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USSR

UDC 621.394.69:621.316.8(084.8)

ANDREYEV, Yu. N., KVASOV, V. I., SEREDIKA, N. N., LEONTIYEV, A. K., CHIRIKOVA, T. P.

"A Device for Automatically Sorting Resistors into Groups by Ratings"

USSR Author's Certificate No. 258427, Filed 18 Aug 65, Published 16 Apr 70 (from RZh-Radiotekhnika, No 10, Oct 70, Abstract No 10V315 P)

Translation: The proposed device contains a drum type cassette with accumulators arranged in several levels, a loading vibration hopper, transporting mechanisms, guide channels with rotating gates, a measuring unit and an actuating electromagnet. As a distinguishing feature of the patent, the work productivity of the device is increased and sorting precision is improved by utilizing a unit for storing combinations of resistance measurements connected to the transporter drive. This unit is made in the form of a hollow cylinder with movable pins around the periphery in several rows. These pins are connected to electromagnets by means of levers. The electromagnets are connected to the measurement unit and are mounted on the column of a master unit located inside the hollow cylinder. The contacts controlled by the movable pins are connected in the control circuit of the actuating electromagnet.

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1/3 016 UNCLASSIFIED  
TITLE--IS PARAPSYCHOLOGY A SCIENCE -U-

PROCESSING DATE--020CT70

AUTHOR--LEONTYEV, A.N.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, PRIRODA, NO 1, 1970, P 122

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PARAPSYCHOLOGY, TELEPATHY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
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CIRC ACCESSION NO--AP0102691

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PROCESSING DATE--020570

2/3 016

CIRC ACCESSION NO--AP0102691

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. N. PETROV, A TEACHER AT A SECONDARY SCHOOL IN SUNTARSKIY RAYON, YAKUTSK ASSR ASKS: "WHAT ARE THE PROSPECTS FOR PARAPSYCHOLOGY? MY STUDENTS AND I ARE VERY INTERESTED IN THIS NEW SPHERE OF SCIENCE". AT OUR REQUEST, PROFESSOR A. N. LEONTIYEV, ACADEMICIAN OF THE USSR ACADEMY OF PEDAGOGICAL SCIENCES (MOSCOW STATE UNIVERSITY PSYCHOLOGY FACULTY) REPLIES TO N. PETROV'S QUESTION. FIRST OF ALL, PARAPSYCHOLOGY (THE GREEK "PARA" SIGNIFIES "APPROXIMATE") IS IN NO WAY A "NEW AREA OF SCIENCE". PARAPSYCHOLOGY DEVELOPED BACK IN THE LAST CENTURY, AND IN THE EARLY 1880S IN ENGLAND, A SPECIAL ORGANIZATION FOR PARAPSYCHOLOGICAL RESEARCH WAS EVEN CREATED, THE "SOCIETY FOR STUDYING PSYCHIC PHENOMENA". CHARACTERISTIC OF THE HISTORY OF PARAPSYCHOLOGY ARE PERIODS OF ATTRACTION TO IT AND DISILLUSIONMENT IN IT. AND EVEN THE THEORETICAL "SUBSTANTIATION" OF THE "PHENOMENA" DESCRIBED IN PARAPSYCHOLOGY (THE TRANSMISSION OF THOUGHTS OVER A DISTANCE, VISUAL PERCEPTION OF OBJECTS THROUGH AN OPAQUE SCREEN, AND SO FORTH) HAS ALTERED RADICALLY, DEPENDING ON THE WORLD OUTLOOK OF THE OBSERVERS: SOME SPIRITUALISTIC AND EVEN SPIRITUAL INTERPRETATIONS, SOME ATTEMPTS TO UNDERSTAND PARAPSYCHOLOGY FROM PHYSIOLOGICAL AND PSYCHO PHYSIOLOGICAL POSITIONS. CERTAIN OF THE PHENOMENA RELATED TO PARAPSYCHOLOGY IN THE PAST ARE ACTUALLY AN AREA OF SCIENTIFIC KNOWLEDGE. SUCH PHENOMENA INCLUDE, FOR EXAMPLE, SO CALLED "THOUGHT READING," REACTION TO SUBTHRESHOLD, I.E., VERY WEAK, IMPERCEPTIBLE EXCITATIONS, REACTION TO THE EFFECT OF "INADEQUATE" EXCITATIONS, AND, IN PARTICULAR, REACTION OF THE SKIN TO LIGHT, AND OTHERS.

