(03)-SHARF, V.Z., FREYDLIN, L.KH., NAZARYAN, A.A.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (3), 597-602

DATE PUBLISHED--70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL REACTION MECHANISM, PENTANE, ALCOHOL, CATALYST,
DEHYDRATION, STEREOCHEMISTRY, CARBONYL COMPOUND, ISOMER DIENE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/0839

STEP NO--UR/0062/70/000/003/0597/0602

CIRC ACCESSION NO--AP0124506

UNCLASSIFIED

2/3 014

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124506

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CONVERSIONS OF 2,4 PENTANEDIOL AND ITS 2 ME ANALOG OVER CA SUB3 (PO SUB4)SUB2 OR AL SUB2 O SUB3 CATALYSTS IN THE TEMP. INTERVAL 140-360DEGREES WERE SHOWN GRAPHICALLY. THE DEHYDRATION OF THESE ALCS. OCCURS SPECIFICALLY IN RESPECT OF THEIR STEREOCHEMISTRY AND RESULTS IN TRANS 1,3 PENTADIENE FROM THE 1ST ALC. ALSO, APPRECIABLE DECOMP. TAKES PLACE: THE PHOSPHATE CATALYSTS LEADS TO ME SUB2 CO AND ISO PROH, WHILE AL SUB2 O SUB3 GIVES ALSO OSME ACH. THE CARBONYL COMPS. ARE FORMED BY EITHER ISOMERIZATION OF DEHYDRATION PRODUCTS SUCH AS THE EPOXIDE OR UNSATD. ALC. OR BY DEALDOLIZATION OF THE KETOL FORMED AS AN INTERMEDIATE. IN THE CASE OF THE PHOSPHATE CATALYST THE CLEAVAGE IS CAUSED BY H TRANSFER FROM THE HO GROUPS OF THE DIOL TO THE CARBONYL GROUP TO FORM THIS KETOL, WHICH THEN CLEAVES BY DEALDOLIZATION. THE REACTIONS OCCUR IN THE 100-50DEGREES INTERVAL, AT WHICH DEHYDRATION CANNOT TAKE PLACE. OVER AL SUB2 O SUB3 THE DECOMP. OF THE DIOL IS LESS PRONOUNCED AND CLEAVAGE VIA THE KETOL IS INHIBITED BY H SUB2 O GENERATED IN THE REACTION OWING TO POISONING OF THE CATALYSTS IN RESPECT OF THE H TRANSFER REACTION. DEHYDRATION OF THE 1ST DIOL OVER CA SUB3(PO SUB4)SUB2 AT 290DEGREES YIELDS MIXED UNSATD. ALCS. CONTG. 68PERCENT 4 PENTEN 2OL AND 32PERCENT TRANS 3 PENTEN 2 OL, WHILE GREATER THAN 325DEGREES THE PRODUCT IS ONLY 4 PENTEN 2 OL; AS THE TEMP. IS RAISED THE YIELDS OF THESE ALCS. DECLINE AND THAT OF DIENE RISES, AND THE FINAL PRODUCT CONTAINS 75-100PERCENT TRANS PIPERYLENE AND 0-20PERCENT CIS ISOMER; THE YIELD OF 1,4 PENTADIENE IS LESS THAN 5PERCENT.

UNCLASSIFIED

3/3 014

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124506

ABSTRACT/EXTRACT--2 METHYL 2,4 PENTANEDIOL REACTS ON AL SUB2 O SUB3 EVEN AT 135DEGREES, WHILE AT 190DEGREES THE CONVERSION REACHES 30PERCENT, FORMING HOEME SUB2 CH SUB2 CHMEOH AND ISOMERIC 2 METHYLPENTADIENES, ALONG WITH ME SUB2 CO AND ISO PROH. FACILITY: INST. ORG. KHIM. IM. ZELINSKOGO, MOSCOW, USSR.

UNCLASSIFIED

1/2 010 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--1,3,DIOL CONVERSION MECHANISM IN THE PRESENCE OF ACID CATALYSTS. 1.
CONVERSION OF 1,3,PROPANEDIOL, 1,3,BUTANEDIOL AND BETA OXIDES ON CALCIUM
AUTHOR--(04)--FREYDLIN, L.KH., SHARF, V.Z., BARTOK, M., NAZARYAN, A.A.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (2), 310-14
DATE PUBLISHED--70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--PROPANE, BUTANE, HYDROXYL RADICAL, ORGANIC OXIDE, ACID
CATALYSIS, FURAN, EPOXIDE, KETONE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/0749 STEP NO--UR/0062/70/000/002/0310/0314
CIRC ACCESSION NO--AP0124419
UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE—30OCT70

CIRC ACCESSION NO—A0124419

ABSTRACT/EXTRACT—(U) GP-0- ABSTRACT. THE PRODUCTS FORMED BY PASSAGE AT 275-350DEGREES OVER CA SUB3 (PO SUB4) SUB2 OF HO(CH SUB2) SUB3 OH, TETRAHYDROFURAN, AND ALLYL ALC. WERE TABULATED FOR EACH TEMP. IN 25DEGREE STEPS. SIMILAR DATA ARE REPORTED FOR HO(CH SUB2) SUB2 CHMEOH AND 2,METHYLTETRAHYDROFURAN, BOTH RUN OVER 230-300DEGREES. THE 1,3,DIOLS ARE CONVERTED INTO A MIXT. OF SATD. AND UNSATD. ALCS., ALDEHYDES, KETONES, EPOXIDES, AND OTHER COMPDS. DEHYDRATION OCCURS BY 2 PATHS TO AN UNSATD. ALC. AND TO A CYCLIC OXIDE, WITH INTRAMOL. CYCLIZATION BEING PREDOMINANT. OXIDES ARE THEN CONVERTED BY ISOMERIZATION TO UNSATD. ALCS. AND CARBONYL COMPDS. MUCH OF THE SATD. ALCS. AND UNSATD. ALDEHYDES IS FORMED BY THE H TRANSFER REACTIONS. 2,2,DIETHYL,1,3,PROPANEDIOL GAVE 11PERCENT 3,3,DIETHYLTRIMETHYLENE OXIDE, 18PERCENT ISOMERIC HEPTENOLS, AND 71PERCENT MIXED PRODUCTS AT 300DEGREES; 2,BUTYL,1,3,PROPANEDIOL GAVE NO TRIMETHYLENE OXIDE DERIVS. BUT 20PERCENT ISOMERIC HEPTENOLS AND 80PERCENT MIXED PRODUCTS. 2,BUTYLTRIMETHYLENE OXIDE WAS 98PERCENT CONVERTED TO ALCS. AND OTHER PRODUCTS AT 300DEGREES.

