

VOLKOV, V.

MEDICINE  
Psychology

FIRST FORENSIC PSYCHOLOGY CONFERENCE REPORTS

DMs 55172

11 Feb 72

[Excerpts from article by V. Volkov, scientific worker in the forensic psychology section of the All-Union Institute for Studying the Causes and Elaborating Measures for Preventing Crime, the Government Psychological Bureau for Forensic Psychology, and the All-Union Society of Psychologists, the first All-Union Conference on Forensic Psychology was held in Moscow. The dean of the MGU (Moscow State University) psychology department, Professor A. Leonid'ev, Doctor of Psychological Sciences and the director of the psychology section of the USSR Academy of Sciences Institute of Philosophy, Professor Ye. Shurezhov, took part in its work.]

On the initiative of the All-Union Institute for Studying the Causes and Elaborating Measures for Preventing Crime, the Government Psychological Bureau for Forensic Psychology, and the All-Union Society of Psychologists, the first All-Union Conference on Forensic Psychology was held in Moscow. The dean of the MGU (Moscow State University) psychology department, Professor A. Leonid'ev, Doctor of Psychological Sciences and the director of the psychology section of the USSR Academy of Sciences Institute of Philosophy, Professor Ye. Shurezhov, took part in its work.

The report of the chairman of the Coordinating Bureau for Forensic Psychology, Professor A. Khatinkin, was at the center of the conference participants' attention. He discussed the basic problems of forensic psychology and gave an analysis of the scientific research on this subject. Serious scientific, methodological, organizational, and academic work preceded the establishment of forensic psychology as an independent science.

The amount of scientific research in this area has been significantly increased recently. At the same time, the lack of development of many divisions of forensic psychology and the acute need for psychological recommendations created a heightened demand among lawyers for "forensic-psychological output". This encouraged, on the one hand, the readiness of practical workers to adopt any material undertaken in the name of forensic psychology, an unritical attitude toward it, an eclectic combination of psychologists and legal

concepts, superficiality, and dilettantism; and on the other hand, the tendency no matter what to fill in gaps even with plainly unimpeached publications.

Unfortunately, for the most part forensic psychology work is the business of solitary enthusiasts who are not capable of jointly working out any fundamental problem. And for this experimental and social psychology methods requiring the concerted efforts of a group of researchers are necessary. Collective projects in forensic psychology are still rare while individual (dissertation) projects do not touch the most complicated and labor-consuming problems.

At the present time it is not "robotic" research, which encompasses a multitude of problems, but rather that which is narrow, concentrated, and directed at monographic projects, which present great value. Forensic psychology research is primarily hindered because its methods are insufficiently elaborated. The majority of general and experimental psychology methods have not fully developed forensic psychology because of the specialty of its theme and the objects of study. Therefore a great part of the methodology of forensic psychology research has to be created from scratch. Taking the importance of this task and its significant contribution to the development of forensic psychology into consideration, we suggest that it is justified to designate the elaboration and confirmation of methodology satisfactory for a candidate's dissertation.

Forensic psychology is sometimes understood in the broad sense as all of juridical psychology. In connection with this, it is expedient to be guided by the problems of all legal psychology. This was our starting point in determining the program for the conference.

Investigations of individual and social legal recognition and the legal psychology of various population groups have a great urgency. It is necessary to continually study public opinion about law and justice and about the connections and mutual influence between legal activity and the mass communications media for the needs of social administration.

Criminal psychology, which is thoroughly distorted in bourgeois science, presents great interest. The social-psychological and other characteristics of the criminal personality in various categories, including minors, the psychology of the recidivist, the role of various motives in criminal behavior, and the inducement for the so-called motiveless crimes, belong to this research. The regularity of the

formation, demoralization, and disintegration of criminal groups, their internal structure, the interpersonal relations and distribution of roles, and the influence of the group psychology on its participants should be studied.

The development of forensic psychology research is hindered by the absence of well prepared scientific and teaching personnel. Departmental requirements for forensic psychologists for investigating, prosecuting, and rehabilitating agencies and institutions of legal experts have not been determined.

The specialized and purposive training of psychologists-jurists for juridical agencies and institutions is necessary through the efforts of the Moscow and Leningrad universities. The study program for forensic psychology is in need of reform. It is necessary to create special scientific subdivisions (laboratories and sections) in the structure of the leading scientific research institutions and educational institutes. Psychologist-jurists are also necessary for participation in projects being conducted by legal scientists in order to outline the qualified and overall solution which each problem in the struggle against crime requires.

All these problems were elucidated in Professor A. Rarukov's report. Subsequent speakers, devoted on a number of other questions which in one way or another concerned the same urgent problems.

While speaking at the conference, the dean of the MGU psychology department and full member of the USSR APN (Academy of Pedagogical Sciences), A. N. Leontyev, gave special attention to the significance of forensic psychology for the development of psychological science as a whole. In connection with this, it is necessary that all possible assistance be given in the establishment and development of legal psychology for creating multipurpose groups, sections, laboratories and that forensic psychological expert opinion be developed as one of the forms connecting forensic psychology with practical He suggested that a clinical method be used in experimental forensic psychological research.

The conference adopted a resolution which is about the problems standing before all researchers in the area of forensic psychology, about creating an experimental base for forensic psychological research, about the necessity of training psychologist-jurists in the universities of the country, and about creating post graduate studies for training scientific personnel in forensic psychology and in a number of other important theoretical and practical problems.

11,938  
CSO: 1800-5

1/2 022 UNCLASSIFIED PROCESSING DATE--11SEP70  
TITLE--THE EARTH, THE ORBIT, THE EARTH -U-  
AUTHOR--VOLKOV, V., NECHAYUK, L.  
COUNTRY OF INFO--USSR  
SOURCE--KRASNAYA ZVEZDA, JUNE 9, 1970, P 1, COLS 3-7  
DATE PUBLISHED--09JUN70  
SUBJECT AREAS--NAVIGATION, SPACE TECHNOLOGY  
TOPIC TAGS--GROUND COMMUNICATION EQUIPMENT, COSMONAUT, FLIGHT CONTROL SYSTEM  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1987/0803 STEP NO--UR/9008/70/000/000/0001/0001  
CIRC ACCESSION NO--AN0104244  
UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AN0104244

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS DESCRIBE THEIR VISIT TO THE FLIGHT CONTROL CENTER (TSENTR UPRAVLENIYA POLETANI). THE FOLLOWING STRUCTURAL UNITS OF THE CENTER ARE NAMED: (1) COMMAND MONITORING COMPLEX (KOMANDNO-IZMERITEL'NYY KOMPLEKS), (2) GROUND ASTRONAUTS COMMUNICATION TEAM (GRUPPA SVYAZI S KOSMONAVTAMI). THE MISSION OF THE COMMAND METERING COMPLEX IS TO RECEIVE, SORT OUT, AND INTERPRET SPACE SHIP'S TELEMETRY DATA. IN ADDITION TO WORKING ON THIS TASK, SEVERAL ELECTRONIC COMPUTERS OF THE COMPLEX ARE USED FOR OTHER PURPOSES. ALL COMMANDS, DIRECTIONS, AND RECOMMENDATIONS INITIATED BY EXPERTS OF VARIOUS GROUND SUPPORT TEAMS ARE TRANSMITTED TO ASTRONAUTS ONLY THROUGH CHIEF OPERATORS OF THE GROUND ASTRONAUTS COMMUNICATION GROUP. THE TEAM IS HEADED BY A. LEONOV AND HIS ASSISTANT V. SHATALOV. OTHER MEMBERS OF THE TEAM ARE V. BYKOVSKIY, A. FILIPCHENKO, V. GORBATKO, YE. KHRUNOV, ET AL.

UNCLASSIFIED

Acc. Nr.: AN0040372

V

Ref. Code: UR 0533

AUTHOR-- VOLKOV, VLADISLAV, PILOT-ASTRONAUT

TITLE-- ORBITAL HABITATS

NEWSPAPER-- SOTSIALISTICHESKAYA INDUSTRIYA, APRIL 12, 1970, P 4,  
COLS 1-5

ABSTRACT-- IN THIS ARTICLE VOLKOV DESCRIBES SOME OF THE "EXISTING PROPOSALS OF ORBITAL HABITATS" WHICH, IN HIS OPINION, ARE OF INTEREST. ONE PLAN CALLS FOR LAUNCHING A PROPELLER-SHAPED STATION CONSISTING OF THREE CYLINDERS ATTACHED AS "SPOKES" TO THE CENTRAL CYLINDER. EACH CYLINDER WILL CONTAIN 6 COMPARTMENTS 4.5 METERS IN DIAMETER. THE CENTRAL CYLINDER WILL HOUSE A LABORATORY. EACH LATERAL CYLINDER WILL HOUSE LIVING QUARTERS, AN AIR LOCK, COMMAND QUARTERS, A LABORATORY, A WAREHOUSE, AND WORKING QUARTERS. THE STATION IS TO BE LAUNCHED FOR A PERIOD OF 5 YEARS WITH A CREW OF 24 MEN OF WHOM HALF WILL BE REPLACED EVERY 3 MONTHS. IN VOLKOV'S

V2

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19741812

AN0040372

OPINION, THE ALTITUDE OF THE STATION, THE PROBLEM OF ARTIFICIAL GRAVITY AND THE PROBLEM OF LIFE SUPPORTING SYSTEMS ARE THE THREE MAJOR PROBLEMS THAT REQUIRE A SATISFACTORY SOLUTION BEFORE THE SPACE STATION BECOMES A REALITY.

*3/2*

19741813

USSR

UDC: 621.373.826

VOLKOV, V. N., ZUBAREV, I. G.

"On an Auxiliary Mechanism of Formation of Excited Atoms of Iodine in a Photodissociation Laser"

Kratkiye soobshch. po fiz. (Brief Reports on Physics), 1972, No 6, pp 24-29  
(from RZh-Radiotekhnika, No 12, Dec 72, abstract No 12D231 by A. K.)

Translation: Experimental research is done which confirms the hypothesis of a chemical reaction in the active medium of a photodissociation laser resulting in the formation of iodine in the  $^2P_{1/2}$  state. It is shown that the effectiveness of the auxiliary process of iodine formation in the  $^2P_{3/2}$  is greater than 15% relative to photodissociation.

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USSR

VOLKOV, V. A.

Analogovyye Ustroystva Sovremennoy Radioelektroniki (Analog Devices of Modern Radio Electronics), Moscow, ZNANIYE, Seriya radioelektronika i svyaz', No 11, 1972, 32 pp

Translation: A brief study was made of some of the modern analog microcircuits. Primary attention was given to the integral operation amplifier, and examples of its use in analog devices are presented.

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1/1

USSR

UDC 669.1'24:620.186:539.219.3:669.789

KIDIN, I. N., SHCHERBEDINSKIY, G. V., ANDRYUSHECHKIN, V. I., and VOLKOV, V. A., Moscow Institute of Steel and Alloys

"Diffusion of Carbon in Austenite for an Fe-30% Ni Alloy During Reverse Martensite Transformation"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 1, Jan 73, pp 8-10

Abstract: The authors studied the effect of varied state of austenite structure on the diffusion of carbon in an austenitic Fe-30% Ni alloy. It was found that the decrease in the diffusion coefficients after the gamma-alpha-gamma transformation was probably associated with the formation of a large number of defects in the austenite structure, which results in slowing down the diffusion process as a result of the interaction of carbon atoms with austenite lattice defects. Experimental data showed the energy of carbon atom-dislocation interaction amounted to 10,600+1050 cal/mole. 4 figures, 1 table, 4 bibliographic references.