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PROCESSING DATE--02 OCT 70

3/3 016

CIRC ACCESSION NO--AP0102691

ABSTRACT/EXTRACT--ALTHOUGH MANY EFFORTS WERE APPLIED OVER THE COURSE OF A LONG PERIOD OF TIME TO PROVE THE REALITY OF PARAPSYCHOLOGICAL PHENOMENA, NO ONE HAS YET SUCCEEDED IN DOING THIS. AND THE FAILURES HERE ARE ASSOCIATED WITH THE FACT THAT, AS OPPOSED TO PROVED FACTS, SO CALLED METAPSYCHOLOGICAL AND TELEPATHIC PHENOMENA CANNOT BE REPEATED OR IN ANY WAY RELIABLY PREDICTED. THE PROPONENTS OF PARAPSYCHOLOGY USUALLY RELY ON THE FACT THEIR EXPERIMENTS ARE EXTREMELY "CAPRICIOUS" AND SUCCEED ONLY WITH THE EXCEPTIONALLY FAVORABLE COMBINATION OF MANY CIRCUMSTANCES AND ARE POSSIBLE FOR ONLY CERTAIN PEOPLE. ON THE OTHER HAND, ADEQUATELY PLAUSIBLE SCIENTIFIC HYPOTHESES PERMITTING EXPERIMENTAL VERIFICATION HAVE NOT BEEN PROPOSED TO EXPLAIN THE MAJORITY OF THE PARAPSYCHOLOGICAL PHENOMENA. ALL THIS HAS LED TO A SITUATION IN WHICH PARAPSYCHOLOGY HAS NOT ENTERED PSYCHOLOGICAL SCIENCE AND WORK WITH IT HAS NOT BEEN INCLUDED IN THE PROGRAM OF PSYCHOLOGICAL CONGRESSES CONVENED BY THE INTERNATIONAL SCIENTIFIC PSYCHOLOGY UNION. IT MUST BE THOUGHT THAT THE COURSE OF FUTURE RESEARCH BY HUMAN PSYCHICS WILL DEFINE A SUFFICIENTLY PRECISE BOUNDARY SEPARATING SCIENTIFIC PSYCHOLOGICAL, PSYCHOPHYSIOLOGICAL AND BIOPHYSICAL PHENOMENA FROM IMAGINARY, ILLUSORY, OR EVEN FALSIFIED UNCONSCIENTIOUS "EYE WITNESS" ACCOUNTS.

UNCLASSIFIED

USSR

LEONT'YEV, A. N.

Problemy Razvitiya Psikhiki (Problems of the Development of Psychology), Third Edition, Moscow University Press, 1972, 575 pp

Translation: Preface to the Second Edition: The second edition of the book Problemy Razvitiya Psikhiki (Problems of Development of Psychology) differs somewhat from the first. It contains two new papers: "The Biological and the Social in Human Psychology" and "Man and Culture." Papers of a specialized psychological-pedagogic interest have been omitted from this edition, and some papers have been abbreviated somewhat.

All of these changes arose from an effort by the author completely to isolate the central idea of the book -- the idea of the social-historical nature of human psychology. This idea which was first developed in psychology by L. S. Vygotskiy retains its urgency even now. At this time the concepts of the supposedly direct and fatal dependence of the higher psychological processes and capacities of man on his hereditary biological characteristics are still quite widespread. These concepts are not only actively propagated by certain foreign psychological schools. They are also exhibited in unconscious, implicit forms -- in the form of pedagogic and other prejudices reflecting the results

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LEONT'YEV, A. N., Problemy Razvitiya Psikhiki, Third Edition, Moscow University Press, 1972, 575 pp

of the effect of many centuries of inequality of social conditions of the development of man.

If this book helps to combat biologized views of nature and the development of human psychology, the author will consider its main goal fulfilled.

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LEONT'YEV, A. N., Problemy Razvitiya Psikhiki, Third Edition, Moscow University Press, 1972, 575 pp

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USSR

UDC 615.472:615.837.3

LEONT'YEV, A. P., MINCHENKOVA, B. I., and OSIFOV, V. T., All Union Scientific Research Institute of Medical Instrumentation Construction, Moscow

"Emitters for Ultrasound Therapy Apparatus"

Moscow, Meditsinskaya Tekhnika, No 5, Sep/Oct 73, pp 21-25

Abstract: Four types of ultrasound emitters have been developed -- two of the pencil type and two with side emitting surfaces. These emitters are highly effective, capable of operating for a long time at an intensity of 5 w/cm<sup>2</sup> without noticeable overheating of the emitting surface. They are primarily designed for a serial ultrasound therapeutic apparatus "Ultrasound T-5." The use of piezotransformers with face surfaces makes it possible to get away from the overlaid protective elements, thus improving the utilization characteristics of these emitters making them suitable for the use in internal cavities.