FACILITY: INST. ORG. KHIM. IM.
ZELINSKOGO, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 542.97:547.263:546.11:547.594.3

SHARF, V. Z., FREYDLIN, L. KH., KRUTII, V. N., LYSYAK, T. V., Institute of Organic Chemistry Imeni N. D. Zelinskii, Acad. Sc. USSR

"Investigation of the Homogeneous Hydrogen Transfer From 2-Pentanol to Cyclohexanone in the Presence of Tris(triphenylphosphine)-dichlororuthenium and a Base"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 10, Oct 72, pp 2195-2198

Abstract: Base accelerates the reduction of cyclohexanone through hydrogen transfer from 2-pentanol as well as its hydrogenation and condensation in presence of the tris(triphenylphosphine)dichlororuthenium complex. The hydrogen transfer reaches a maximum at a base concentration of $1.64 \cdot 10^{-3} M/l$ under argon atmosphere and at $4.08 \cdot 10^{-3} M/l$ under hydrogen. The degree of hydrogenation of the ketone by hydrogen and its condensation increase with increasing concentration of the base. Raising the temperature from 50 to 840° results in a higher rate of hydrogen transfer; the rate of hydrogenation reaching a maximum at 70°. This evidently is due to the formation of various intermediate complexes catalyzing these processes. The duration of the process has practically no effect on all of the processes discussed.

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USSR

UDC 547.971.2

FREYDLIN, L. KH., ~~SHARF, V. Z.~~, KROMIY, V. N., and SHCHERBAKOVA, S. I.,
Institute of Organic Chemistry imeni N. D. Zelinskiy, Academy of Sciences USSR

"An Investigation of the Reduction of Cyclohexanone with an Alcohol in the
Presence of Tris(triphenylphosphine)dichlororuthenium"

Leningrad, Zhurnal Organicheskiy Khimii, Vol 8, Vyp 5, May 72, pp 979-981

Abstract: The authors investigated the homogeneous catalysis by tris(triphenylphosphine)dichlororuthenium of the reduction of cyclohexanone with several five- to seven-carbon aliphatic alcohols. Reactions were conducted under reflux condenser under an atmosphere of argon or hydrogen, and analysed by gas-liquid chromatography. The low yield of cyclohexanol shows that condensation is a side reaction. The reaction rates for various degrees of substitution on the alpha carbon were studied. They showed a correlation between increased steric hindrance and slower rate of reaction. The intermediate formation of a hydride of tris(triphenylphosphine)dichlororuthenium was suggested as a mechanism. Hydrogenation by the ambient medium contributes to the reduction of cyclohexanone.

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AA0045189

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

243194 FIBRE OPTICS MEASURING DEVICE, described in No.153126, was based on the principle of optical measurement of length using a transmitting television tube and a bunch of light guides. Measurement is not as accurate as it might be, owing to physical movement effects from the test piece. The proposal describes an improvement. The diagram shows an objective lens 1 focussed on the test piece 6 (which may be hot) and passing an optical image to the bunch of light guides 2, which are closed up at the input end 4. The output end 5 is scanned by the television tube 3; the feature of the present development is the special arrangement of these flexible fibre guides into even and

270

AUTHORS: Rabinovich, V. A.; Sharf, Ye. M.; Punger, V. A.;
Namsarayev, V. T.

1/3

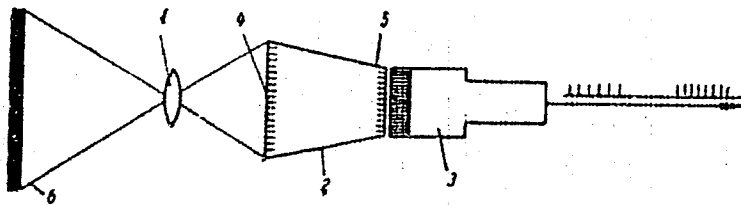
21

19780092

AA0045189

odd groups, as numbered at the input, so that odd numbers arrive in group A, and even in group B, of the output array. In addition they are in opposed order, as shown. The image of the hot body 6 presented to the light guides is converted by the television tube into one depending on the scanning method, but any dynamic error due to movement is only equal to the difference of the errors in each part A and B of the final image.

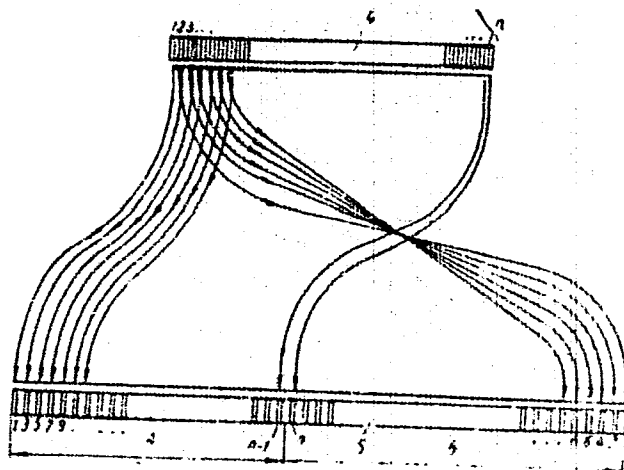
5.11.67 as 1195767/25-28 Add to 153126.V.A.RABINOV-ICH et al. (17.9.69) Bul 10/.5.5.69. Class 42b. Int.Cl.G 01b.



3/3

19780093

AA0045189



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19780094

USSR

PUDOVIK, A. N., ISHMAYEVA, E. A., SHARGINA, I. V., Kazan University

"A Method for Preparing 2,6-bis-(dialkoxyphosphono)-dioxanes-1,4"

USSR Author's Certificate No 253804, class 12o, 26/01 (G 07 r),
filed 24 Jan 68, published 3 Mar 70 (from RZh-Khimiya, No 21 (II),
10 Nov 70, Abstract No 21 N599 P by G. V. Kuznetsova)

Translation: These substances, potentially useful as fungicides, are obtained by reaction of disodium derivatives of bis-(dialkoxyphosphono)-dimethyl ester with dihaloiddimethyl esters; 3.34 g of Na is gradually added to a solution of 23.1 g of $(EtO)_2P(O)CH_2OCH_4$ in 100 ml of absolute ether. After all the Na reacts, the small amount of excess $(ClCH_2)_2O$ is added to the mixture a drop at a time. The precipitated NaCl is filtered out and 2,6-bis-(diethoxyphosphono)-dioxane-2,4 (boiling point $154^{\circ}-7^{\circ}/1$, d_4^{20} 1.1632, n_D^{20} 1.4360) is formed from the filtrate.