1/1

USSR

UDC: 512.25/.26+519.3:330.115

VOLKOV, V. A.

"On the Problem of Secondary-School Instruction in a Departmental Course on 'Elements of Linear Programming'"

Uch. zap. Leningr. gos. ped. in-t im. A. I. Gertsena (Scientific Notes of the State Pedagogical Institute imeni A. I. Herzen), 1970, 357, pp 178-186 (from RZh-Kibernetika, No 7, Jul 71, Abstract No 7V596)

Translation: A program is proposed as well as a method for presentation of the course.

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USSR

UDC: 621.396.6:621.315.61

VOLKOV, V. A.

"Investigating the Nature of the Change in Electrical Conductivity During Wetting of Dielectrics"

Elektron. tekhnika. Nauchno-tekhn. sb. Materialy (Electronic Technology, Scientific and Technical Collection. Materials. 1970, vyp. 3, pp 63-69 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12V419)

Translation: The change in resistivity of polymer materials is analyzed as a function of wetting time. It is shown by a method developed for localized wetting of specimens that this relationship, in contrast to the frequently observed monotonically changing dependence when the conventional wetting method is used, should have three characteristic sections which reflect the different stages in wetting of materials. It is also shown that each section is characterized by a certain distribution of moisture concentration with respect to the thickness of the specimen and distribution of the electric field in accordance with the electrical conductivity of the elementary junctions. Resumé.

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131

USSR

UDC 612.983.044+621.7:044.7

KONOVALOV, Ye. G., and VOLKOV, V. A., Minsk Radio Engineering Institute

"Calculation of the Pressure Necessary for the Deformation of a Blank in a Magnetic Pulse Field"

Minsk, Izvestiya Akademii Nauk BSSR, Seriya Fiziko-Tekhnicheskikh Nauk, No 1, 1971, pp 5-9

**Abstract:** The expressions determining the acceleration, the velocity, and the path of motion of a blank or of a part of it are derived theoretically on the basis of the well-known law of the change of pressure exerted by a magnetic field on a metal blank. Two special cases are considered: viz., shifting of the blank with shape formation on the matrix, and shifting of the blank with simultaneous shape formation. For each of these cases expressions are derived which determine the value of the pressure required to create the magnetic field to effect the shape formation. 1 figure, 4 bibliographic entries.

1/1

USSR

VOLKOV, V. A., and PINSKER, I. N. (Institute of Radio Engineering and Electronics of the USSR Academy of Sciences, Moscow)

"Quantum Size Effect in Films of Variable Thickness"

Leningrad, Fizika Tverdogo Tela, May 1971, pp 1360-1363

Abstract: Certain aspects of the quantum size effect in films of variable thickness were studied. The distribution of the concentration of the current carriers in a wedge-shaped film along the radius of the wedge was calculated. It was shown that the carriers cannot penetrate the edge of the wedge farther than the point at which the thickness of the wedge becomes comparable with the de Broglie wavelength. Peculiarities of the volt-ampere characteristic of a contact, a metal wedge-shaped film, and the effect of the anti-Stokes emission from a wedge-shaped film were studied. It was shown that dimensionally a quantized film with periodic variation of the thickness along one of its dimensions is a superlattice.

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1/2 011 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--DETERMINATION OF THE SIZE OF HYDRATED MICELLES -U-  
AUTHOR--VOLKOV, V.A. ✓  
COUNTRY OF INFO--USSR  
SOURCE--KOLLOIDNYY ZHURNAL, 1970, VOL 32, NR 2, PP 304-306  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY, MATERIALS  
TOPIC TAGS--HYDROCARBON, SURFACTANT, HYDRATION  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1992/1654 STEP NO--UR/0069/70/032/002/0304/0306  
CIRC ACCESSION NO--AP0112648  
UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0112648

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IT IS SUGGESTED THAT SOUND VELOCITY MEASUREMENTS IN MICELLAR SOLUTIONS OF SURFACTANTS SHOULD BE USED FOR DETERMINATION OF THE SIZE OF HYDRATED MICELLES. AN EQUATION IS GIVEN FOR CALCULATION OF THEIR DIAMETER. EXPERIMENTALLY DETERMINED MICELLE DIAMETERS OF SODIUM ALKYL SULFONATES ARE IN GOOD AGREEMENT WITH THOSE CALCULATED FROM THE VALUES OF MOLAR VOLUMES OF CORRESPONDING HYDROCARBONS AND HYDRATED IONS RADII. IT IS POINTED OUT THAT IT IS POSSIBLE TO CALCULATE THE HYDRATION OF CHARGED MICELLES FROM IONS HYDRATION.

UNCLASSIFIED



Acc. Nr: **AP0037225**

Ref. Code: UR 9069

PRIMARY SOURCE: Kolloidnyy Zhurnal, 1970, Vol 32, Nr 1,  
pp 141 - 144

USE OF AN ULTRASONIC METHOD IN THE INVESTIGATION OF MICELLE  
FORMATION

~~V. A. Koltan~~

Summary

The sound velocity in solutions of alkylsulphonates and oxyethylated alkylphenols has been measured by means of an ultrasonic interferometer. In the range of micelle formation an anomalous dependence of sound velocity or compressibility has been discovered. A conclusion is drawn that the micelle formation process is a phase transition. A hypothesis is advanced about the formation of a dense incompressible hydration shell around micelles which favors an ordered arrangement of hydrocarbon chains of surfactant molecules in micelles.

D.A.

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41  
REEL/FRA  
19730149

USSR

UDC: 8.74

VOLKOV, V. A.

"Single-Factor Dispersion Analysis. The 'ODA' Program"

Tr. Zap.-Sib. n.-i. geologorazved. nef. in-t (Works of the West Siberian Scientific Research Institute of Geological Petroleum Prospecting), 1972, vyp. 55, pp 44-52 (from RZh-Kibernetika, No 10, Oct 72, abstract No 10V638 [author's abstract])

Translation: The paper gives a description, instructions and the text of a program for single-factor dispersion analysis. It is shown how this program can be used in geological research. The program is compiled in Minsk-22 computer codes.

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USSR

UDC 629.7.036.3.55

DOTSENKO, Yu. N., PELEPEYCHENKO, I. P., VOLKOV, V. G.

"Determination of Adjustment Parameter of Correcting Circuit Operating in System for Regulation of Aviation Gas Turbine Engine Gas Temperature"

Samoletostr. i Tekhn. Vozd. Flota. Resp. Mezhved. Temat. Nauch.-Tekhn. Sb. [Aircraft Construction and Air Force Technology. Republic Interdepartmental Thematic Scientific and Technical Collection], 1971, No. 25, pp 46-50. (Translated from Referativnyy Zhurnal Aviatsionnye i Raketnye Dvigateli No 1, 1972, Abstract No 1.34.71, from the resume).

Translation: A method is suggested for determining the time constant of the working thermocouple installed before a turbine in a gas stream, designed to operate in the regulation system of an aviation turbine engine. Determination of the time constant is preceded by determination of the instantaneous temperature and speed of the gas stream, which is achieved by using two measuring thermocouples of different thermal inertia. A method is suggested for converting the time constant of the operating thermocouple for various operating conditions. 5 figs; 5 biblio refs.

1/1

USSR

UDC: 621.317.7.087.92-932

VOLKOV, V. G.

"Voltage-Pulse Frequency Converter"

USSR Authors' Certificate No 244738, Filed 24 May 1967, Published 20 October 1969 (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 7, 1970, Abstract No 7A132P, by N. S.)

Translation: A voltage-pulse frequency converter is described. The converter contains a storage capacitor, the charging circuit of which includes a double emitter repeater, with the base input connected to the source of the primary control signal. In order to assure independence of control of the second input, simplify the design, and increase the input impedance, the device contains a charge level limiter consisting of two transistors, an inverting amplifier, diodes, and a decoupling capacitor. One illustration.

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USSR

UDC 621.375.8

VOLKOV, V. G., YEGOROV, YU. V.

"A Parametric Amplifier of Biopotentials With Input Capacitance Compensation"

Moscow, V sb. Elektron. pribory dlya neyrofiziol. issled.  
(Electronic Equipment for Neurophysiological Research --  
collection of articles), "Nauka," 1969, pp 22-26 (from RZh-  
Radiotekhnika, No 4, 1970, Abstract No 4D290)

Translation: A portable transistor amplifier of biopotentials is developed with signal conversion at a carrier frequency of 1.9 MHz. Varicaps are used as the controlled elements. The radio frequency output of the amplifier made it possible to obtain a high degree of symmetry in the biopotential drain-off circuits with respect to ground and the coefficient of rejection of synphasic disturbance on the order of 60 db. In the case of signal frequency (0.2 -- 10,000 Hz), the amplifier shows high input resistance (at a frequency of 20 Hz  $R_{bx} \approx 400 \text{ Mohm}$ ) which makes it possible to use it for intracellular drain-off. The amplifier is  
1/2

USSR

VOLKOV, V. G., et al, Elektron. pribory dlya neyrofiziol. issled.,  
"Nauka," 1969, pp 22-26.

spanned by negative feedback with respect to direct current and at signal frequency. In addition, the amplifier is spanned by a frequency-dependent controlled positive coupling which evokes an input capacitance compensation effect, decreasing capacitance from 40 to 3 pf. Compensation of input capacitance and high input resistance make it possible to use glass microelectrodes for drain-off with a resistance down to 40 -- 50 Mohm. Original article: 2 illustrations. Resume.

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- 3 -

USSR

Masers and Lasers

UDC: 621.372.8:535

VOLKOV, V. I., DYACHENKO, A. A., and SHUSHPANOV, G. Ye.

"Beam Guides With Pulsating Beams"

V sb. Aerotermooptika i luchebody (Aerothermal Optics and Beam Guides--collection of works) Minsk, 1970, pp 215-228 (from RZh-Radiotekhnika, No. 3, March 71, Abstract No. 3E208)

Translation: A comparison is made of ordinary beamguides and those in which pulsating wave beams are propagated from the point of view of the reliability of the respective transmitting channels. The beam guide irregularity is assumed arbitrary with regard to its nature, extent, and distribution law. Curves are given of the integral probability distribution laws for the transmission losses resulting from computer modeling of a group of irregular Gaussian beam guides, whose working wavelength was increased by six to 16 times compared with the initial ones. Two illustrations, bibliography of seven. V. S.

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USSR

UDC: 621.372.8:535

VOLKOV, V. I., DYACHENKO, A. A., and SHUSHPANOV, O. Ye.

"Computer Investigation of the Reliability of Beam Guides with Gaussian Diaphragms"

V sb. Aerotermooptika i luchebody (Aerothermal Optics and Beam Guides--collection of works) Minsk, 1970, pp 174-193 (from RZh-Radiotekhnika, No. 3, March 71, Abstract No. 38211)

Translation: A comparison is made of the various beam wave-guides for the purpose of clarifying the following possibilities: increasing the reliability of beam guide lines for specified requirements of the accuracy of setting up the waveguide elements, and weakening the requirements of the adjustment accuracy of transmission lines for maintaining their high reliability. A model of a Gaussian beam guide is described, and the results of the modeling are given. Six illustrations, bibliography of 10. V. S.