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USSR

UDC 669.15:194.66.046

TUYAKHOV, V. N., SOKOLOV, K. N., LEONIT'YEV, B. A., and PAYNEBRO, V. B.  
(deceased)

"Effect of Annealing System on the Structure and Properties of O8kp Steel"

Metallurgicheskaya i Gornorudnaya Promyshlennost', No 2, 1971, pp 29-30

Abstract: The effect of the heating rate and annealing temperature on the properties of O8kp steel were studied. The heating rate had little effect on the structure and mechanical properties of the steel. Optimum annealing temperature was 700°C; at temperatures above 725°C, strength characteristics improved, but perlite structures appeared and an increase in the difference in grain size was noted. A maximum change in structure and mechanical properties was observed during the first three hours of exposure to 700°C. Increased cooling velocities after annealing increased the stability characteristics, but had no substantial effect on the size of the ferrite granules and the separation character of the structurally free iron carbide.

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USSR

UDC: 669.71.053.21

LEONT'YEV, L. I., MATYASH, V. G., DAVYDOV, A. D., KASHIN, V. V., UTKOV,  
V. A., IVANOVA, S. V.

"Reducibility of Highly Basic Bauxite Sinters"

Vosstanovimost' Vysokoosnovnykh Boksitovykh Aglomeratov [English version above], Sverdlovsk, 1973, 9 pp (Translated From Referativnyy Zhurnal Metal-lurgiya, No 8, 1973, Abstract No 8G155DEP, by the authors).

Translation: The extraction of moist limestone from blast furnace charges significantly improves the technical and economic indicators of the blast furnace process. The possibility is demonstrated of producing a bauxite sinter with basicity 6.0, allowing complete elimination of limestone in the process of blast furnace melting of bauxites, in order to produce a slag which can be used for the production of  $Al_2O_3$ . The peculiarities of the reduction of the sinter of various compositions under equilibrium and kinetic conditions are studied. Reduction of bauxite sinter with basicity 1.3-6.0 under kinetic and equilibrium conditions has shown that as the basicity increases, reducibility improves. This agrees with the nature of the change of phase composition of sinters: as basicity increases, the content of difficultly reducible

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USSR

Leont'yev, L. I., Matyash, V. G., Davydov, A. D., Kashin, V. V. Utkov, V. A.,  
Ivanova, S. V., Vosstanovimost' Vysokoosnovnykh Boksitovykh Aglomeratov,  
Sverdlovsk, 1973, 9 pp.

hercynite decreases, while the share of more easily reducible ferrites and  
aluminoferrites of Ca increases.

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USSR

UDC 669.71.055.24

KISELEV, V. A., MIRONOV, B. I., LEONT'YEV, I. I., KUDINOV, B. Z.

"Influence of Composition and Cooling Rate of Aluminum-Calcium Slag on Its Friability"

Tr. In-ta Metallurgii. Ural'sk. Fil. An SSSR [Works of Institute of Metallurgy, Urals Affiliate, Academy of Sciences, USSR], 1970, No. 22, pp. 34-40. (Translated from Referativnyy Zhurnal Metallurgiya, No. 5, 1971, Abstract No. 5 G128 by S. Krivonosova).

Translation: The friability of slags (III) improves with decreasing cooling rate and as the compositions of the III move away from the boundaries of the area of primary crystallization of  $(CaO)_2 \cdot SiO_2$  and worsens with increasing Si-modulus. The most promising are III with Si-modulus  $< 2.85-3$ , the compositions of which lie within or near the phase triangle  $12CaO \cdot 7Al_2O_3 - 2CaO \cdot SiO_2 - CaO \cdot Al_2O_3$ . The cooling rate has less influence than chemical composition on the granulometric composition of slaked III. 2 figs; 2 tables.

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USSR

UDC 669.71.053.4

KOZHEVNIKOV, G. N., KUDINOV, B. Z., LEONT'YEV, L. I., HUBOTOLKOV, G. P.,  
KISELEV, V. A.

"Effect of Composition and Cooling Rate of Aluminum-Calcium Slags on Alumina  
Extraction"

Tr. In-ta metallurgii. Ural'sk. fil. AN SSSR (Works of the Metallurgy Insti-  
tute. Urals Branch of the USSR Academy of Sciences), 1970, vyp. 22, pp 41-45  
(from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G130)

Translation: In order to obtain slags with high technological qualities it is  
necessary to realize the process of reduction of the initial raw material so  
that the slags will have the following characteristics: Si-modulus 1.5-3.0 and  
Ca-modulus 1.5-1.55. From these slags it is possible to extract more than 90%  
Al<sub>2</sub>O<sub>3</sub> with soda leaching independently of the cooling rate of the slags.

There are 4 illustrations and 2 tables.

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USSR

UDC 632.95

LESHINSKAYA, L. I., NOVIKOVA, K. F.

"Separational Analysis of Residual Amounts of Methylnitrophos Isomers in Apples and Water by the Colorimetric Method"

Tr. 2-go Vses. soveshch. po issled. ostatkov pestitsidov i profilakt. zashchazh-  
neniya imi produktov pitaniya, kormov i vnesh. sredy (Works of the Second All-  
Union Conference on the Investigation of Pesticide Residues and Preventive  
Contamination of Food Products, Fodder and Environment), Tallin, 1971, pp 290-  
294 (from RZh-Khimiya, No 12, Jun 72, Abstract No 12N033)

Translation: It was demonstrated that when analyzing the methylnitrophos (I) residues in apples for a sanitary-hygienic evaluation of their quality it is possible to use the colorimetric analysis of I with respect to the sum of the isomers. For correct analysis of I in water, the isomers of I must be analyzed separately.