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USSR

UDC 621.397

SOLOVEYCHIK, I.YE., DRABKIN, R.I., YARMARKIN, K.K., LEUESKAYA, G.V.,
SHARGORODSKAYA, F.M., KORNITENKO, G.G., TSEDIK, A.S.

"Electronic Device For Information Display"

Elektrosvyaz', No 1, Jan 1972, pp 59-63

Abstract: The paper describes an information display device of the desk type, intended for operation with an electronic computer through a telegraph communication channel. A block diagram of the device and the basic parameters of the unit are presented. The authors report that a new information display device was developed on the basis of the unit described, but few details are given. (An exterior view of the device is shown on the journal cover.) In the new device it is possible to reproduce 512 symbols (16 lines, 32 symbols to the line) of an ELT23LK93 screen. The set of reproducible symbols includes the Russian alphabet, figures, and special symbols--altogether 64 symbols. With an individual keyboard which has 47 figure-letter keys and 21 functional, it is possible to feed information into an electronic computer and to accomplish complete editing of the text with the aid of an electronic carriage (marker). The device contains a special exchange unit which makes it possible to operate with an electronic computer in GOST 10859-64 code and in code MK-2. In addition, this unit provides coupling with the "Minsk-32" computer for the slow channel. 5 fig. 1 tab.

1/1

1/2 027 UNCLASSIFIED PROCESSING DATE--11DEC70
TITLE--EFFECT OF CARBOCROMEN ON SOME PARAMETERS OF MYOCARDIAL METABOLISM
-U-
AUTHOR--(02)--SHARGORODSKIY, B.M., METELITSA, V.I.
COUNTRY OF INFO--USSR
SOURCE--ARZNEIM., FORSCH. 1970, 20 (3A), 448-9
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--MYOCARDIUM, METABOLISM, DOG, ARTERY, DRUG EFFECT,
CARDIOVASCULAR DRUG

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NU----FD70/605015/F01 STEP NO--GY/0000/70/020/003/0448/0449
CIRC ACCESSION NO--AP0140631
UNCLASSIFIED

2/2 027

UNCLASSIFIED

PROCESSING DATE--11DEC70

CIRC ACCESSION NO--A0140631

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

ABSTRACT. INTACT DOGS WERE I.V. INJECTED WITH 0.8-1.0 MG CARBOCROMEN-KG. AFTER A SHORT REDN. OF MYOCARDIAL PO SUB2 AND REDOX POTENTIAL, LASTING FOR 1-2 MIN, AN INCREASE OF PO SUB2 LASTING FOR 15-20 MIN, WAS OBSD., WHILE THE REDOX POTENTIAL RETURNED TO NORMAL. WHEN PO SUB2 WAS DECREASED BY LIGATION OF THE LEFT DESCENDING CORONARY ARTERY, CARBOCROMEN WAS NOT CAPABLE OF RAISING THE PO SUB2.

FACILITY: LAB. PATHOPHYSIOL. MYOCARDINFARKTES, A. I. MYASNIKOV
CARDIOLOG. INST., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 621.375.82

DMITRIYEV, V. G., YERSHOV, A. G., ZUDKOV, P. I., SHARIF, G. A., SHVOM, Ye. M.
"Generation of Optical Harmonics in a Pulsed Mode With a High Pulse Repetition
Frequency"

V sb. Kvant. elektronika (Quantum Electronics), No. 1, Moscow, 1971, pp 116-119
(from RZh-Fizika, No 7, Jul 71, Abstract No 7D996)

Translation: The generation of second, third, and fourth optical harmonics of
the radiation of a YAG:Nd laser operating in a pulsed mode with Q-modulation
with a high pulse repetition frequency was investigated experimentally. There
was found a high stability of ultraviolet radiation intensity at the wavelength
266 nm. Authors abstract.

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USSR

UDC 621.373:530.145.6

YERSHOV, A. G., CHEREDNICHENKO, O. B., SHARIF, G. A.

"An Experimental Study of a Laser Based on a Solution of an Organic Dye With Transverse Pumping and a Dispersion Cavity"

Zh. prikl. spektroskopii (Journal of Applied Spectroscopy), 1971, 14, No 2, pp 216-221 (from RZh-Radiotekhnika, No 7, Jul 71, Abstract No 7D187)

Translation: The authors study the polarization, energy and spectral characteristics of emission from a laser based on a solution of rhodamine 6G in ethyl alcohol with a concentration of $C = 1 \cdot 10^{17} \text{ cm}^{-3}$. The use of a dispersion cavity with diffraction grating and prism, and with transverse pumping of the dye by the second harmonic of an 8 MW neodymium laser made it possible to achieve emission which can be tuned over a range of 560-620 nm with an emission bandwidth of 1-6 nm and a maximum conversion factor of $\eta = 35\%$. Five illustrations, bibliography of nine titles.

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USSR

UDC: 621.373:530.145.6

DMITRIYEV, V. G., YERSHOV, A. G., ZUDKOV, P. I., SHARIF, G. A., SHVOM, Ye. M.

"Emission of Optical Harmonics in the Pulse Mode With a High Pulse Repetition Frequency"

V sb. Kvant. elektronika (Quantum Electronics--collection of works), No 1, Moscow, 1971, pp 116-119 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5D174)

Translation: The paper presents the results of an experiment on generation of the second, third and fourth optical harmonics of emission from an aluminum-yttrium garnet laser with neodymium working in the pulse mode with Q-switching at a high pulse repetition frequency. It is noted that the intensity of ultra-violet emission on a wavelength of 266 millimicrons is extremely stable. One illustration, one table, bibliography of eight titles. Resumé.

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ACC NR: AFS019704

of all the lines from the cell did not exceed 8.5 My, i.e., 24% of excitation power.
The anomalously high absorption appears to be due to stimulated Brillouin scattering
Orig. art. has: 1 table and 1 figure. [YK]

SUB CODE: 20/ SUBM DATE: 07Jan67/ ORIG REF: 003/ CITE REF: 002 / ATD PRESS: 7007

Card 3/3

USSR

UDC: 621.319.5

D'YAKONOV, V. P., ~~SHARIEV, Ch. A. G.~~

"A Quantizing Device"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 17, Jun 72, Author's Certificate No 340071, Division H, filed 13 Jan 70, published 24 May 72, p 190

Translation: This Author's Certificate introduces a quantizing device which contains a supply source, and dosing and storage capacitors between which is connected a discharge device with S-shaped current-voltage characteristic. As a distinguishing feature of the patent, in order to improve quantizing accuracy, eliminate zero displacement of quantization, and simplify the quantizing device, its input is connected through a silicon stabilatron to the dosing capacitor. The power supply is connected in parallel with the dosing capacitor through a resistor. The storage capacitor is connected in series with a discharge resistor, and connected through a diode to the input of the quantizing device.