1/1



USSR

UDC 576.895.42.095.38:599.323.4701+591.69-542.932.347  
(571.62)

CHERNYKH, P. A., and VOLKOV, V. I., Antiplague Station and Regional Sanitary  
Epidemiological Station, Khabarovsk

"Fauna and Distribution of Gamasid Mites of Murine Rodents in the Khabarovsk  
Region"

Moscow, Meditsinskaya Parazitologiya i Parazitarnyye Bolezni, Vol 40, No 3,  
May/June 71, pp 271-275

Abstract: Data were gathered from 1959 to 1966. Rodents and their parasites  
were collected in natural surroundings as well as in residential premises  
all year round. A total of 618,000 traps were set per day, 45,766 rodents  
and 64 burrows were examined, and 55,5000 Gamasid mites belonging to 39 tax-  
onomic classes in 9 families were collected. The material collected was  
evaluated in the usual manner. Eleven forms of rodents occur in the Khaba-  
rovsk region, which is mountainous and 53% covered with forests. Eight species  
were found to be predominant and constituted 91.6% of all collections. All  
mite species were found in the southern part of the region, whereas only 16  
species were found in the northern part. This uneven distribution of mites  
was attributed to climatic factors and the distribution of hosts. The associa-  
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USSR:

CHERYKH, P. A., and VOLKOV, V. I., *Meditinskaya Parazitologiya i Parazitarnyye Bolezni*, Vol 40, No 3, May/June '71, pp 271-275

tion of various Gamasid species with different territories could be shown. Most of the Gamasid species were found to belong to boreal zoogeographic complexes.

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USSR

UDC 576.895.42.01(471.62

VOLKOV, V. I., and CHERNYKH, P. A., Khabarovsk Kray Sanitary Epidemiological Station and Khabarovsk Antiplague Station

"Species Composition and Distribution of Ixodid Ticks in Khabarovsk Kray"

Moscow, Meditsinskaya Parazitologiya i Parazitarnyye Bolezni, No 6, 1971, pp 718-722

Abstract: Khabarovsk Kray (Far Eastern USSR) is heterogeneous in relief, soils, climate, flora and fauna, with over 50% of the total area covered by coniferous-deciduous and coniferous (taiga) forests. Field trips from 1962 to 1969 in 19 to the 20 administrative regions of the kray revealed the existence of 10 species of ixodid ticks: *I. persulcatus*, *Haemaphysalis concinna*, *H. japonica douglasi*, *Dermacentor silvarum*, *D. asiaticum*, *I. pavlovskiy*, *I. redikorzevi*, *I. signatus*, *I. angustus*, and *I. maslovi*. All 10 species are found in the southern and central regions in the zone of the coniferous-deciduous forests. Five species - *I. persulcatus*, *H. concinna*, *D. silvarum*, *I. angustus*, and *I. redikorzevi* - were found further north in the zone of the coniferous forests. The mass species - *I. persulcatus*, *H. concinna*, *J. japonica*, and *D. silvarum* - are the vectors and reservoirs of tickborne encephalitis virus. Six main ecological and faunistic complexes of ticks are distinguished and described; *I. persulcatus*

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USSR

UDC: 519.2

VOLKOV, V. I., LYSENKOVA, V. T.

"A Queuing System With Two Sequentially Arranged Groups of Servers"

Moscow, Sist. raspredeleniya inform.--sbornik (Information Distribution Systems--collection of works), "Nauka", 1972, pp 161-166 (from RZh-Kibernetika, No 10, Oct 72, abstract No 10V87 [authors' abstract])

Translation: A queuing system is considered which is made up of two multiple-line subsystems with limited queues. Coming into the system is a simple stream of customers. The customers are initially served by the first subsystem, and the excess stream is directed from the first subsystem into the second for service. An algorithm is derived for calculating the stationary distribution of probabilities.

1/1

1/2 021 UNCLASSIFIED PROCESSING DATE--20NDV70  
TITLE--MECHANISM OF THE FORMATION OF VANADIUM VRONZES OF THE MV SUB12 O  
SUB30 TYPE IN V SUB2 O SUB5 HV SUB2 O SUB6 SYSTEMS ,M EQUALS CALCIUM,  
AUTHOR--(021)-FGTIYEV, A.A., VOLKOV, V.L.  
COUNTRY OF INFO--USSR  
SOURCE--ZH. NEORG. KHIM. 1970, 15(4), 935-8  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATERIALS  
TOPIC TAGS--BRONZE, VANADIUM CONTAINING ALLOY, CALCIUM CONTAINING ALLOY,  
STRONTIUM CONTAINING ALLOY, BARIUM CONTAINING ALLOY, CADMIUM CONTAINING  
ALLY, ACTIVATION ENERGY  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3001/0386 STEP NO--UR/0078/70/015/004/0935/0938  
CIRC ACCESSION NO--AP0120141  
UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--A0126141

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FORMATION OF THESE BRONZES IN VACUUM SHOWS A LIMITING STAGE OF ION DIFFUSION WHILE IN THE SYSTEM WHERE M EQUALS CD A DIRECT CHEM. REACTION TAKES PLACE. THE APPARENT ACTIVATION ENERGIES ARE 52, 57, 62, AND 62 KCAL-MOLE FOR SYSTEMS HAVING M EQUALS CA, SR, BA, AND CD, RESP. AT 200DEGREES, AN ALPHA YIELDS BETA TRANSITION TAKES PLACE IN CD METAVANADATE. DISORDER IN A SYSTEM ENHANCES DIFFUSION OF IONS AND, THEREFORE, IN THE SYSTEM WHERE M EQUALS CD, THE REACTION TAKES PLACE IMMEDIATELY. FACILITY: INST. KHIM., SVERDLGSK, USSR.

UNCLASSIFIED

1/2 034 UNCLASSIFIED PROCESSING DATE--23OCT70  
TITLE--TEMPERATURE EFFECT ON OXYGEN PRESSURE DURING THE FORMATION OF  
CALCIUM VANADIUM BRONZE -U-  
AUTHOR--(03)-VOLKOV, V.L., FOTIYEV, A.A., NEUYMAN, A.D.  
COUNTRY OF INFO--USSR  
SOURCE--ZH. FIZ. KHIM. 1970, 44(3), 609-12  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATERIALS, PHYSICS  
TOPIC TAGS--VANADIUM, BRONZE, ENTROPY, THERMODYNAMIC PROPERTY,  
ELECTROMOTIVE FORCE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1996/1892 STEP NO--UR/0076/70/044/003/0609/0602  
CIRC ACCESSION NO--AP0118854  
UNCLASSIFIED

2/2 034

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0118854

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BY EMF. MEASUREMENTS THE TEMP. DEPENDENCE OF THE EQUIL. O PRESSURE IN THE REACTION CAV SUB2 O SUB6 PLUS 5 V SUB2 O SUB5 FORMS AND IS FORMED FROM CAV SUB12 O SUB30 PLUS 1-2 O SUB2 HAS BEEN DETD. AT 303-88DEGREEK. THE THERMODYNAMIC CHARACTERISTICS OF THE CA-V BRONZE HAVE BEEN ESTD.: DELTAH PRIME POSITIVE SUB298 EQUALS MINUS2395 KCAL-MOLE, SDEGREES SUB298 EQUALS 196.65 ENTROPY UNITS, C SUBP EQUALS 266.81 PLUS 3.17 TIMES 10 PRIME NEGATIVE3 T. FACILITY: INST. KHIM.; SVERDLOVSK, USSR.

UNCLASSIFIED



USSR

VOLKOV, V. M. V

UDC 539.374

"Explicit Form of Numerical Solution of Problems in the Dynamic Elastoplastic Deforming of Plates"

Tr. Gor'kovsk. politekhn. in-ta (Transactions of the Gor'kiy Polytechnic Institute), 1969, 25, No 2, pp 10-17 (from RZh-Mekhanika, No 3, March 1970, Abstract No 3V459)

Translation: A study was made of the scheme of analysis of dynamic deforming of bodies in the elastoplastic region based on examination of the deformation as a process in time. The elastoplastic operation of the differential equation of motion of the bodies is represented by finite differences and the Cauchy problem is solved. The material of the body is assumed to be strengthened following an arbitrary law. Algorithms are presented for determining stresses and deformations based on the deformational theory of plasticity and flow. The given calculational scheme has broad application and is particularly adapted for digital computers. By way of example, working functions are presented for analyzing the dynamic deformation of rigid circular plate

1/1

172 024 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--EFFECT OF A MAGNETIC FIELD ON THE FLUIDITY OF MELTS AND THE FILLING  
OF MOLDS -U-  
AUTHOR--(021)-RABINOVICH, B.V., VOLKOV, V.M.  
COUNTRY OF INFO--USSR  
SOURCE--LITEINOE PROIZVOD 1970, (4), 46-7  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR  
TOPIC TAGS--METAL CASTING, MAGNETIC FIELD EFFECT, ASBESTOS, CEMENT,  
MOLDING MATERIAL, TIN, ZINC, COPPER ALLOY, ALUMINUM ALLOY/TITSA4 ALLOY  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--3004/1934 STEP NO--UR/0128/70/000/004/0046/0047  
CIRC ACCESSION NO--AP0132196  
UNCLASSIFIED

2/2 024  
CIRC ACCESSION NO--AP0132196 UNCLASSIFIED PROCESSING DATE--13NOV70  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FEASIBILITY WAS EXAMD. OF  
IMPROVING THE FILLING OF MOLDS, MADE FROM ASBESTOS CEMENT WITH  
11-15PERCENT ASBESTOS OR PLEXIGLASS, WITH LIQ. METALS SUCH AS SN, ZN,  
ALLOY TSA-4 (AL 4.3, CU 0.67, PO12PERCENT, ZN REST), SILUMIN 1  
(11.83PERCENT SI). AN ORDERLY FLOW OF THE METAL IN THE MOLD COULD BE  
MAINTAINED AND CONTROLLED BY VARYING THE MAGNETIC INDUCTION FROM 1.5  
TIMES TO PRIME NEGATIVE6 TO 7.0 TIMES TO PRIME NEGATIVE6 GAUSS. TWO  
FREQUENCIES WERE TRIED 50 AND 500 HZ. THE ELECTROMAGNETIC METHOD OF  
FILLING THE MOLDS WORKS BETTER WITH LIGHT METALS AND THOSE HAVING GOOD  
ELEC. COND. (SUCH AS SILUMIN). THE ACTION OF THE MAGNETIC FIELD WITH  
THE FREQUENCY OF 500 HZ RESULTED IN HIGHER FLUIDITY OF THE METAL AND  
BETTER FILLING OF THE MOLD COMPARED TO THE ACTION OF THE FIELD WITH A  
FREQUENCY 50 HZ. THIS EFFECT WAS PROBABLY DUE TO LARGER AMT. OF HEAT  
EVOLVED.

UNCLASSIFIED

1/2 022

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--DYNAMIC RANGE OF NONREGENERATIVE PARAMETRIC AMPLIFIER CONVERTERS

-U-

AUTHOR--(03)-BOBKOV, I.N., VOLKOV, V.M., SINEOK, V.I.

COUNTRY OF INFO--USSR

SOURCE--MGSCCW, RADIOTEKHNIKA, NO 1, 1970, PP 97-98

DATE PUBLISHED--70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--PARAMETRIC AMPLIFIER, DYNAMIC SYSTEM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1999/1474

STEP NO--UR/0108/70/000/001/0097/0098

CIRC ACCESSION NO--AP0123377

UNCLASSIFIED

2/2 D22

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0123377

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DYNAMIC PROPERTIES OF A  
NONREGENERATIVE AMPLIFIER CONVERTER ARE ANALYZED. FACTORS DETERMINING  
ITS DYNAMIC RANGE ARE ESTABLISHED.