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Acc. No.: AN0104552

Ref. Code: UR9003

AUTHORS-- LEONT, YEV. M., AND PROKOF, YEV. A., ENGINEERS

TITLE-- THE OCEAN LISTENS TO ASTRONAUTS

NEWSPAPER-- IZVESTIYA, JUNE 6, 1970, P 5, COLS 1-5

ABSTRACT-- THE ARTICLE REPORTS THAT THE SOVIET FLEET THAT MONITORS SPACE FLIGHTS IS UNDER THE DIRECTION OF IVAN DMITRIYEVICH PARAMIN. IT CONSISTS OF THE FOLLOWING VESSELS-- THE "NEVEL", THE "MEGOSTROV", THE "MORZHOVETS", THE "DOLINSK", THE "RISTMA", THE "BEZHITSA", AND THE "BOROVICHI". THE FLAGSHIP OF THE FLEET IS THE "KOSMONAVT VLADIMIR KOMAROV", A RESEARCH SHIP OF THE ACADEMY OF SCIENCES.

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REEL/FRAME

19871186



1/4 043 UNCLASSIFIED PROCESSING DATE--21NOV70  
TITLE--TENTH INTERDEPARTMENTAL CONFERENCE ON AERIAL SURVEYING -U-  
AUTHOR--LEONTYEV, N.F.  
COUNTRY OF INFO--USSR  
SOURCE--MOSCOW, IZVESTIYA AKADEMII NAUK SSSR, SERIYA GEOGRAFICHESKAYA, NO  
3, 1970, PP 131-133  
DATE PUBLISHED-----70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, BEHAVIORAL AND SOCIAL  
SCIENCES  
TOPIC TAGS--AERIAL PHOTOGRAPHY, PHOTOGRAMMETRY, GEOLOGY, GEOPHYSICS,  
SURVEYING INSTRUMENT, SPACEBORNE EARTH PHOTOGRAPHY, CONFERENCE, MAPPING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--3008/0734 STEP NO--UR/90677/0/000/003/0131/0133

CIRC ACCESSION NO--AP0137803

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2/4 043

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CIRC ACCESSION NO--AP0137803

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TENTH INTERDEPARTMENTAL CONFERENCE ON AERIAL SURVEYING WAS HELD IN LENINGRAD DURING THE PERIOD 18-22 NOVEMBER 1969. THE CONFERENCE WAS ATTENDED BY MORE THAN 700 PERSONS, REPRESENTATIVES OF ALMOST 200 ORGANIZATIONS FROM 67 CITIES. IN ADDITION TO THE PLENARY SESSIONS, SIX SECTIONS OPERATED: 1) AERIAL MAPPING, 2) PHOTOGRAMMETRIC, 3) GEOLOGICAL, 4) GEOGRAPHICAL, 5) SPACE, 6) GEOPHYSICAL. A TOTAL OF 179 REPORTS AND COMMUNICATIONS WERE PRESENTED. ALL THE REPORTS FELL INTO TWO GROUPS: THE FIRST GROUP (40 PERCENT) INCLUDED REPORTS AND COMMUNICATIONS OF A TECHNICAL NATURE WHICH DEALT WITH VARIOUS CURRENT PROBLEMS IN AERIAL SURVEYING, PHOTOGRAMMETRY, MEASUREMENT METHODS AND INSTRUMENT MAKING. THE SECOND GROUP (60 PERCENT) INCLUDED REPORTS OF A SCIENTIFIC METHODOLOGICAL NATURE: THEY DEALT WITH THE USE OF AERIAL METHODS IN DIFFERENT BRANCHES OF KNOWLEDGE ASSOCIATED WITH STUDY OF NATURAL CONDITIONS AND NATURAL RESOURCES. IN THE SECOND GROUP MOST REPORTS DEALT WITH THE USE OF AERIAL METHODS IN GEOGRAPHICAL STUDIES (LANDSCAPE, GEOBOTANICAL, GEOMORPHOLOGICAL, SOILS, FORESTRY, ETC.) AND 33 PERCENT DEALT WITH USE OF AERIAL METHODS IN GEOLOGICAL STUDIES; 23 PERCENT DEALT WITH THE USE OF AERIAL METHODS IN GEOPHYSICS. THE POSSIBILITIES OF USING AERIAL METHODS IN THE EARTH SCIENCES WERE EXAMINED AT THREE LEVELS. THE FIRST IS THE POSSIBILITY OF USING AN ORDINARY AERIAL SURVEY IN SOLVING LARGE SCALE GEOLOGICAL GEOGRAPHICAL PROBLEMS: LARGE SCALE MAPPING, COMPLEX BRANCH INTERPRETATION, ASSOCIATED WITH STUDY OF LOWER TACONOMIC LANDSCAPE UNITS, STUDY OF SEASONAL ASPECTS OF THE LANDSCAPE, ETC.