1/1

- 101 -

Organophosphorus Compounds

USSR

UDC 673.664-985.002.612

VALETDINOV, R. K., ZUYKOVA, A. N., KHASANOV, M. KH., and SHARIFULLIN, A. SH.,
Kazan' Branch of the All Union Scientific Research Institute of Synthetic
Rubber Imeni S. V. Lebedev

"Properties of the Phosphorus Containing Urethane Elastomers Based on Simple
Polyesters"

Moscow, Kauchuk i Rezina, No 11, 1972, pp 15-17

Abstract: A method has been proposed for the modification of industrial rubber
SKU-PF based on polybutene by a partial or complete replacement of the trimethyl-
olpropane and monoallyl ether of the glycerine with tri-(hydroxymethyl)-phosphine
or its oxide. Thus modified rubbers show higher thermal stability and lesser
flammability in comparison to the SKU-PF rubber. When the tri-(hydroxymethyl)-
phosphine is used, the physical-mechanical properties of the vulcanized rubber
remain practically unchanged.

1/1

USSR

SIMONOV, V. D., GAZIZOV, R. T., MAMINA, F. A., SHARIF'YANOVA, L. N.

"Chromatographic Determination of Cyclical Carbon Chlorides and Their Carbocyclical Derivatives"

Dokl. Neftikhim. Sektsii. B'ashkir. Resp. Pravl. Vses. Khim. O-va im. D. I. Mendeleyeva, [Works of Petrochemical Section, Vashkir Republic Administration of All-Union Chemical Society imeni D. I. Mendeleyev], Vol 6, 1971, pp 320-323. (Translated from Referativnyy Zhur-al Khimiya, No 4, Moscow, 1972, Abstract No 4N652 by I. A. Revel'skiy).

Translation: A mixture of thymol, perchloromethylene-3-cyclopentene, hexacholofulvene, 2, 3, 4, 4-tetracholoro-5-dichloromethylene-2-cyclo-1-pentenone and 2, 3-dichloro-5-dichloromethylene-2-cyclo-1, 4-pentenedione is separated by GLC with a heat conductivity detector on a combined glass column (160+20x 0.4 cm), the first section of which contains silanized celite 545 with 15% polyethylene glycoladipate, while the second contains the same carrier with 10% type SE-30 methyl silicone, at a temperature of 190° and a He gas carrier rate of 90 ml per minute.

1/1

USSR

UDC: 535.243

GVERDTSITELI, T. A., SHARIKADZE, A. P., CHARUYEV, N. G., KOVZCHASHVILI, U. A.,
Scientific Research Institute of Automation of Production Processes in Indus-
try

"A Photometer"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki,
No 7, Mar 72, Author's Certificate No 329408, Division G, filed 15 Jun 70,
published 9 Feb 72, p 161

Translation: This Author's Certificate introduces a photometer containing
two radiation sources with two light filters, a modulator, a commutator,
three photoreceivers, amplifiers, and a registration module. Two of the
photoreceivers produce commutating signals. As a distinguishing feature of
the patent, the sensitivity of measurements is improved by introducing
integral interrupters into the circuit for registration of the intensity
of the working and comparison signals. The interrupters operate in the
line switch mode, and their control elements are connected to the outputs
of the commutating signal amplifiers. These integral interrupters are con-
nected to alternating current sources in parallel with storage capacitors.
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USSR

GVERDTSITELI, T. A., USSR Author's Certificate No 329408

Two slots are made in the commutating disc. These slots are no longer than the diameter of the light filters, and are located at different distances from the center of the disc.

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USSR

UDC: 538.4

SHARIKADZE, D. V., MEGAKHED, A. A.

"Nonstationary Flow of a Conductive Viscous Fluid Between Parallel Porous Walls With Heat Transfer"

Moscow, Magnitnaya Gidrodinamika, No 4, 1972, pp 25-30

Abstract: The authors consider nonstationary flow of a viscous, incompressible, electrically conductive fluid between two parallel permeable non-conductive moving walls with regard to heat transfer, when a homogeneous external magnetic field is applied perpendicular to the walls. Both viscous dissipation and Joule heat are considered in the heat transfer equations. In the basic equations of magnetohydrodynamics the rate of permeation is substituted for the transverse flow velocity, and the resultant system of equations is reduced to solution of Volterra integral equations of the second kind. In the case of a magnetic Prandtl number equal to unity a solution in explicit form is found, expressed in tabulatable functions.

1/1

1/2 039 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--TWO DIMENSIONAL NONSTATIONARY FLOW OF A WEAKLY CONDUCTING FLUID IN
A MAGNETIC FIELD -U-
AUTHOR--~~SHARIKADZE, D.V.~~ S
COUNTRY OF INFO--USSR
SOURCE--AKADEMIIA NAUK GRUZINSKOI SSR, SOOBSHCHENIJA, VOL. 57, JAN. 1970,
P. 29-32
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS
TOPIC TAGS--UNSTEADY FLOW, FLOW ANALYSIS, TRANSVERSE MAGNETIC FIELD,
BOUNDARY VALUE PROBLEM, GREEN FUNCTION

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/1454 STEP NO--UR/0251/70/057/000/0029/0032
CIRC ACCESSION NO--AP0118443
UNCLASSIFIED

2/2 039

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0118443

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DERIVATION OF EQUATIONS DESCRIBING THE UNSTEADY FLOW OF A FLUID OF WEAK ELECTRICAL CONDUCTIVITY IN A PERPENDICULAR MAGNETIC FIELD. THE MAGNETIC FIELD INDUCED BY THE CURRENT IN THE FLUID IS NEGLECTED. A PROOF FOR THE UNIQUENESS OF THE SOLUTION TO THE CORRESPONDING BOUNDARY VALUE PROBLEM IS OBTAINED. IT IS SHOWN THAT STREAM FUNCTION CAN BE EXPRESSED BY A GREEN'S FUNCTION. THE REGULAR PART OF THE GREEN'S FUNCTION IF OBTAINED IN EXPLICIT FORM. FACILITY: TBILISSKII GOSUDARSTVENNYI UNIVERSITET, TIFLIS, GEORGIAN SSR.