UNCLASSIFIED

USSR

UDC 539.374

VOLKOV, V. M.

"Application of the Theory of Residual Microstresses to Problems of the Dynamic Strength of Elastic-Plastic Bodies"

Tr. Gor'kovsk. politekhn. in-ta (Works of Gor'kiy Polytechnical Institute), 1959, Vol 25, No 2, pp 18-25 (from RZh-Mekhanika, No 4, Apr 70, Abstract No 4V467)

Translation: An algorithm for solving problems in the dynamics of elastic-plastic bodies is derived for the theory of plasticity of the flow type. The boundary value problem based on the finite-difference approximation of the equation of motion is reduced to the Cauchy problem, which is solved by the Runge-Kutta method. An example of the dynamic deformation of a thick-walled spherical shell under the action of a series of brief loads on the inner and outer surfaces is discussed. A considerable difference in the predictions of flow theory and the deformation theory of plasticity was observed. Yu. I. Kadashevich.

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USSR

UDC 632.95

GAR, K. A., UNTERBERGER, V. K., BEZUGLIY, S. F., LUKANINA, V. S., AND  
VOLKOV, V. N., All-Union Scientific Studies Institute of Chemical Compounds  
for the Protection of Plants

"Insecticide Formula"

Author's Certificate No 213452, filed 4 Apr 66, published 2 Jun 72 (from  
Referativnyy Zhurnal -- Khimiya, No 8(II), 1973, Abstract No 8N480P by T. A.  
Belyayeva)

Translation: The insecticide trichlorol-5 contains from 4-15% trichlorometa-  
phos-3 (I), 85-96% high purity unfiltered mineral oil, and 0-6% of the  
emulsifier OP-4. For example, 92% of the light unfiltered oil having an  
unsulfonated residue of 9%, 5% of (I), and 3% OP-4. The order of the relative  
effectiveness of the oleophoses is as follows -- olenetaphos, trichlorol-5,  
and preparation No 30 -- relative to the wintering phase of the California  
scale insect. Trichlorol -5 in a 2% concentration showed a mortality of 92.4%  
of the pests.

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USSR

VOIKOV, V. N., Chelyabinsk State Pedagogical Institute

"Some Cytochemical Indexes and Leukocytic Phagocytosis in Fatigued Athletes"

Moscow, Teoriya i Praktika Fizicheskoy Kul'tury, No 5, 1971, pp 33-35

Abstract: A comparative study was made of the levels of blood glycogen, phospholipids, alkaline phosphates and peroxidase, and phagocytosis in 55 skiers, skaters, and track field athletes in a state of acute (overstrain) and chronic (overtraining) fatigue. A clear-cut relationship was found between enzyme activity, energy substances, and phagocytosis. For example, peroxidase activity was  $2.1 \pm 0.24$  in acute fatigue and  $2.33 \pm 0.$  in chronic fatigue, whereas this index was much higher in the control (normally trained athletes),  $2.74 \pm 0.15$ . At the same time the phagocytic index was  $0.9 \pm 0.0$  (% active leukocytes  $18.6 \pm 5.7$ ),  $1.46 \pm 0.22$  ( $60.6 \pm 5.6$ ), and  $2.53 \pm 0.3$  ( $81.5 \pm 8.4$ ), respectively. The fairly high values of the indexes studied in the controls and in some of the fatigued athletes are ascribed to the influence of the pituitary-adrenal system in the stress situation created by physical exercise. It is suggested that study of enzyme activity and phagocytosis can provide information of value in assessing individual functional capability and adaptation to loads as well as in determining the stage of training and optimum scope of a training program.



USSR

UDC: 621.391:519.2

KANTOR, L. Ya. and VOLKOV, V. N.

"Computing the Noise Immunity of Servo FM Signal Demodulators in the Threshold Region"

Tr. NII radio (Transactions of the Scientific Research Institute of Radio) 1970, No. 1, pp 5-11 (from RZh-Radiotekhnika, No. 3, March 71, Abstract No. 3A53)

Translation: A method is proposed for computing the noise immunity of servo FM signal demodulators in the threshold region, based on the threshold pulse model. The method is distinguished by its simplicity and the correspondence between the model used and the physical processes of servo demodulators. A good agreement between the computed and experimental characteristics is found.

1/1

1/2 008 UNCLASSIFIED PROCESSING DATE--04DEC70  
TITLE--BASICITY AND REACTIVITY OF ACETALS --U-  
AUTHOR--(05)--VASILYEV, N.I., VOLKOV, V.P., IRZHAK, V.I., TELEGIN, G.F.,  
YENIKOLOPYAN, N.S.  
COUNTRY OF INFO--USSR  
SOURCE--KINET, KATAL.1970, 11(3), 579-83  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--ACETAL, SOLUTION ALKALINITY, ALKOXIDE, SILANE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY FICHE NO----FD70/605012/002 STEP NO--UR/0195/70/011/003/0579/0583  
CIRC ACCESSION NO--AP0140285  
UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0140285

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE BASICITY OF 10 ACETALS WAS  
DETO. BY IR SPECTROSCOPY BY THE SHIFT OF EPSILON SUBOH DUE TO ASSOCN.  
WITH PHOH. ALL INVESTIGATED ACETALS ARE VERY WEAK BASES (KAPPA  
SUBASSOCN. LESS THAN 4.1) AND THEIR BASICITY DOES NOT AFFECT THEIR  
REACTIONS WITH ALKOXY SILANES. FACILITY: INST. KHIM. FIZ.,  
CHERNOGLOVKA, USSR.

UNCLASSIFIED

1/2 016 UNCLASSIFIED PROCESSING DATE--230C770  
TITLE--TRIOXANE POLYMERIZATION IN THE PRESENCE OF TRITYL  
HEXAFLUOROANTIMONATE -U-  
AUTHOR-(04)-SMIRNOV, YU.N., VOLKOV, V.P., IRZHAK, V.I., YENIKOLOPYAN, N.S.  
COUNTRY OF INFO--USSR  
SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(6), 1403-6 (PHYS. CHEM.)  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--TRIOXANE, POLYMERIZATION KINETICS, FLUORINATED ORGANIC  
COMPOUND, ORGANANTIMONY COMPOUND  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1997/1142 STEP NO--UR/0020/70/190/006/1403/1406  
CIRC ACCESSION NO--AT0119996  
UNCLASSIFIED

2/2 016

CIRC ACCESSION NO--AT0119996

UNCLASSIFIED

PROCESSING DATE--23OCT70

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

ABSTRACT. THE CONVERSION OF TRIOXANE DURING ITS POLYMN. IN THE PRESENCE OF PH SUB3 CSBF SUB6 DOES NOT PROCEED TO COMPLETION. THE CONVERSION LEVEL, THE REACTION RATE, AND THE INITIATION RATE CONSTS. INCREASE WITH PH SUB3 CSBF SUB6 CONC. AND THE TEMP. THE ACTIVATION ENERGY IS 7 PLUS OR MINUS 1 KCAL PER MOLE. KINETICALLY, THIS CATIONIC POLYMN. IS IDENTICAL WITH FREE RDICAL POLYMNS. THE INITIATION RATE DECREASES AND THE CHAIN TERMINATION RATE INCREASES DURING THE REACTION, WHICH RESULTS IN A STEADY STATE BEING REACHED BEFORE CONVERSION IS COMPLETE.

FACILITY: INST. KHIM. FEZ.,

CHERNOGOLOVAK, USSR.

UNCLASSIFIED

Acc. Nr.

AP0049964

Abstracting Service:  
CHEMICAL ABST. 5/70

Ref. Code

UR 0051

105519r Intermolecular interactions and spectra of molecules in multicomponent solutions. II. Spectroscopic method for studying the composition of solvate shells of molecules. Bakhshiev, N. G.; Volkov, V. P.; Altaiskaya, A. V. (USSR); Opt. Spektrosk. 1990, 39(4), 51-7 (Russ). Quant. study of the compn. of solvate shells was carried out in the following systems: polar org. compd. (3-aminophthalimide, 4-amino-N-methylphthalimide)-nonpolar solvent (*n*-hexane; or *n*-heptane)-polar solvent (BuOH). The concn. of both solvents varied in the range 0-100%. Shifts in the absorption bands and fluorescence lines corresponding to electronic transitions are characteristic for the solvate effects and were, therefore, studied. Competition occurring between the polar and nonpolar solvent mols. to enter the 1st coordination sphere gives rise to local isolated areas of mol. structures different from the structure of the whole system. One solvent is expelled from the solvate by the other only if the newly formed structure is energetically more favorable. The theoretical considerations led to the derivation of a math. treatment that could use spectral data for the estn. of some phys. properties of the solvate shell (local dielec. const., compn.). H. Farizkova

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ME 19801902

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VOLKOV, V.S.

VOLKOV, V.S.

DISPERSION TYPE FUEL ELEMENTS FOR  
NUCLEAR REACTORS

JPRS 49787  
10 February 1978

①

Selected articles from the Russian-language book  
by A. G. Samoylov, A. I. Kashchenov, V. S. Volkov,  
Vladimir Ivanovich Tenlovdolynskiy, and  
Vladimir Nikolayevich Nuzov, Atomizdat Press,  
Second edition, 1969, pages 103-262.  
(incl. Aluminum, Zirconium, and Iron Alloys)

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3.2. Zirconium and Its Alloys .....	1
3.3. Alloys Based on Iron .....	24
	58

[1 - USSR - K]

USSR

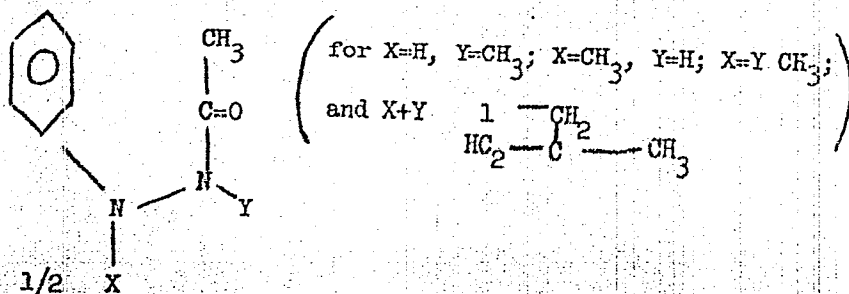
UDC 547.754.859

PORTNOV, YU. K., GOLUBEVA, G. A., KOST, A. N., and VOLKOV, V. S., Moscow State University imeni M. V. Lomonosova

"Indole Chemistry, Part 36. The Rearrangement of 1-Phenyl-2-acetylhydrazines and 1-Phenyl-2-acetylpyrazolidines"

Riga, Khimiya Geterotsiklicheskikh Soyedineniy, 5, May 1973, pp 647-652

Abstract: The rearrangement of the arylhydrazides of acetic acid is more complicated than that of the analogous 1-aryl-2-acylhydrazines to 2-amino indole. Temperature, concentration, solvents among other factors influence the yields and products. Starting materials of the form:





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PORTNOV, YU. N., et al., Khimiya Geterotsiklicheskikh Soyedineniy, 5, May 1973, pp 647-652

reacted with  $\text{POCl}_3$  by ring closure to form a variety of indoles. The  $\text{CH}_3$  group influenced the location of the double bond. The  $\beta$ -phenylhydrazides of acetic acid, having an alkyl group on one of the nitrogen atoms reacting with  $\text{POCl}_3$  formed the 2-aminoindole with no substitution at position 3. The analogous 1-phenyl-2-acetylpyrazolidines formed the 1,2,3,4-tetrahydropyrimido 1,2-a indoles. Structures were confirmed by IR and NMR data. Preparative procedures are given.