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CIRC ACCESSION NO--AP0137803  
ABSTRACT/EXTRACT--THE SECOND

LEVEL DEALT WITH THE POSSIBILITIES OF HIGH LEVEL SERIAL SURVEYS WHICH ARE AFFORDED DUE TO PROGRESS IN THE AVIATION AND ROCKETRY FIELDS. A HIGH LEVEL AERIAL SURVEY IS A SORT OF TRANSITIONAL STAGE FROM AN ORDINARY AERIAL SURVEY TO SURVEYS FROM SPACE.

THE THIRD LEVEL HAS APPEARED DUE TO PROGRESS IN ROCKETRY AND SPACE SCIENCE. THIS WAS THE FIRST TIME THAT A SPACE SECTION OPERATED AT THE CONFERENCE. REPORTS BY G. B. GONIN AND B. N. RODIONOV ("PRINCIPAL DIRECTIONS IN RESEARCH FROM SPACE"), G. B. GONIN, A. I. VINOGRADOV, ET AL. ("GEOLOGICAL GEOGRAPHICAL RESEARCH FROM SPACE AND PROSPECTS FOR ITS DEVELOPMENT IN THE COMING YEARS"), B. V. VINOGRADOV AND A. A. GRIGORIYEV ("RESULTS OF A COMPLEX GEOLOGICAL GEOGRAPHICAL INTERPRETATION OF SPACE PHOTOGRAPHS AND TELEVISION IMAGES OF THE EARTH OBTAINED IN THE USSR"), AND SOME OTHERS DISCUSSED THE WAYS AND MEANS FOR USING SPACE PHOTOGRAPHIC IMAGES FOR OBTAINING DATA ON THE GEOLOGICAL GEOGRAPHICAL CHARACTERISTICS OF STRUCTURE OF THE EARTH'S SURFACE AND THE POSSIBILITIES OF THIS METHOD IN DEVELOPMENT OF THE EARTH SCIENCES. IT IS BECOMING INCREASINGLY OBVIOUS THAT THERE IS A NONCORRESPONDENCE BETWEEN THE RAPIDITY OF OBTAINING AN AERIAL PHOTOGRAPHIC IMAGE AND THE LONG TIME REQUIRED FOR PROCESSING AERIAL PHOTOGRAPHS. IN CLOSING THE TIME GAP IT IS IMPORTANT TO PUT EMPHASIS ON MATHEMATICAL INTERPRETATION METHODS AND THE DEVELOPMENT OF NEW INSTRUMENTS FOR THE PHOTOGRAMMETRIC AND PHOTOMETRIC PROCESSING OF AERIAL PHOTOGRAPHS.

UNCLASSIFIED

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PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0137803

ABSTRACT/EXTRACT--SMALL SCALE GLOBAL PHOTOGRAPHS WILL BE USED PRIMARILY IN  
NATURAL REGIONALIZATION OF LARGE AREAS, FOR INTERPRETING DIFFERENT TYPES  
OF TECTONIC STRUCTURES AND THE GEOLOGICAL STRUCTURE OF AN AREA, AND FOR  
CHECKING THE CONTENT OF SMALL SCALE MAPS AND THEIR GENERALIZATION.  
FACILITY: GEOGRAPHY INSTITUTE.

UNCLASSIFIED

ELECTRONICS  
Amplifiers

USSR

UDC 621.375.2.029.63

LEONT'YEV, N. I., TIMOSHENKO, A. P., UDOVICHENKO, Yu. K.

"On the Problem of Developing a Power Amplifier Based on Plasma-Beam System"

Moscow, Radiotekhnika i Elektronika, Vol 16, No 7, Jul 71, pp 1298-1299

Abstract: A system based on interaction between a plasma and an electron beam is considered. It is shown that such a system can be used as the basis for a power amplifier on frequencies of 1150-1550 MHz. In order to increase the frequency range of an amplifier based on interaction between a modulated electron beam and a plasma, the plasma parameters must be changed in such a way that the system with unmodulated beam has a wide natural emission band. This can be achieved by changing the diameter of the electron beam, the geometry of the system and the parameters of the plasma. The authors thank V. G. Moshichenko and N. V. Aleksandrov for making the modulator attachment.

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USSR

None

LEONT'YEV, N. I., TIMOSHENKO, A. P., and UDQVICHENKO, Yu. K.