UNCLASSIFIED

USSR

UDC 621.383.29.032.11

DEVYATKOV, M. N., SHARIKHIN, V. F.

"Modification Of Photoelectron Detector With Virtual Cathode For Microwave Demodulation Of Light Signal"

Elektron.tekhnika.Nauch.-tekhn.sb. Elektron.SVCh (Electronics Technology. Scientific-Technical Collection. Microwave Electronics), 1972, Issue 4, pp 33-35 (from RZh: Elektronika i yeye primeneniye, No 9, Sept 1972, Abstract No 9A163)

Translation: The paper discusses the design variations of a photodetector in which efficiency of operation at microwave frequencies is assured by the introduction of a supplementary device of the diode transit interval type or the delay system type for separation of a demodulated signal. The design variations assure the possibility of using the photodetector for wide-band demodulation of light signals. 1 ill. 5 ref. Summary.

1/1

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SHARIKOV, A.M.

Telephone Equipment

501 JPRS 53016
21 Jan 73

TELEPHONE
EQUIPMENT

OPERATION OF THE AIMS-3 TELEPHONE EXCHANGE
Article by A. M. Sharikov. "Experience Gained in the Operation of the AIMS-3, Moscow, ~~USSR~~ Soviet Union, Minsk, No 8, August 1972, pp 21-25]

On 5 November 1970 the first coordinate automatic long-distance telephone exchange of average capacity (AIMS-3) (in the Union network) was placed into experimental operation at the Minsk Interurban Telephone Exchange.

The AIMS-3 exchange in the city of Minsk, with a capacity of 300 channels and 200 reserved lines and trunk lines includes several incoming switching blocks and 23 outgoing, two switching blocks, and 34 markers. The exchange can service around 8,400 calls an hour. The capacity of the exchange, 300 channels, according to the design will make it possible to use eight outgoing and seven incoming major communication directions.

The AIMS-3 exchange can operate with an automatic telephone exchange of the UNAS-4 type. The latter does not form a part of the AIMS-3 complex. No provisions are made for hooking up interurban dial telephones to the exchange.

The design also does not provide for the inclusion of all automatic telephone exchange subscribers in Minsk into the AIMS-3, and at the present time only 40 percent of the automatic telephone exchange subscribers have access to the automatic network out of seven trunk and two local communication directions. Taking into account the possibilities of the exchange rationalizers of the Minsk Interurban Telephone Exchange together with the Central Scientific Research Institute of Communications adopted KMTI outgoing set for voice-frequency dialing) complexes to the two-frequency semiconductor equipment for working zonal directions. This made it possible to organize 11 additional zonal and one trunk line communication.

At the present the automatic long-distance telephone exchange has 112 outgoing channels using two-frequency semiconductor trunk equipment.

277 operating total communication channels, 139 incoming channels, 138 outgoing channels, 100 automatic equipment, and 59 international communication channels.

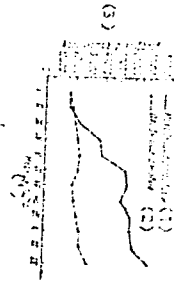


Figure 1

- Key:
- 1. Outgoing conversations
 - 2. Incoming conversations
 - 3. Number of conversations

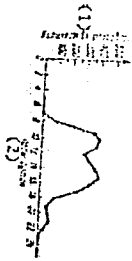


Figure 2

- Key:
- 1. Number of conversations
 - 2. Size of day

Fig. 1 shows a diagram indicating the growth of outgoing and incoming (dotted curve) traffic through the Minsk area from 1 January to 31 December 1971. Figs. 2 and 3 show the distribution of outgoing automatic traffic during the day and during the days of the week in June 1971.

As can be seen in Fig. 2 the diurnal load is uneven and has two peaks: from 0900 to 1100 and from 1400 to 1600 hours. The load coefficient at the automatic long-distance telephone exchange equals

USSR

UDC: 621.777.01

OKHRIMENKO, YA. M., BEREZNOY, V. L., SECHERBA, V. N. and SHARIKOV, G. S.

"A New Process of Rapid Extrusion of Low-Plasticity Alloys"

Moscow, Kuznechno-shtampovoychnoye proizvodstvo, No 1, Jan 72, pp 6-9

Abstract: Detailed is a new process of high-speed forming of semifinished products, shapes, and pipes without lubricants using the principle of deformation friction between the container and the metal, with the friction oriented in the direction of the outflow of the extrudable metal. The study was conducted on cast AV, V96Ts, AMg6, AD31, D16, A00, LS59-1 and granulated O1435, S97 alloys under both laboratory and plant conditions. Analysis of the process indicates its potentialities in metalworking. The use of high-speed extrusion (as an alternative to direct extrusion) to produce rods from D16 alloy under semicontinuous conditions without lubricants increases the labor productivity 2.5 times as a result of the higher rate of outflow and yield of extrudable product as well as the elimination of some of intermediate operations specified in the current technology for separating the discard. The test results of high-speed extrusion under production conditions support the expediency of its further development and promotion for

1/2

USSR

OKHRIMENKO, YA. M., et al, Kuznechno-shtampovochnoye proizvodstvo, No 1,
Jan 72, pp 6-9

the fabrication of semifinished products, shapes, and pipes primarily from
low-plasticity and hard-to-form alloys. (3 illustrations, 1 table,
6 bibliographic references).

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- 11 -

1/2 022 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--EMULSION POLY,VINYL CHLORIDE, FOR LOW VISCOSITY PLASTISOLS -U-
AUTHOR--(04)-SOLDATOV, V.M., KIRILLOV, A.I., MOLKOV, A.D., SHARIKOVA, L.I.
COUNTRY OF INFO--USSR
SOURCE--PLAST. MASSY 1970, (6), 5-6
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, MATERIALS
TOPIC TAGS--EMULSION POLYMERIZATION, POLYVINYL CHLORIDE, FLUID VISCOSITY,
ORGANOSODIUM COMPOUND, SULFONIC ACID, LATEX, PARTICLE SIZE

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/0920 STEP NO--UR/0191/70/000/006/0005/0006
CIRC ACCESSION NO--AP0134640
UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0134649