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VOLKOV, V.S.

MEDICINE

THE EFFECT OF MYOCARDIAL INFARCTION ON LIFE EXPECTANCY AND FITNESS FOR WORK

ENC: 616,127-005,8-036,8

5/17/77

Article by V.S. Volkov, V.M. Artyuzova, N.K. Kuzakov, Intensive Cardiology Group (headed by Professor B.P. Kushnarevskiy) of the USSR Ministry of Health at the Central Scientific Research Laboratory, Chair of Faculty Therapy (headed by Professor S.S. Barats) and Chair of Public Health Organization (headed by Doctor I.G. Vinogradov) of Sverdlovsk Medical Institute; Moscow, Sverdlovsk Adyrovokhtimulnye, Russian, No 4, 1972, subtitled 14 October 1971, pp 17-21]

Investigation of life expectancy and health status of individuals who have sustained myocardial infarction as well as different factors affecting the long range sequelae in such patients is both practically and socially significant. Of special interest is determination of residual fitness for work of patients with postinfarction cardiovascular disease. Such investigations could define the means of rehabilitating them.

We have the results of long term (12 years) observation of 525 patients who had sustained primary myocardial infarction. This constituted 89 percent of the patients discharged from the therapeutic section of the 14th municipal hospital in Sverdlovsk, which is the medical and health unit for the Ural Machinery Plant. Among the patients studied there were 399 men and 130 women. There were 386 who sustained myocardial infarction at under 40 years of age, and 136 were employed prior to illness. In 98 cases the followup extended over 10 years and for the rest the period was shorter.

Our data refer to the absolute majority of cases of myocardial infarction in one of the city's regions; the element of selectivity is ruled out and for this reason, we believe, it furnishes a rather realistic idea about long term sequelae.

One of the chief factors determining life expectancy of individuals who have sustained myocardial infarction is the patients' age. As indicated by most authors (O.L. Yaskova; A.M. Betsinskaya et al.; S.L. Sidorovich; T.T. Glukhen'kiy and L.T. Bilikevich; Hetsel; Sigler; and others), the long term sequelae are the most favorable among patients who are young or middle aged, according to survival indices.

USSR

UDC: 621.396.6.019.3

DEART, A. F., VOLKOV, V. S.

"On the Problem of the Accuracy Characteristics of Evaluating Reliability of Semiconductor Circuits From the Results of Accelerated Tests"

Tr. Radiotekhn. in-ta AN SSSR (Works of the Radio Engineering Institute of the Academy of Sciences of the USSR, 1970, No 3, pp 109-117 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6V279)

Translation: A study is made of the problems of evaluating accuracy characteristics of determination of the reliability of semiconductor circuits from the results of accelerated tests to obtain the confidence intervals of failure rates. Recommendations are given on the profitability of accelerated tests of semiconductor circuits. Resumé.

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USSR

UDC: 621.396.6.019.4

VOLKOV, V. S.

"A Model of Cyclic Maintenance"

Tr. Radiotekhn. in-ta AN SSSR (Works of the Radio Engineering Institute of the Academy of Sciences of the USSR), 1970, No 3, pp 118-123 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6V280)

Translation: A cyclic mode of equipment maintenance is considered. The cyclic mode is defined as a system in which repair periods alternate with periods without repair. An algorithm is given for finding the index of quality of operation of the maintenance system. Resumé.

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1/2 033  
 UNCLASSIFIED  
 PROCESSING DATE--04DEC70  
 TITLE--EFFECT OF THE STRUCTURE OF STEEL ON THE HYDROGEN DIFFUSION  
 COEFFICIENT--U-  
 AUTHOR--(04)--VOLKOV, V.YE., RYABOV, R.A., KODES, YE.S., GELD, P.V.  
 COUNTRY OF INFO--USSR  
 SOURCE--FIZ. METAL METALLOVED. 1970, 29(2), 431-2  
 DATE PUBLISHED-----70  
 SUBJECT AREAS--MATERIALS  
 TOPIC TAGS--HYDROGEN, GAS DIFFUSION, METALLURGIC RESEARCH FACILITY, STEEL  
 MICROSTRUCTURE, ALLOY DESIGNATION, DIFFUSION COEFFICIENT/(U)34KHM LOW  
 ALLOY STEEL  
 CONTROL MARKING--NO RESTRICTIONS  
 DOCUMENT CLASS--UNCLASSIFIED  
 PROXY REEL/FRA--3001/0338  
 STEP NO--UR/0126/70/029/002/0431/0432  
 CIRC ACCESSION NO--AP0126094  
 UNCLASSIFIED

2/2 033

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0126094

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

ABSTRACT. THE EFFECT WAS STUDIED OF THE STRUCTURE OF STEEL ON THE H DIFFUSION COEFF. UNDER GAS ELEC. DISCHARGE CONDITIONS. THE EXPTL. SETUP AND THE PROCEDURE USED HAVE BEEN DESCRIBED PREVIOUSLY. SAMPLES OF STEEL 34KHM IN THE FORM OF DISKS 37 MM IN DIAM. AND 1.0-1.6 MM THICK WERE USED. THE CHEM. COMPN. OF THE STEEL WAS: C 0.35; CR 1.10, MO 0.25, SI 0.33, AND MN 0.56 WT. PERCENT. THE STEEL HAD A PLATELETLIKE PEARLITE STRUCTURE. ON GROUP OF SAMPLES WAS VACUUM ANNEALED AT 850DEGREES FOR 1 HR, WHEREUPON IT WAS COOLED WITH THE FURNACE. THE ANNEALED SAMPLES HAD A GRANULAR PEARLITE STRUCTURE. THE 2ND GROUP OF THE SAMPLES WAS HELD IN A PB BATH AT 850DEGREES FOR 30 MIN, WHEREUPON IT WAS QUENCHED IN OIL. THE QUENCHED SAMPLES HAD THE MARTENSITIC STRUCTURE. THE LOWEST DIFFUSION COEFF. IS IN THE STRESSED STRUCTURE AND AMTS. TO 2.8 TIMES 10 PRIME NEGATIVE7 CM PRIME2-SEC; THE HIGHEST DIFFUSION COEFF. IS IN THE ANNEALED STRUCTURE OF GRANULAR PEARLITE AND AMTS. TO 6.3 TIMES 10 PRIME NEGATIVE7 CM PRIME2-SEC. THE DIFFUSION COEFF. IN THE PLATELETLIKE PEARLITE WAS 4.5 TIMES 10 PRIME NEGATIVE7 CM PRIME2-SEC. FACILITY: URAL. POLITEKH. INST. IM. KIROVA, SVERDLOVSK, USSR.

UNCLASSIFIED

VOLKOV, YE. D.

PLASMA PHYSICS

VOLKOV, YE. D.

Plasma Physics

ELECTRIC CONDUCTIVITY AND CURRENT HEATING OF PLASMA  
IN A STRONG MAGNETIC FIELD

JPRS 54619  
6 December 1971

From a manuscript report by Ye. D. Volkov, Institute of Plasma Physics and Controlled Nuclear Fusion Research sponsored by the National Atomic Energy Agency of Moscow, Moscow, U.S.S.R. June 1971.

Experimental studies of the current heating of plasma completed in the (5, 6) have shown that in the case of strong magnetic fields ( $B_0 > 10$  tesla) and a significant resistive heating is observed as electric field  $E_0 > (kT_e/n_e)$  density of the plasma electrical field. By the 10-10-10-10-10-10-10-10-10-10 component in electron volts, so in the case of the electron, and it is the speed of light.

Existing theory of maximum electric conductivity for case of weak magnetic fields (0-10) does not explain the results of the studies mentioned above.

The mechanisms have been proposed (11, 12) for interpretation of the data obtained with Tokamak, the their detailed comparison with experiment will be difficult because of limitations in the range of variations of plasma parameters in this apparatus. In addition, an attempt was undertaken to explain the resistive anomaly of magnetized plasma applicable to the standard  $E < E_k$  experiments (1-6) in which weak electric field conditions were

For the purpose of investigating the criteria for stimulation of the effect studied and its microscopic characteristics on the "Stellar" stellarator (11) a series of experiments was performed under various conditions and their comparison with existing theoretical concepts are presented in this communication.

USSR

UDC 533.9

VISHNEVETSKIY, V. N., VOYTENKO, D. A., VOLKOV, YE. D., DIKIY, A. G., ZALKIND, V. M., KONOTON, P. I., MOISEYEV, S. S., FAVLICHENKO, O. S., PASHNEV, V. K., SUPRUNENKO, V. A., TOLOK, V. T., TERESHCHENKO, F. F., TONKOFERYAD, V. M., and TARASENKO, V. P., Physico-Technical Institute of Academy of Sciences Ukrainian SSR, Kharkov

"Energy Losses of Plasma in a 'Uragan' Stellarator With Large Shear"

Kiev, Ukrainskiy Fizicheskiy Zhurnal, Vol 16, No 8, Aug 71, pp 1320-1323

Abstract: Investigations of the rate of energy losses in plasma have shown that the holding time of particles significantly exceeds the energy life time when the plasma is of collision type. This article discusses the results of investigations on the rate of energy losses of collision-type plasma for the "Uragan" stellarator. The authors study the dependence of energy life time of the plasma on the amount of shear and the angle of conversion. They make extensive use of graphs to illustrate their findings and find that the experimental points lie on a straight line. The authors conclude that the results may be explained on the basis that a temperature-drift instability develops in the plasma. The article contains 5 figures and 8 bibliographic entries.

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1/2 025 UNCLASSIFIED PROCESSING DATE--20NOV70  
TITLE--THE MECHANISM OF PLASMA LOSSES IN A STELLARATOR -U-  
AUTHOR--(05)-BURCHENKO, P.YA., VASILENKO, B.T., VOLKOV, YE.D., PAVLICHENKO,  
D.S., POTAPENKO, V.A.  
COUNTRY OF INFO--USSR  
SOURCE--MOSCC, ATOMNAYA ENERGIYA, VOL 28, NO 2, FEB 70, PP 126-129  
DATE PUBLISHED-----70  
SUBJECT AREAS--PHYSICS  
TOPIC TAGS--PLASMA OSCILLATION, LOW FREQUENCY, STELLARATOR  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1999/1481 STEP NO--UR/0089/70/028/002/0126/0129  
CIRC ACCESSION NO--AP0123384  
UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0123384

ABSTRACT/EXTRACT--(U) GP-C- ABSTRACT. A STUDY WAS MADE OF THE EQUILIBRIUM CONDITIONS AND SPECTRAL PROPERTIES OF LOW FREQUENCY OSCILLATIONS OF PLASMA OF OHMIC HEATING IN A STELLARATOR. IT IS SHOWN THAT EQUILIBRIUM IS DISRUPTED AT A MAGNITUDE  $\beta$  EQUALS  $8\pi$  NKT DIVIDED BY  $H$  SUBO PRIME<sup>2</sup> HIGHER THAN SOME CRITICAL  $\beta$  SUBE. ON THE BASIS OF STUDIES OF LOW FREQUENCY OSCILLATIONS CONDUCTED AT  $\beta$  LESS THAN  $\beta$  SUBE, A DEDUCTION CAN BE MADE THAT DRIFT TYPE INSTABILITIES (DRIFT DISSIPATION OR THERMOFORCE) APPEAR IN THE COLLISION PLASMA IN THE STELLARATOR. THE AUTHORS THANK V. F. ALEKSIIN AND S. S. MDISEYEV FOR VALUABLE REMARKS, AND A. I. ZHOANOV FOR HELP WITH THE CORRELATION TECHNIQUE.