"Nonlinear Stabilization of Beam Disturbances"

Moscow, Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol. 59, No. 9, 1970, pp 649-653

Abstract: The degree of stabilization of an electron beam and the electron distribution function in the dynamics of a high-frequency oscillation attenuation process are investigated. The experimental apparatus was described in an earlier article by the same authors (ZhTF, 40, 1970, p 942). A beam of electrons with an energy of 10 keV and a current of up to 4 A was introduced into a plasma chamber 40 cm long and 3.7 cm in diameter in a uniformly constant magnetic field intensity of 2500 oersted. The diameter of the beam was 1 cm and the duration of the current pulse 7.5  $\mu$ s. The plasma density, allowed to vary from zero to  $10^{18}/\text{cm}^3$ , was measured with two electric probes and by the charge-space wave

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LEONT'YEV, N. I., et al, Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki.  
Vol 59, No. 9, 1970, pp 649-653

method. Concluding that the attenuation of the oscillations in the electron beam and its consequent stabilization are explained by pair collisions and nonlinear effects, in the framework of the existing theory, the authors express their gratitude to V. N. Tsytovich and V. G. Makhan'kov for their valuable comments.

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1/2 017 UNCLASSIFIED PROCESSING DATE--13NGV70  
 TITLE--TRANSISTORIZED CONVERTER FOR AUTOMATIC CHARGING OF SILVER CADMIUM  
 STORAGE BATTERIES -U-  
 AUTHOR--(04)-VENEKTOV, YU.P., LEONTYEV, N.I., REPIN, O.M., SAYAUKOV, V.N.  
 COUNTRY OF INFO--USSR  
 SOURCE--ELEKTRICHESTVO (ELECTRICITY), 1970, NO 1, PP 12-83  
 DATE PUBLISHED-----70  
 SUBJECT AREAS--ENERGY CONVERSION (NON-PROPULSIVE)  
 TOPIC TAGS--ELECTROMECHANIC CONVERTER, TRANSISTORIZED GENERATOR, BATTERY  
 CHARGER, STORAGE BATTERY(U)245K 100 SILVER CADMIUM BATTERY  
 CONTROL MARKING--NO RESTRICTIONS  
 DOCUMENT CLASS--UNCLASSIFIED  
 PROXY REEL/FRAHE--3004/0260 STEP NO--UR/0105/70/009/001/0082/0083  
 CIRC ACCESSION NO--AP0130992  
 UNCLASSIFIED



2/2 017

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0130992

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE BLOCK DIAGRAM IS PRESENTED OF A TRANSISTORIZED 1.5 KW CONVERTER WITH AN EFFICIENCY OF 85PERCENT WHICH IS USED FOR SIMULTANEOUS CHARGING OF TWO TYPE 24SK-100 STORAGE BATTERIES. THE CONVERTER HAS AN OUTPUT VOLTAGE STABILIZING CIRCUIT WHICH OPERATES ON THE PULSE WIDTH MODULATION PRINCIPLE. PROVISIONS ARE MADE FOR AUTOMATIC SELECTION OF THE CHARGING REGIME CORRESPONDING TO THE DEGREE OF DISCHARGE OF THE BATTERY AND FOR PROTECTION AGAINST CONVERTER OVERLOADING. SOME CHARACTERISTIC FEATURES OF THE CHARGING OF SILVER CADMIUM BATTERIES ARE EXAMINED. EXPERIMENTAL CHARACTERISTICS OF THE CONVERTER ARE GIVEN.

UNCLASSIFIED

1/2 006 UNCLASSIFIED PROCESSING DATE--02OCT70  
TITLE--THE CENOZOIC MESOZOIC SEA LEVEL VARIATIONS OF THE WORLD OCEAN -U-  
AUTHOR--LEONTYEV, O.K.  
COUNTRY OF INFO--USSR  
SOURCE--OKEANOLOGIYA, 1970, VOL 10, NR 2, PP 276-286  
DATE PUBLISHED-----70  
  
SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY  
TOPIC TAGS--SEA LEVEL, OCEAN, EARTH MANTLE, CENOZOIC ERA, MESOZOIC ERA,  
GEOLOGIC TIME  
  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1990/1382 STEP NO--UR/0213/70/010/002/0276/0286  
CIRC ACCESSION NO--AP0109453  
UNCLASSIFIED