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ADDING FINER PARTICLES TO COARSE PARTICLES OF EMULSION POLYMD. POLY(VINYL CHLORIDE) (I) LOWERED THE VISCOSITY OF PLASTISOLS OF I IN DIOCTYL PHTHALATE. THE SIZE OF I PARTICLES FROM EMULSION POLYMN. DEPENDED ON THE QUANT. AND TYPE OF EMULSIFIERS NA C SUB12-18 ALKANESULFONATES (II), NA DODECANESULFONATES (III), OR NA DECANESULFONATES AND C SUB17-20 FATTY ALCS. (IV). ADDING 9PERCENT 0.25 MU I PARTICLES TO 1 MU I PARTICLES FROM DRIED LATEXES STABILIZED WITH 1-1.2PERCENT III (0.5PERCENT ADDED AT THE BEGINNING AND THE REST DURING AND AFTER POLYMN.) AND 0.5PERCENT IV GAVE LOWER PLASTISOL VISCOSITY THAN THOSE OF PLASTISOLS CONTG. 1 MU PARTICLES OR 1 MU PARTICLES AND 18-36PERCENT 0.25 MU PARTICLES. LATEXES PREPD. WITH 0.01PERCENT IV AND 1-1.2PERCENT II AND SEEDED WITH LATEXES. CONTG. 0.7-0.8MU AND 0.4 MU PARTICLES IN 2:1 AND 3:1 RATIOS HAD 0.1-1.5 MU PARTICLES, WHICH GAVE THE LOWEST VISCOSITY PLASTISOLS.

UNCLASSIFIED

ABSR

UDC 621.382.2:535.376

BRONSHTEYN, I. K., DOLGINOV, L. M., ZHITKOV, Yu. A., LIBOV, L. D., SHARIN, A. I., SHLENSKIY, A. A.

"Some Characteristics of Electroluminescent Diodes Based on Hetero PN Junctions in $Al_xGa_{1-x}As$ "

Moscow, *Radiotekhnika i Elektronika*, vol 16, No 12, Dec 71, pp 2330-2332

Abstract: The authors investigate electroluminescent diodes based on the epitaxial heterostructure P-GaAs-P- $Al_xGa_{1-x}As$ -N- $Al_yGa_{1-y}As$ ($x \approx 0.05$, $y \approx 0.1$). The radiation from the P- $Al_xGa_{1-x}As$ layer propagates in a direction perpendicular to the PN junction through the transparent N-region. The emitting layer is doped with germanium to a hole concentration of about $5 \cdot 10^{18}/cc$, and the N-layer is tellurium-doped to an electron concentration of about $10^{18}/cc$. The area of the PN junction is about 0.01 cm^2 . The electrical parameters of the diodes at room temperature: specific zero-bias capacitance of the PN junction about 10^8 pF/cm^2 , current cutoff voltage 1.3-1.4 V depending on the mole fraction of aluminum arsenide in the solid solution, breakdown voltage 7 V, residual resistance 0.5 ohm or less.

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SR

BRONSHTEYN, I. K. et al., Radiotekhnika i Elektronika, vol 16, No 12,
Dec 71, pp 2330-2332

An investigation of the principal electroluminescence characteristics of the diodes shows that they satisfy all the requirements for use as emitters in high-speed electron-optical devices. One figure, one table, bibliography of eight titles.

2/2

USSR

SHARIN, Yu. S.

UDC: 8.74

"Fundamentals of the Theory of Ring Coding Devices"

Tr. vuzov Ural'sk. zony. Ural'sk. politekhn. in-t (Works of Higher Educational Institutions of the Ural Zone. Ural Polytechnical Institute), 1972, coll. 206, pp 122-133 (from RZh-Kibernetika, No 8, Aug 72, Abstract No 8V601)

Translation: A method is described for breaking up a set of code combinations into classes, formulas are presented for determining the number of complete and incomplete classes, and algorithms are given for constructing ring coding devices of the third and fourth type. Author's abstract.

1/1

- 53 -

USSR

UDC: 621.3.035.2

OSTROUMOV, YE.M., DEYEV, A.N., KOSTERINA, L.K., and SHARINA, I.L.

"Effect of Some Factors on the Physicomechanical Parameters of Graphitized Material"

Moscow, Tsvetnyye Metally, No 5, May 70, pp 62-64

Abstract: Investigations were made to determine the effect of additives changing the course of the pitch pyrolysis process, using uncalcined coke as the filler, on the properties of graphitized material. The additives were: finely dispersed sulfur and $FeCl_3$ (polycondensation catalysts), Fe_2O_3 (cracking catalyst), and H_2O , an additive exerting an influence on the catalytic activity of the surface of the filler used and also impairing the wettability of the surface by pitch. The experiments were conducted with a filler predispersed to obtain -0.15 mm and -1.2-0.5 mm fractions. The coke-pitch composition was obtained with a laboratory mixer at 105-110°C. The composition of the coke-pitch mixture was 74% coke and 26% pitch. The pressing of coke-pitch billets (diameter -- 150 mm, height -- 170 mm) was done in a heated mold at a specific pressure of 400 kilogram (force)/cm². Their calcination was performed under identical conditions. Experiments revealed that the greatest effect was exerted by sulfur. Its introduction increased the strength and, to some degree, the elastic modulus of the material. $FeCl_3$ had

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OSTROUMOV, YE.M., et al, Tsvetnyye Metally, No 5, May 70, pp 62-64

practically no effect as a condensing agent. The introduction of Fe_2O_3 caused more drop in strength and also a tendency for a rise in the electrical resistance of the material. The addition of finely dispersed sulfur changed the characteristics of the "green" mass to a high degree; in particular, its plasticity dropped sharply, causing increased crack formation in pressed billets and, to a still greater degree, in heat-treated ones. From data on specific resistance and specific weight, it was postulated that Fe_2O_3 has no effect as a graphitization catalyst or as an agent for increasing carbon material density. This is explained probably by specific properties of the structure-forming process in using uncalcined coke in the composition. It was also determined that the moisture content of the initial filler is a negative factor. It was postulated that the decrease in strength characteristics was due to the impairment of the moist coke wettability by pitch.

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USSR

UDC 624.074:4.075.04

SHARINOV, I. L., Moscow

"Stability of a Cylindrical Shell Made up of two Plates of Different Thickness"

Moscow, Stroitel'naya Mekhanika i Raschet Sooruzheniy, No 1, 1973, pp 40-43

Abstract: The stability "in the small" of a cylindrical shell made up in peripheral direction of two plates of different thickness and subjected to the action of uniform ambient pressure is analyzed, assuming a constant shell thickness lengthwise. Applying the static criterion of stability, a formula for the critical load q_b is derived which, for $\nu=0.3$, by analogy with a formula of Papkovich, characterizes the case of an ideal shell. Taking into consideration that real shells lose their stability at loads which are lower than the upper critical load, practical calculations of stability have to be multiplied with a factor $\zeta=q_{crit}/q_b=0.6$, where q_{crit} =real value of pressure at bulging. Two figures, eleven formulas, three bibliographic references.