UNCLASSIFIED

USSR

UDC 621.372.8.092.22

VOLKOV, Ye. G., LIFERENKO, V. D., KORNILOV, A. A.

"A Wide-Band Periodic Traveling-Wave Decelerating System"

Izv. Leningr. elektrotekhn. in-ta (News of the Leningrad Electrical Engineering Institute), 1970, vyp. 96, pp 25-28 (from RZh-Radiotekhnika, No 7, Jul 71, Abstract No 7B132)

Translation: The paper demonstrates the feasibility of making decelerating systems with low variance and a broad frequency band on the basis of a "chain" line with geometric phasing of the field; the inner conductor of the line is formed by a sequence of rectangular brackets fastened to conductive or dielectric supports. The system has two bands of transparency, the upper band having a negative fundamental harmonic, and the low-frequency band existing only in the case of conductive supports. The computational results are experimentally confirmed. One illustration, N. S.

1/1

- 11 -

USSR

VOLKOV, Ye. I.; DREMIN, I. M.; et al (Lebedev Physics Institute, USSR Academy of Sciences)

"Multiperipheral Theory on Hadron Interaction at High Energies;  $\pi\pi$ -Interaction"  
Moscow, Yadernaya Fizika; February, 1973; pp 407-22

ABSTRACT: Properties of elastic and inelastic processes were considered on the basis of the Bethe-Salpeter equation. The kernel of the equation was chosen with regard for phenomenological considerations, and the free parameters were defined by the basic properties of the total cross sections. A solution of the equation with the above-mentioned kernel was obtained, and the basic properties of elastic scattering (diffraction cone width, parameters  $P$  and  $P'$ , and  $\rho$ -trajectory) were found and proved to be in good agreement with experimental data. Certain characteristic properties of the corresponding inelastic processes were discussed.

The article includes 59 equations and three figures. There are 17 bibliographic references.

1/1

USSR

UDC 615.834+616.13-004.6

VOLKOV, Ye. S., Yalta Scientific Research Institute of Physical Methods of Therapy and Medical Climatology imeni I. M. Sechenov, Yalta

"Effects of Constant and Pulsating UV-Irradiation on the Nervous and Cardiovascular Systems of Patients With Incipient Cerebral Atherosclerosis"

Frunze, Sovetskoye Zdravookhraneniye Kirgizii, No 2, Mar/Apr 71, pp 26-29

Abstract: Patients in the age group 45-60 yrs with initial symptoms of atherosclerosis of the brain were subjected to irradiation with UV light as a part of a general treatment. The treatment with UV light consisted of 15 irradiations (one per day) at intensities that were increased from 1/2 to 3 biological doses. Constant or pulsating irradiation was applied. Application of UV rays had a beneficial effect on the functioning of the nervous and cardiovascular systems: the conditioned and unconditioned vascular reactions were improved, the EKG and indexes of bilateral arterial oscillography tended to return to normal, and the coronary blood circulation and temporal blood pressure (as indicated by bilateral determinations of asymmetry) showed less pronounced deviations from the normal. At high radiation intensities application of pulsating irradiation produced fewer undesirable effects than that of constant irradiation in cases in which the level of cortical processes was lowered and compensation of the 2d degree was disturbed.

1/1

USSR

UDC 517.9

VOLKOV, Ye. A., Mathematics Institute imeni V. A. Steklov, Academy of Sciences USSR

"Two-Sided Difference Method for Solving a Boundary Value Problem for an Ordinary Differential Equation"

Moscow, Matematicheskiye Zametki, No. 4, Apr 72, pp 421-430

Abstract: A method is proposed for calculating two-sided approximations of the solution of the boundary value problem on [0, 1] for the equation  $y'' + p(x) y' - q(x) y = f(x)$  at the set of points

$$\{kh\}_{k=0}^N$$

where  $h = 1/N$ , using  $O(N)$  operations. Also given is a method for obtaining the derivative of the solution with maximum deviation  $O(h^2 \omega(h) + h^3)$  at

$$\{kh\}_{k=0}^N$$

where  $\omega(t)$  is the sum of the continuity moduli of the functions  $p''$ ,  $q''$ ,  $f''$ .  $1/2$

USSR

VOLKOV, Ye. A., *Matematicheskiye zametki*, No. 4, Apr 72, pp 421-430

The boundary value problem is stated as follows:

$$Ly \equiv y'' + p(x) y' - q(x) y = f(x), \quad 0 < x < 1, \quad (1)$$

$$y = a_j, \quad x = j, \quad j = 0, 1 \quad (2)$$

where  $a_j$  are numbers;  $p(x), q(x) \geq 0$  ( $0 \leq x \leq 1$ ), and  $f(x)$  are given functions continuous on the segment  $[0, 1]$ . For sufficiently smooth  $p, q, f$  the method makes it possible to calculate two-sided approximations of the solutions with the aid of interpolation and also to calculate its higher derivatives with maximum deviation  $O(h^3)$  on  $[0, 1]$ . The author states that the two-sided difference method can easily be extended to more general boundary value problems.

USSR

UDC: 621.375.4:621.375.132

VOLKOV, Yu. A., KOROLEV, V. A., and SEROV, V. N.

"Designing Two-Stage Amplifier Sections With Maximum Common Inverse Feedback"

Moscow, Radiotekhnika, No 2, 1972, pp 64-68

Abstract: Computation equations and other data are provided for the design of two-stage transistorized amplifiers, each with common feedback circuits, to be used for pulse signals. Two possible circuit diagrams are given, one for voltage and the other for current feedback. A table of amplifier parameters as well as nomograms for obtaining maximum feedback capability for a given gain factor is presented. In addition, there is a recommended step-by-step procedure for the amplifier design.

1/1

- 3 -



USSR

UDC 620.178.752.51

VOLKOV, YU. A."Steel Life at a Reduced Temperature"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 1, 1971, pp 62-64

Abstract: The article describes results of a study of the effect of a reduced testing temperature ( $-60^{\circ}\text{C}$ ) on steel life during impact loading. The steels used for the study included 25Kh2N4VA, 30KhN2MFA, 40KhNMA, and 40Kh. The life values obtained were statistically analyzed and linear correlation equations obtained, to serve as the basis for the calculation of probable life values. It was found that the studied steels have a shorter life at  $-60^{\circ}\text{C}$  than at  $+20^{\circ}\text{C}$ . The ratio of steel life at  $-60^{\circ}\text{C}$  to that at  $+20^{\circ}\text{C}$  ( $N_{-60}/N_{+20}$ ) depends on the load, viz., the less the impact energy, the less the decrease in life. Beginning with a certain impact energy the decrease in temperature increases the life. Thus, during impact loading a temperature drop causes a more or less significant decrease in the life and impact

1/2

USSR

VOLKOV, YU. A., *Metallovedeniye i Termicheskaya Obrabotka Metallov*, No 1, 1971, pp 62-64

strength of the studied steels. If the temperature drop lowers the impact strength, the life will decline to 10,000 cycles. The life of a specimen  $N$  can be divided into two periods, viz. the life to the formation of a fatigue macrocrack  $N'$  and from the moment of its formation to complete failure  $N''$ . The decrease in the testing temperature causes the most significant decrease in  $N''$ , while there is a comparatively slight change in  $N'$  (and in 25Kh2N4VA steel even an increase). Thus, the reduced life at the lower temperature is due to the reduced cracking resistance of the steel. The regularities established are characteristic of the low-cycle impact fatigue of structural carbon and alloyed steels heat-treated to comparatively high hardness.

2/2

USSR

UDC 621.375.121

V  
VOLKOV, Yu. A., KOROLEV, V. A., SEROV, V. N.

"Problem of Optimizing Frequency Characteristics of Wide-Band Amplifiers"

Metody razrab. radioelektron. apparatury. No 1 (Methods of Developing Radio-electronic Equipment. No 1), Moscow, 1970, pp 72-75 (from RZh-Radiotekhnika, No 8, Aug 70, Abstract No 8 D87)

Translation: By an optimal amplitude-frequency characteristic  $h\omega$  the authors mean a monotonic characteristic with the greatest upper boundary frequency  $\omega_b$  determined from the algebraic equation  $h^2(\omega_b) = 1/2$ . The problem of maximizing  $\omega_b$  with respect to variable circuit parameters is investigated. The flow diagram of programs for optimization by means of single-parametric search by the Fibonachchi method is presented. The bibliography has three entries.

1/1

USSR

UDC 548.736

KAPSHUKOV, I. I., VOLKOV, Yu. F., MOSKVICHEV, Ye. P., LEBEDEV, I. A., and YAKOVLEV, G. N., Scientific Research Institute of Atomic Reactors, Melekess

"Crystal Structure of Uranyl Tetranitrates"

Moscow, Zhurnal Strukturnoy Khimii, Vol 12, No 1, Jan-Feb 71, pp 94-98

Abstract: The structure of complex uranyl compounds of the type  $M_2[UO_2(NO_3)_4]$  was studied, where  $M = NH_4, Rb,$  and  $Cs$ . All the compounds are isomorphous, monoclinic. The structure of ammonium and rubidium tetranitrouranylates was elucidated by means of three-dimensional diffraction data; the cesium complex was studied by projection. The structure consists of cations  $M^+$  and complex anions  $[UO_2(NO_3)_4]^{2-}$ . In the centrally symmetric anion complex two nitrate groups are attached to the uranium atom bidentantly and the other two -- monodentantly. In this fashion a hexacoordinated equatorially planar system of oxygen atoms around the uranium is formed. The U-O bond is shortened, being 1.78, 1.77, and 1.85 Å for  $NH_4, Rb,$  and  $CS$  respectively.

1/1

USSR

UDC: 621.396.69:621.319.4(088.8)

LYSENKO, A. I., ABRAMOV, N. Ye., VOIKOV, Yu. I.

"A Device for Assembling the Seal and Rolling up the Shell of a Capacitor"

USSR Author's Certificate No 260023, filed 3 Jul 68, published 27 Apr 70  
(from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12V363 P)

Translation: The proposed device for assembling the seal and rolling up the can of a fixed capacitor with axial leads contains a mechanism for feeding in the sealing liners, a mechanism for punching out the liner with the capacitor lead, a mechanism for locating the liner in the can, and a mechanism for rolling up the can. As a distinguishing feature of the patent, assembly precision is improved by making the mechanism for punching out the liners with the capacitor leads in the form of a hollow rotating cylinder which is fitted at one end with an elastic clamp which holds the liner, and at the other end with an inner cone which receives the outer cone of a stationary sleeve equipped with a push rod which feeds in the liners.

1/1

USSR

UDC 669.28.017

ABABKOV, V. T., GINZBURG, V. I., and VOLKOV, YU. K.

"Corrosion Resistance of Molybdenum Alloys in Certain Corrosive Media"

Spetsial'nyye Stali i Splavy (Special Steels and Alloys -- Collection of Works), No 77, Metallurgiya Press, 1970, pp 72-76

Translation: It is demonstrated that domestically produced molybdenum alloys have high corrosion resistance in inorganic acids, iodide media, and certain special media. They are superior to nickel alloys such as hastelloy and certain refractory metals in this respect. 6 tables; 4 biblio. refs.