2/2 006

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0109453

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BASED ON THE CONCEPTS OF THE FORMATION OF THE UPPER EARTH'S SPHERES AS A RESULT OF THE DIFFERENTIATION OF THE MANTLE'S SUBSTANCE AND THE RELATIVELY UNIFORM (FOR LONG PERIODS OF TIME) WATER SUPPLY ONTO THE EARTH'S SURFACE, THE POSSIBLE SEA LEVEL CHANGES OF THE WORLD OCEAN IN THE CENOZOIC-MESOZOIC ERA ARE ESTIMATED. SUCH FACTORS AS THE ACCUMULATION OF SEDIMENTS AND VOLCANOGENIC PRODUCTS ON THE OCEAN FLOOR, THE UPLIFT OF UNDERWATER RIDGES, AS ALSO THE REPLACEMENTS OF WATER FROM THE TETHYS GEOSYNCLINAL BASINS WITH THE COMPLETED MARINE DEVELOPMENT AND SINKING OF THE OCEAN FLOOR PECULIAR TO THE CENOZOIC TIME (FROM THE DATA YIELDED BY DRILLING ON CORAL REEFS) ARE TAKEN INTO ACCOUNT. THE FOLLOWING SUCCESSION OF THE SEA LEVEL CHANGES HAS BEEN ESTABLISHED: THE SEA LEVEL MARK WAS MINUS 50 M IN THE EARLY MESOZOIC TIME, THAT IN THE LATE CRETACEOUS WAS PLUS 350 M, IN THE LATE PLIOCENE PLUS 10 M, AND DURING THE MAXIMUM GLACIATION IN THE PLEISTOCENE MINUS 110 M. THE PALEOGENE-NEOGENE SEA LEVEL LOWERING IS ATTRIBUTED TO THE INTENSIFIED SINKING OF THE OCEAN FLOOR. THE EFFECT OF THIS SINKING FOR THE TERTIARY WAS MUCH GREATER THAN THE EFFECT PRODUCED BY THE FACTORS OF THE SEA LEVEL RISE (WATER SUPPLY FROM THE MANTLE, SEDIMENTATION, GROWTH OF THE MID OCEAN RIDGES). A WIDE DEVELOPMENT OF THE SHELF SEAS DURING THE MESOZOIC INDICATES THAT THE OCEAN FLOOR SINKING IN THE MESOZOIC WAS FAR LESS INTENSIVE THAN IN THE PALEOGENE NEOGENE. FACILITY: MOSKOVSKIY GOSUDARSTVENNYY UNIVERSITET IM. M. V. LOMONOSOVA GEOGRAFICHESKIY FAKUL'TET.

UNCLASSIFIED

1/2 013 UNCLASSIFIED PROCESSING DATE--23OCT70  
 TITLE--CHROMATOGRAPHIC RETENTION VALUES OF UNSATURATED HYDROCARBONS AS  
 DEPENDENT ON PHYSICAL PROPERTIES AND ELECTRON STRUCTURE --U-  
 AUTHOR--(021)-LEONTYEVA, S.A., LULOVA, N.I.  
 COUNTRY OF INFO--USSR  
 SOURCE--NEFTEKHIMIYA 1970, 10(1), 126-36  
 DATE PUBLISHED-----70  
 SUBJECT AREAS--CHEMISTRY  
 TOPIC TAGS--CHROMATOGRAPHY, UNSATURATED HYDROCARBON, ELECTRON STRUCTURE,  
 MOLECULAR INTERACTION  
 CONTROL MARKING--NO RESTRICTIONS  
 DOCUMENT CLASS--UNCLASSIFIED  
 PROXY REEL/FRAME--1997/0577 STEP NO--UR/0204/70/014/001/0125/0134  
 CIRC ACCESSION NO--AP0119495  
 UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--23OCT70

2/2 013

CIRC ACCESSION NO--AP0119495

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RELATION OF THE RETENTION VALUES OF ALICYCLIC OLEFINS ON THE STERIC EFFECTS IN THEIR MOLS. WAS INVESTIGATED. THE SUGGESTION WAS MADE THAT THE CHARACTER OF THE STERIC EFFECT MIGHT BE EXPRESSED BY THE NO. OF INTRAMOL. PAIR INTERACTIONS BETWEEN NEAR BUT NOT DIRECTLY LINKED ATOMS (GEMINAL H ATOMS). AN EQUATION WAS DERIVED FOR CALCN. OF THE RETENTION INDEXES OF ISOMERIC OLEFINS FROM THEIR STRUCTURAL FORMULAS. THE POLARITIES OF UNSATD. HYDROCARBONS DEPEND ON THE SYMMETRY OF THE SUBSTITUENT DISTRIBUTIONS OF THE DOUBLE BOND AND ON THE POS. INDUCTIVE EFFECT OF THE SUBSTITUENTS. THE RELATION BETWEEN THE RETENTION VALUE,  $D_r$ , AND  $n$  SUBD WAS DETD. FOR ISOMETIC OLEFINS. EXAMPLES SHOW THE RELATIONS BETWEEN THE CHROMATOG. AND CHEM. BEHAVIOR OF UNSATD. COMPOS. FACILITY: VSES.

NAUCH.-ISSLED. INST. PERERAB. NEFTI, MOSCON, USSR.