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UDC 621.314.61 (083.8)

PRIVALOV, A.I., GOSKIN, YE. I., FRIKHOD'KO, A. YA., DAVIDOV, P.D., LASAREV, I.A.,
TSYPLYAYEV, M.S., ALEKSANDROV, I.V., SHARIFO, V.I.

"Multiphase Rectifier Using Controlled [Semiconductor] Rectifiers"

USSR Author's Certificate No 262250, filed 29 Nov 66, published 29 June 70 (from
RZh--Elektronika i yeye primeneniya, No 2, February 1971, Abstract No 2B576P)

Translation: A circuit is proposed for control of a 3-phase bridge semicontrolled rectifier [vypryamitel']. The control circuit contains an auxiliary bridge non-controlled rectifier, a relaxation oscillator for triple frequency using a dynistor, 3 auxiliary thyristors, and 3 output pulse transformers. The relaxation oscillator supplies pulses to the gates of the auxiliary thyristors. The anodes of these thyristors are connected with the primary windings of the pulse transformers. The second terminals of these windings are switched in to phases of the voltage for inherent [sobstvennyy] needs, from which is also supplied the noncontrolled bridge rectifier of the relaxation oscillator. The cathodes of the auxiliary thyristors are connected at a common point and are connected across a resistor to the negative terminal of the noncontrolled 3-phase rectifier. The secondary windings of the pulse transformers are connected with the gates of the power thyristors. 1 ill.
L.R.
1/1

1/2 020 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--VAPOR PHASE OXIDATION OF 4,5-DIMETHYLPHTHALIC ANHYDRIDE -U-
AUTHOR--(04)-SHARIPOV, A.KH., MUKHTARULLINA, F.A., BEKSHENEVA, N.M.,
KHABIBULLIN, M.F.
COUNTRY OF INFO--USSR
SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(3), 715-17
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--GAS STATE, OXIDATION, PHTHALIC ANHYDRIDE, VANADIUM OXIDE,
MALEIC ANHYDRIDE, PYROMELLITIC ACID, ANHYDRIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1995/1462 STEP NO--UR/0080/70/043/003/0715/0717
CIRC ACCESSION NO--AP0116899
UNCLASSIFIED

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CIRC ACCESSION NO--AP0116899

UNCLASSIFIED

PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. UNDER OPTIMUM CONDITIONS DETD.
WITH FUSED V SUB2 D SUB5 PARTICLES IN A CONTINUOUS REACTOR,
4,5-DIMETHYLPHTHALIC ANHYDRIDE (I) WITH 58-74 PARTS BY WT. OF AIR AT
430-40DEGREES AND A VOL. RATE OF THE I VAPOR AIR MIXT. OF 5500-5700 HR
PRIME NEGATIVE1 GIVES 58PERCENT PYROMELLITIC ANHYDRIDE BASED ON I ADDED
AND 90PERCENT BASED ON I CONSUMED. OTHER PRODUCTS ARE MALEIC ANHYDRIDE
AND CO SUB2.

UNCLASSIFIED

USSR

UDC 622.245.428

KIRPICHENKO, B. I., KLYAVIN, R. M., SHARIPOV, A. U., and PRYANOV, P. A.,
Volga-Ural Branch of the All-Union Scientific Research Institute of Geo-
physical Exploration Methods, and the Bashkir Scientific Research and
Planning Institute of the Petroleum Industry

"Influence of the Strength of Cement Rock on the Form of Acoustic-Logging
Cementograms"

Moscow, Bureniye, No 5, 1972, pp 25-28

Abstract: Acoustic-logging cementograms, recorded during a period of relative stabilization of the process of cement-rock formation, indicate a relationship between the amplitude of the longitudinal waves A_p and the strength of the cement block. It is shown that the form of acoustic-logging cementograms made during measurements in the period of hardening of the cement solution and the start of fixation of the cement block depends upon the time between the moment of measuring and the end of cementation of the well, and determination of the quality of the cement ring on the basis of measurements during this period is possible only with knowledge of the dynamics of the acoustic values which characterizes the specific state of the hardening mixture in the well under given conditions. 3 figures. 1 table.

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1/2 018

UNCLASSIFIED

PROCESSING DATE--16OCT70

TITLE--EFFECT OF LOW FREQUENCY MECHANICAL VIBRATIONS ON THE EXTRACTION OF VEGETABLE OILS -U-

AUTHOR--(04)--NIYAZOV, M.I., SALIMOV, Z., YUSUBOV, M., SHARIPOV, D.

UNCLASSIFIED

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COUNTRY OF INFO--USSR

SOURCE--UZB. KHIM. ZH. 1970, 14(1), 71-2

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--VEGETABLE OIL, LOW FREQUENCY, VIBRATION, CHEMICAL SEPARATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1999/0301

STEP NO--UR/0291/70/014/001/0071/0072

CIRC ACCESSION NO--AP0122503

UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0122503

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF LOW FREQUENCY MECH. VIBRATION ON EXTN. OF COTTONSEED MEAL (8.78PERCENT OIL, 4.2PERCENT H SUB2 O) WAS INVESTIGATED. THE EXTN. COLUMN HAD DIMENSIONS: LENGTH (LAYER OF EXTRACTION MATERIAL) 340 MM; DIAM. 40 MM; VIBRATION AMPLITUDE 8 MM; FREQUENCY 3.5 HZ; AV. DIAM. OF EXT. PARTICLES 4 MM; TEMP. 20DEGREES; FLOW RATE OF SOLVENT 0.35-2.0 CM-SEC. A CONSIDERABLE INTENSIFICATION OF THE EXTN. PROCESS WAS ACHIEVED BY USE OF I IN COMPARISON WITH COMMON EXTN. PROCESS WITHOUT I UNDER THE SAME CONDITIONS. THE EFFECT OF I IS BASED MAINLY ON IMPROVEMENT OF EXTERNAL DIFFUSION.

FACILITY: TASHKENT. POLITEKH. INST., TASHKENT, USSR.