1/1

USSR

UDC 621.314.61

BAYEV, A. V., VOLKOV, YU. K., DOLININ, V. P., KORNEYEV, V. YA.

"Rectifier Converters With Capacitors in Power Circuits"

Moscow, Ventil'nyye preobrazovateli s kondensatorami v silovykh tsepyakh (cf. English above), "Energiya," 1969, p 256, ill 78 k.  
(from RZh -- Elektronika i yeye primeneniye, No 2, Feb 70, Abstract No 12B476K)

Abstract: The theory is discussed of rectifier converters with one-step artificial commutation, accomplished with the help of capacitors. The energy characteristics, the computation methods, and the technical-economic indices for converters realized by various circuits are presented. The results are generalized of the exploitation of compensating units operating in electrolytic installations and at traction substations. Summary.

1/1

6

USSR

UDC 621.357.8.035.4:669.14(088.8)

SHTAN'KO, V. M., LIPKIN, Ya. N., NOVIKOV, V. G., VOLKOV, Yu. M., STRIZHAK, G. K., RABINOVICH, O. Ya., ZIMOVETS, V. G., DANILOV, A. M., MATVEYEV, Yu. M., MEDNIKOV, Yu. A.

"Electrolyte for Electrochemical Polishing of Products"

USSR Author's Certificate No 306186, Filed 28/10/69, Published 21/07/71, (Translated from Referativnyy Zhurnal, Khimiya, No 3, 1972, Abstract No 3 L283 P from the Resume).

Translation: An electrolyte for electrochemical polishing of products, for example of stainless steel, differing in that in order to improve the quality of polishing and intensify the process, a foam suppressor is introduced to the electrolyte with the following relationship of components (in wt.%): orthophosphoric acid 30-70,  $H_2SO_4$  10-40,  $H_2O$  10-30 and above 100%. Surfactants based on peptide and polypeptide salts, 1-10 g/l, foam suppressor 0.001-1 g/l. Polymethylsiloxane liquid is used as the foam suppressor.

I/I

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USSR

UDC 577.3

VOLKOV, Yu. M., SYDORYK, E. P., and DANKO, M. Y., Chair of Biophysics, Kiev University, and Laboratory of Biophysics of Tumors, Kiev Institute of Experimental and Clinical Oncology

"Effect of Laser Radiation on the Electrical Parameters of Fresh Tissue"

Kiev, Fiziologicheskii Zhurnal, Vol 16, No 4, Jul/Aug 70, pp 480-483

Abstract: The effect of laser radiation on skin electrical conductivity was studied in hamsters. Laser rays ( $\lambda \approx 10,000 \text{ \AA}$ ; impulse energy, 250 j) were focused on an abdominal skin area of  $2 \text{ cm}^2$ . After irradiation, one irradiated and one nonirradiated piece of skin were excised, attached to platinum electrodes, and placed in a chamber with constant humidity and temperature. Electroconductivity of skin tissues was determined within the  $10^2$ - $10^5 \text{ H}\Omega$  range. Tissue specific resistance, dielectric constant, and skin impedance were determined 1 hour and 1, 3, 7, and 14 days after irradiation. The greatest shifts in these parameters developed within 24 hours after irradiation. The shifts were found to be reversible however, and within 2 weeks the skin tissues regained their preradiation condition. Simultaneous histomorphological investigations established that the deepest injuries inflicted by the rays were in the radiation zone; where coagulation necrosis was indicated. A connection between the shifts in skin electric parameters and the degree of injury caused by the radiation is indicated.

1/1

UNCLASSIFIED PROCESSING DATE 15 NOV 70

TITLE--A STERILE ROOM FOR REANIMATION OF PATIENTS AFTER

HOMOTRANSPLANTATION OF THE HEART -U-

AUTHOR--(05)--BALLYUZEK, F.V., SHANIN, YU.N., KOSTYUCHENKO, A.L.,

SHCHELKUNOV, V.S., VOLKOV, YU.N.

COUNTRY OF INFO--USSR

SOURCE--EKSPERIMENTAL'NAYA KHIRURGIYA I ANESTESIOLOGIYA, 1970, NR 2, PP  
84-87

DATE PUBLISHED--70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ORGAN TRANSPLANT, HEART SURGERY, HOSPITAL EQUIPMENT, ISOLATION  
CHAMBER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/0622

STEP NO--UR/0481/70/000/002/0084/0087

CIRC ACCESSION NO--AP0108837

UNCLASSIFIED

2/2 014

CIRC. ACCESSION NO--AP0108837

UNCLASSIFIED

PROCESSING DATE--13NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS COMMIT TO PAPER A DESCRIPTION OF THE DESIGN AND RESULTS OF HYGIENIC AND BACTERIOLOGICAL EVALUATION OF A STERILE ISOLATION ROOM FOR PATIENTS AFTER HOMOTRANSPLANTATION OF THE HEART. THE ORGANIZATION OF WORK OF THE PERSONNEL IN THE STERILE ISOLATION ROOM IS DEPICTED. FACILITY: KLINIKA GOSPITAL'NOY KHIRURGII VOYENNO MEDITSINSKOY AKADEMII IM. S. M. KIROVA, LENINGRAD.

UNCLASSIFIED

Organ and Tissue Transplantation

6

USSR

UDC 616.12-089.843-0.6:616.12-008.315-0.8:725.51

BALLYUZEK, F. V., SHANIN, Yu. N., KOSTYUCHENKO, A. L., SHCHELKUNOV, V. S.,  
VOLKOV, Yu. N., FEDOROV, G. Z., and SUPRUNENKO, Yu. F., Clinic of Hospital  
Surgery, Military Medical Academy imeni S. M. Kirov, Leningrad

"A Sterile Room for the Reanimation of Patients After Homotransplantation of the  
Heart"

Moscow, Eksperimental'naya Khirurgiya i Anesteziologiya, No 2, Mar/Apr 70, pp 84-87

Abstract: After transplantation of the heart, respiratory infections constitute one of the principal dangers to the patients because of their lowered resistance and immunity. J. Phillips and G. Spencer estimated that respiratory infections caused the death of 1/4 of patients dying after surgery involving extracorporeal blood circulation. A sterile chamber (3.7 X 3 X 2.5 m) has been designed for the reanimation and intensive care of patients after surgery involving extensive trauma and requiring rigorous antibacterial protection. The chamber is constructed of plastic sheets welded together and has an entrance lock consisting of two overlapping, suspended plastic sheets. The chamber has connections for O<sub>2</sub>, N<sub>2</sub>O, and vacuum, a telephone line, and electric connections for a defibrillator and an automatic system which records and transmits outside data on the condition of the patient. Equipment for the intubation of the trachea, healing of the tracheo-  
1/2

USSR

BALLYUZEK, F. V., et al, Eksperimental'naya Khirurgiya i Anesteziologiya, No 2, Mar/Apr 70, pp 84-87

bronchial passages, and for producing artificial coughs is located in it. Air that has been sterilized by irradiation is pumped into the chamber, in which the air pressure is higher by 7-10 mm than that outside. After 2-3 hrs. of operation of the chamber, the air in it contains no more than 0-2 possibly pathogenic bacteria per cubic meter and no pathogenic bacteria. The chamber is equipped with windows of transparent plastic, has translucent walls, and is lit from the outside. After adequate sterilization measures, a nurse who takes care of the patient may stay in the chamber and other medical personnel may enter it. The chamber ought to be adequate for the care of patients who have undergone heart transplants.

2/2

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USSR

UDC 621.376.029.4:.621.38

VOLKOV, YU. P., KALINCHUK, B. A., KOLTIK, YE. D., PICHUGIN, O. A., and  
PIASTRO, V. P.

"Optoelectronic Modulators for the Measurement of Small Signals of Infrasonic  
Frequencies"

Moscow, Izmeritel'naya Tekhnika, No 8, Aug 73, pp 52-54

Abstract: Optoelectronic modulators are described, and the specifications  
and performance of various types of optoelectronic modulators are presented.  
It is shown that in comparison to optoelectronic modulators constructed on the  
basis of gas-discharge tubes, optron-based optoelectronic modulators have a  
lower excitation power, simpler electrostatic screening, and possess higher  
reliability. 2 figures. 1 table. 4 references.

1/1

USSR

UDC 615.285.7.015.21

LURIK, B. B., KAMENNOV, N. A., VOLKOV, YU. P., Central Scientific  
Research Institute of Desinfection, Ministry of Public Health,  
Moscow

"Study on Insecticide Synergists. Synthesis of Piperidides and  
Vinylogs of Piperonylic Acid"

Moscow, Khimiko-farmatsevticheskiy zhurnal, Vol 5, No 8, Aug 71,  
pp 15-17

Abstract: As part of the search for pyrethrin synergists, piper-  
idide of piperonylic acid (III) and two of its vinylogs were  
synthesized. Compound III was prepared by the oxidation of  
piperonal (I) with sodium hypochlorite to piperonylic acid (II),  
and its conversion to the acid chloride, and reaction with piper-  
idine. The Reformatsky reaction between I and ethyl bromoacetate  
yields B-(3,4-methylenedioxyphenyl)-B-hydroxypropionic acid ethyl  
ester (IV) which is dehydrated to B-(3,4-methylenedioxyphenyl)-  
acrylic acid ethyl ester (VI) and saponified to B-(3,4-methylene-  
dioxyphenyl)-acrylic acid (V). Acid V may also be obtained by  
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USSR

LURIK, B. B., et al, *Khimiko-farmatsevticheskiy zhurnal*, Vol 5,  
No 8, Aug 71, pp 15-17

condensation of I with malonic acid with simultaneous decarboxylation. Acid V is converted to the acid chloride, and then to B-(3,4-methylenedioxyphenyl)-acrylic acid piperidide (VII). The Wittig reaction between B-(3,4-methylenedioxyphenyl)-acrolein and triphenylphosphonoacetyl piperidine is used to synthesize piperine (X). Piperidides III, VII and X synergize pyrethrins toward *Musca domestica* L.

2/2



1/2 025

UNCLASSIFIED

PROCESSING DATE--18SEP70

TITLE--AN EFFECTIVE MIXTURE OF INSECTICIDES ON THE BASIS OF PIETROIDES  
AND DDVF -U-

AUTHOR--(05)-BESSONOVA, I.V., VASHKOV, V.I., VOLKOV, YU.P., ZHUK, YA.B.,  
TSETLIN, V.M.

COUNTRY OF INFO--USSR

SOURCE--MEDITSINSKAYA PARAZITOLOGIYA I PARAZITARNYYE BOLEZNI, 1970, VOL  
39, NR 1, PP 78-80

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--INSECTICIDE, AEROSOL, TOXICITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1987/0082

STEP NO--UR/0358/70/039/001/0078/0080

CIRC ACCESSION NO--AP0103762

UNCLASSIFIED

2/2 025

CIRC ACCESSION NO--AP0103762  
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--18SEP70

ABSTRACT. INVESTIGATION OF THE ACTIVITY OF INSECTICIDE MIXTURES IN AEROSOL FORM AGAINST HOUSE FLIES EVALUATED BY THE COEFFICIENT OF COMBINED TOXICITY DEMONSTRATED MAXIMUM ACTIVITY IN MIXTURES WITH PIRETRINE TO DDVF RATIO OF 7:3 AND PIRETRINES TO DIMETRINE 3:7. A TRIPLE MIXTURE BASED ON DDVF, PIRETRINES AND DIMETRINE TAKEN IN OPTIMAL PROPORTIONS (3:7:16) SHOWED GREATER EFFECTIVENESS THAN DOUBLE MIXTURES, PERMITTING TO REDUCE THE CONCENTRATION OF DDVF 7.77 FOLD, PIRETRINES 5.58 FOLD AND DIMETRINE 27.4 FOLD AS COMPARED WITH THE SAME DRUGS USED SEPARATELY.