UNCLASSIFIED

USSR

UDC 669.14.018.262

VOSTRIKOV, A. A., SARYCHEVA, L. P., SHARIPOV, E. I., RABINOVICH, YE. I., and
KONDRAT'YEV, L. M., Magnitogorsk Metallurgical Combine

"On the Question of Aluminum Nitrides in O8Yu Steel"

Moscow, Stal', No 11, Nov 73, pp 1034-1036

Abstract: The microstructure of O8Yu steel containing (in %): 0.04 C, 0.01 Si, 0.3 Mn, 0.012 S, 0.006 P, 0.02 Cr, 0.03 Ni, 0.09 Cu, 0.02 As, and 0.065 Al, was investigated to determine the role of aluminum nitrides in this steel. It was found that the high-temperature winding of strip into coils (780° C) leads to the formation of large aluminum nitride precipitates (up to 1 micron) in hot-rolled and annealed (unaging) steel. At a low coiling temperature (580° C), nitrogen atoms are found in solid solution and, during the final anneal, form finely dispersed aluminum nitrides with an elongated grain. S. A. BRATUS', D. V. VOSTRIKOVA, I. S., FRIVEL', AND T. V. BAKLUSHINA participated in this work. Three figures, one table, five bibliographic references.

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USSR

UDC 612.014+612.11

TADZHIEV, K. T., BRAUN, A. A., and SHARIPOV, F. Kh., Tadzhik State Medical
Institute imeni Abuali Ibn-Sino

"Effect of High Altitude on Animal Reactivity"

Dushambe, Izvestiya Akademii Nauk Tadzhikskoy SSR, No 4, 1972, pp 81-86

Abstract: The survival time, weight, and peripheral blood were studied in rats subjected to whole-body X-irradiation (400 r) at various times after being brought to an altitude 3,379 m above sea level. The control animals were irradiated in the city of Dushambe, 820 m above sea level. The mortality rate was higher in the mountains than in the valley, but the longer the animals remained in the mountains prior to irradiation the lower the mortality rate afterward. The weight loss after irradiation was more pronounced in the mountains than in the valley, the amount being inversely related to the length of the adaptation period. Changes in the composition of peripheral blood after X-irradiation of rats not adapted to the altitude factor were of the same nature as in the animals irradiated with the same dose in the valley, but they were somewhat more pronounced. A month after irradiation the number of erythrocytes, thrombocytes, and leukocytes was much higher in the adapted rats than in the unadapted animals.

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USSR

UDC 612.014+612.11

SHARIPOV, F. Kh. and YULDASHEV, I. Yu., Tadzhik State Medical Institute imeni
~~Abuali Ibn-Sino~~

"Effect of Adaptation on Composition of Peripheral Blood in Rats in High-Altitude
Conditions"

Tashkent, Doklady Akademii Nauk Tadzhikskoy SSR, Vol 13, No 8, 1970, pp 60-63

Abstract: A study was made of changes in composition of peripheral blood occurring in rats at high altitudes. A total of 160 white male rats, weighing 109-130 g each, were divided into 14 groups of 10 animals each. Tests were conducted in the Anzobskiy Pass (3,379 m above sea level). Blood samples were taken 1, 3, 5, 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, and 90 days after the animals were brought to the mountain site. A group of 20 rats of the same weight were used as controls in the city of Dushanbe (820 m above sea level). The erythrocyte count showed a slight rise at the outset, reaching a maximum by the 15th day, and then stabilized at 734.0 ± 74.0 thousand per mm^3 . As for reticulocytes, a slight decrease was noted initially, followed by a rise, reaching a maximum by the 10th day. This value exceeded the control by a factor of $(3.5 \pm 0.13\%)$ compared with $3.5 \pm 0.16\%$ in the valley (Dushanbe). The most abrupt shifts were shown in the numerical

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SHARIPOV, F. Kh., et al, Doklady Akademii Nauk Tadzhikskoy SSR, Vol 13, No 6, 1970
pp 60-63

composition of monocytes: even by the third day after the mountain ascent this index rose 2.5 times to $7.7 \pm 0.24\%$, as compared with $2.9 \pm 0.11\%$ in controls. A maximum was reached by the 10th day of the experiment: $8.6 \pm 0.12\%$, exceeding control levels almost threefold. These shifts agree with literature data.

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USSR

UDC: 612.46.014.3:612.6-06.612.275.1

BRAUN, A. A., and SHARIPOV, F. Kh., Chair of Histology, Tadzhik Medical Institute
"Mitosis in a Kidney Undergoing Compensatory Hypertrophy in a High-Mountain Region"

Moscow, Byulleten' Eksperimental'noy Biologii i Meditsiny, Vol 70, No 12, Dec 70,
pp 76-79

Abstract: A left nephrectomy was performed on rats 2 and 31 days after they were taken to a mountain area (3379 m above sea level) and on other rats in a valley (820 m above sea level) in order to study mitotic activity in the surviving hypertrophic kidney. In the kidney of the nonadapted rats, mitotic activity began to increase on the 2nd day following the operation, reaching a peak on the 5th day and remaining high for 2 months thereafter. The maximum increase was by a factor of 2.5 less than that in the kidney of the valley rats. Thirty days' adaptation to high-altitude conditions markedly affected mitosis in the surviving kidney. The mitotic index on the 5th day following the operation was close to that in the valley. However, the maximum increase was also observed on this day, as in the nonadapted animals.

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USSR

5
USSR 612.96.014.3:612.97.014.002

TADSHIKOV, M. M., and SHARIPOV, F. KH., Chair of Physics and
Histology, Tadzhik Medical Institute imeni Abu-Ali Iba-Sin, Dushanbe

"The Effect of Inhalation of Thoron on Mitosis in the Kidneys"

Moscow, Byulleten' Eksperimental'noy Biologii i Meditsiny, No 1,
1970, pp 88-90

Abstract: Two hours of inhalation of thoron markedly stimulated
mitosis in the epithelium of the convoluted tubules of rats.
After two days the mitotic rate was almost twice as high as in the
control. Mitosis became normal after eight days.

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Acc. Nr.:

AP0031629

Ref. Code: UR 0219

PRIMARY SOURCE: Byulleten' Eksperimental'noy Biologii i Meditsiny, 1970, Vol 69, Nr 1, pp 83-85

THE EFFECT OF THORON INHALATION ON THE MITOTIC ACTIVITY IN THE KIDNEYS

M. M. Tadzhikou, F. Kh. Sharipou
Tadzhik Medical Institute

Experiments were conducted on albino rats weighing 200 g each to study the effect produced by inspiration of the aero-thoron mixture on the mitotic activity in the kidneys. Separate content of ThB and ThC was determined by measuring the renal γ -activity. After a 2-hour long inhalation of the air with thoron concentration therein reaching $2.5 \cdot 10^{-5}$ curie the absorbed radiation dose given to the rat's kidneys through the Th (C+C') α -radiation comprised 26.6 ber. Such a single dose causes reversible stimulation of mitotic activity in the epithelium of convoluted tubules of the cortical and collecting tubules of the medullary substance.

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