UNCLASSIFIED

USSR

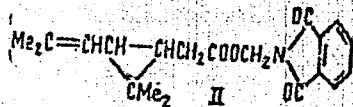
UDC 632.95

BESSONOVA, I. V., VASHKOV, V. I., VOLKOV, Yu. P., VOLKOVA, A. P., ZHUK, Ye. B.,  
TSETLIN, V. M., KLIMENCHUK, V. I., POZHARSKAYA, Ye. B.

"An Insecticide Composition"

USSR Author's Certificate No 288800, filed 13/05/69, published 17/03/72  
(Translated from Referativnyy Zhurnal Khimiya, No 24(II), 1972, Abstract No  
24N593 P, by T. A. Balyayeva)

Translation: An insecticide is suggested, containing as its active ingredient a synergistic mixture of O, O-dimethyl O-(2,2,-dichlorovinyl) phosphate (I) and an analog of the pyrethrins of the formula



(II). Results are presented from determination of the degree of synergism and the insecticidal activity on houseflies. The composition of an aerosol can include I, II, xylene, kerosene and a mixture of freons. The preparate is nontoxic for warm blooded animals.

1/1

USSR

UDC: 624.012:539.4

VOLKOV, YU.S. and SHEVCHUKOV, V.D.

"On Problem of Energy Absorption in Elements of Reinforced Concrete Structures"

Moscow, S.B. Dinamika Gidrotekhn. Sooruzh. (Symposium, Dynamics of Hydraulic Structures), 1972, pp 166-167 (from Referativnyy Zhurnal-Mekhanika, 1973, Abstract No 2V882)

Translation: When calculating structures under dynamic loads, the dynamic coefficient is determined by the magnitude of the logarithmic decrement of oscillation damping  $\Delta$ . The effect of the stiffness ratio of cross beam and column for frame structures and of joint stiffness on the logarithmic damping decrement was investigated. Four series of frame specimens were tested, their height was 1.5 m, cross section of columns and beams from 10x10 to 10x30 cm, span 80 cm. Oscillations were excited by impact and by a vibrator. The numerical values of  $\Delta$  for the frame specimens were 0.32 to 0.38. With a rigid base the variation of cross beam to column stiffness ratio by 27 times did not affect appreciably the value of  $\Delta$ . With a flexible base the value of  $\Delta$  was higher. Application of static load results in a decrease of  $\Delta$ .

1/1

USSR

UDC 539.4:624.012

VOLKOV, Yu. S., SHEVCHUKOV, V. D.

"Influence of Certain Factors on Attenuation of Oscillations in Reinforced Concrete Structural Elements"

Seysmostoikost' Predvaritel'no Napryazhen. Zhelezobeton. Konstruktsiy [Earthquake Resistance of Prestressed Reinforced Concrete Structures -- Collection of Works], Moscow, 1972, pp 235-244, (Translated from Referativnyy Zhurnal, Mekhanika, No 11, 1972, Abstract No 11 V943, from the Resume).

Translation: In designing a number of structures for dynamic loadings, it is important to consider the absorption of energy by the structure itself, which is determined by the logarithmic attenuation decrement of oscillations  $\delta$ . The influence of the relationship of rigidities of beams and uprights for frame specimens and rigidity of attachment on the logarithmic attenuation decrement of oscillations was studied. Several series of frame (and beam) specimens were studied. On a rigid base, a change in the ratio of rigidities of beams and uprights by a factor of 27 had no significant influence on the value of  $\delta$ . On a compliant base, the value of  $\delta$  was higher. Application of a static load decreased the value of  $\delta$  to a certain limit.

1/1

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USSR

UDC: 621.9.047

VOLKOV, Yu. S., MONINA, M. A., MOROZ, I. I., Moscow

"Concerning the Question of Titanium Machinability"

Kishinev, Elektronnaya Obrabotka Materialov, No 3(45), 1972, pp 11-14

Abstract: Some particulars in the electrochemical machining of titanium were studied by a comprehensive method including theoretical analysis of the physical and mechanical properties of metal and solution and experimental verification of the theoretical results. The theoretical studies showed that the fluorine anion  $F^-$  has the greatest activating capacity of the halogens, followed by  $I^-$ ,  $Br^-$ , and  $Cl^-$ , the most promising being  $I^-$  and  $Br^-$ . It is concluded from the results of the experimental studies that with respect to productivity, stability of electrochemical machining, and surface quality of finished parts, the investigated ions can be arranged in the following conditional series:  $ClO_4^- > Br^- > I^- > F^- > Cl^-$ .

1/1

1/2 015

UNCLASSIFIED

PROCESSING DATE--02OCT70

TITLE--CALCULATING THE SURFACE OF A CATHODE FOR DIMENSIONAL PROCESSING -U-

AUTHOR--(03)-ALEKSEYEV, G.A., VOLKOV, YU.S., MOROZ, I.I.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, STANKI I INSTRUMENT, NO 3, 1970, PP 20-21

DATE PUBLISHED-----70

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

ABSTRACT. A METHOD IS PRESENTED FOR  
CALCULATING THE SURFACE OF THE CATHODE SO AS TO OBTAIN GREATER PRECISION  
IN DIMENSIONAL ELECTROCHEMICAL PROCESSING UNDER STEADY STATE CONDITIONS.

UNCLASSIFIED



USSR

UDC 616.9.036

VOLKOVA, A. A., Institute of Biochemistry and Physiology, Kirghiz Academy of Sciences

"Theory of Natural Foci of Diseases"

Frunze, Izvestiya Akademii Nauk Kirgizskoy SSSR, No 1, 1972, pp 38-45

Abstract: in 1939 the Soviet parasitologist Ye. M. Pavlovskiy proposed the term "diseases with natural foci" for diseases involving a pathogen, reservoir and vector, e.g., tickborne encephalitis, leishmaniasis, tularemia, etc. These and other naturally focal diseases have the following characteristics. Their existence in nature is unrelated to human activity. Other members of the nidus or focus include wild animals (mammals, birds) susceptible to the agent of the disease and blood-sucking insects capable of receiving, preserving, and transmitting the agent, which may occur in the body of vertebrates, in the body of bloodsuckers, or in both at the same time. Bacterial diseases with natural foci include listeriosis, erysipelas, tularemia, pasteurilosis, brucellosis, leptospirosis, anthrax, salmonellosis, and necrobacteriosis. Among the rickettsial and fungus diseases are Q fever and nocardiosis, respectively. Rabies, foot-and-mouth disease, hog cholera, and ornitosis are viral diseases. A brief description is given of each of these diseases, including the source, specific animals involved, geographic range, etc.

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USSR

VOIKOVA, A. A., Academician of the Academy of Sciences Kirgiz SSR, Editor

Infektsionnyye Bolezni Ovets i Voprosy Prirodnoy Ochagovosti (Infectious Diseases of Sheep and Questions of Natural Foci), Frunze, "Ilim," 1971, 119 pp

Translation: Annotation: In this anthology, data are given on the retention of agents of sheep paratyphoid and listeriosis in some species of ticks and on the isolation of pathogenic microbes from wild animals.

A number of articles are devoted to a study of the effect of dibiomycin and ditetracycline on agents of sheep disease, to the results of an investigation of serotypes of coliform bacteria, and to change in the properties of the agent of sheep paratyphoid and its sensitivity to antibiotics. Some questions of combatting contagious ecthyma in newborn lambs and sheep paratyphoid are raised.

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USSR

UDC 617.735-073.97:615.849.19

BOGOSLOVSKIY, A. I., URMAKHER, L. S., VOLKOVA, A. D., ZHDANOV, V. K., and SHAPIRO, Ye. I., Laboratory of Physiological Optics imeni S. V. Kravkov and Moscow Scientific Research Institute of Eye Diseases imeni Helmholtz

"The Laser Electroretinogram"

Moscow, Vestnik Oftal'mologii, No 2, 1973, pp 3-6

Abstract: By applying stimulation of the eye in tolerated doses with radiation at approximately 630nm emitted by a He-Ne laser of type LG-50, pure cone electroretinograms of rabbits and humans were obtained. The output power of the laser was 0.2 mwt and the power at the retina  $\leq$  0.15 mwt. Short stimuli with a duration of 0.02 or 0.4 sec and intervals of 1 min between them were applied. Under conditions of adaptation to a weak source of daylight (illumination at the eye approximately 3 lux), the electroretinograms were due solely to the bioelectric activity of the cones. Under conditions of dark adaptation, the rod apparatus of the retina began to participate in the reaction. Laser electroretinograms of humans were obtained for the first time in the work described. Experiments with ruby and Ar lasers are being conducted at present in an expanded stage of the investigation.

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USSR

BRIKMAN, L. I., TSETLIN, V. M., ROGINSKAYA, YE. YA., ZHUK, YE. B., KLIMEN-  
CHUK, V. I., POZHARSKAYA, YE. B., and VOLKOVA, A. P.

"Composition for the Control of Household Insects Specifically for Cock-  
roaches and Bugs"

USSR Author's Certificate No 251515, filed 1 Dec 70, published 10 Oct 72  
(from RZh-Khimiya, No 19, Oct 73, Abstract No 19N495 P)

Translation: To lower the toxicity of the preparation towards warm-blooded  
animals without lowering its effectiveness against household insects, pyre-  
thrins are added to the aerosol preparation containing  $\gamma$ -GKhTsG [hexachloro-  
cyclohexane -- HCCH]. The composition of such a preparation:  $\gamma$ -HCCH 0.21%,  
DDT 1.89%, pyrethrin extract containing 25% of the active material 0.42%,  
xylene 5.0%, a mixture of freon-12 and freon-11 55%, kerosene up to 100%.

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USSR

UDC 632.95

BRIKMAN, L. I., TSETLIN, V. M., ROGINSKAYA, Ye. Ya., ZHUK, Ye. B., VOLKOVA, A. P., VORONKINA, T. M., KLIMENCHUK, V. I., POZHARSKAYA, Ye. B.

"Compound for Controlling Household Insects"

USSR Author's Certificate No 340384, filed 15 Feb 71, published 23 Jun 72  
(from RZH-Khimiya, No 2 (II), Feb 73, Abstract No 2N486)

Translation: The compound for controlling cockroaches, clones and moths contains the following (in % by weight):  $\gamma$ -hexachlorocyclohexane 0.19%; DDT 1.71%; DDVF 0.6%; xylol 5%; a mixture of  $CF_2Cl_2$  (freon-12) and  $CFC1_3$  (freon-II) 55% and kerosene to 100%.

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NATURAL IMMUNITY IN WORKERS ENGAGED IN DEPARTMENTS DEVOID OF WINDOWS AND SKYLIGHTS

Volkova, A.P.; Kokarev, N.P.

Summary

The authors made an attempt to look into causation and mechanisms underlying the adverse effect on the workers' organism of conditions prevailing in industrial buildings without windows and skylights. With this objective in view natural immunity was studied in 204 practically healthy individuals going work at the machine building plant. Phagocytic and bactericidal blood functions, bactericidal function of the skin, the nature of the dermal and buccal mucosa autoflora were chosen as indicators. The data thus obtained witness that specific working conditions in premises devoid of windows and skylights are conducive to the derangement of natural immunity. Most of the exami-

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