UNCLASSIFIED

1/2 013 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--HOLMIUM SESQUIOXIDE, NIOBIUM PENTOXIDE SYSTEM -U-  
AUTHOR--(03)-KRYLOV, YE.I., KRIVONOSOV, L.B., LEONTYEV, S.A.  
COUNTRY OF INFO--USSR  
SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(1), 40-9  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--NIOBIUM OXIDE, HOLMIUM COMPOUND, RARE EARTH COMPOUND, X RAY  
DIFFRACTION  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1996/0849 STEP NO--UR/0363/70/006/001/0046/0049  
CIRC ACCESSION NO--AP0118025  
UNCLASSIFIED

2/2 013  
CIRC ACCESSION NO--AP0118025

UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0-- ABSTRACT. X RAY DIFFRACTION AND CRYSTALLOCHEM. INVESTIGATIONS OF THE TITLE SYSTEM WERE PERFORMED; THE DEPENDENCE OF THE SP. ELEC. RESISTIVITY ON THE TEMP. IS ALSO DESCRIBED. THE PRESENCE OF THE COMPD. HO SUB3 N80 SUB7 WITH A CUBIC FLUORITE STRUCTURE (ALPHA EQUALS 5.23 ANGSTROM) AND OF HON80 SUB7 WITH THE MONOCLINIC FERGUSONITE STRUCTURE (ALPHA EQUALS 5.049, B EQUALS 10.902, C EQUALS 5.240 ANGSTROM, AND BETA EQUALS 94DEGREES 30 PRIME) WAS OBSD. THE FORMATION OF HO SUB3-N80 SUB7 IS ATTRIBUTED TO THE CLOSENESS BETWEEN THE FLUORITE AND THE PYROCHLORE STRUCTURES AND THE C TYPE CUBIC STRUCTURE OF RARE EARTH OXIDES. THE HOMOGENEITY REGION OF THE HON80 SUB4 PHASE IS VERY SMALL. AT ROOM TEMP., THE RESISTIVITY VALUES OF THE ORDER OF 10 PRIME11-10 PRIME13 OHM CM WERE FOUND FOR COMPS. OF SEVERAL COMPS. WITH INCREASING TEMP., THE SP. RESISTIVITY OF THE SAMPLES SHARPLY DECREASES, ATTAINING VALUES OF THE ORDER OF 10 PRIME6 OHM CM FOR 3:1 AND 1:3 COMPS. AT 600DEGREES, THE PRESENCE OF A NEG. TEMP. COEFF. OF THE RESISTIVITY IN SOME TEMP. REGIONS IS A CHARACTERISTIC OF SEMICONDUCTORS. THE NEG. VALUE OF THE COEFF. IS CAUSED BY THE EXCITATION OF ELECTRONS FROM CERTAIN SOURCES, THE NATURE OF WHICH IS DISCLOSED IN THE ENERGY BANDS MODEL, AS BASED ON THE QUANTUM THEORY OF SOLIDS. FACILITY: URAL. POLITEKH. INST. IN. KIROVA. SVERDLOVSK, USSR.

UNCLASSIFIED

USSR

UDC 51

LEONT'YEV, V. A.

"Construction on a Given Point Set of a Hamiltonian Cycle Close to the Shortest in Length"

V sb. Aktual'n. vopr. tekhn. kibernetiki (Urgent Questions in Technical Cybernetics -- Collection of Works), Moscow, "Nauka," 1972, pp 244-249 (from KZh-Matematika, No 3, Mar 73, Abstract No 3V543 from author's abstract)

Translation: The article considers an algorithm for obtaining a Hamiltonian cycle close to the shortest in length on a finite, complete, symmetric graph. The algorithm consists of two stages, in the first of which convex or non-strictly convex polyhedra whose vertices are nodes of the graph are constructed, with each succeeding polyhedron in the construction being enclosed inside the preceding one. In the second stage the polyhedra are combined successively in pairs (or all at once) into a Hamiltonian cycle by minimizing the total length.

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USSR

UDC: 621.396.67.012.12.095.111

VAYNER, Yu. A., VAYSBERG, A. I., LEONT'YEV, V. A., PODLIPALIN, V. I.

"On Changing the Radiation Pattern in the Horizontal Plane for Overhead Antennas"

Tr. Novosib. elektrotekhn. in-ta (Works of the Novosibirsk Electrical Engineering Institute), 1970, vyp. 2, kn. 1, pp 18-22 (from RZh-Radiotekhnika, No 6, Jun 70, Abstract No 635)

Translation: The authors consider the effect of the mirror image of an antenna on its radiation pattern above the plane of the uniform earth, and the errors introduced by this image in measurements of the radiation pattern. It is shown that distortions in the principal maximum may be slight; however, the side lobes may be subjected to considerable interference distortions since the amplitudes of the side lobes in the directional patterns of the forward and reflected beams are approximately identical. Therefore antennas should be raised to a sufficient height in measuring the level of the side lobes under free-space conditions, and the antenna and observation point should be separated by a known distance when measuring this level where the ground is present. Two illustrations, bibliography of one title. N. S.

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USSR

UDC 539.194.536.27

YUNUSOV, T. K., LEONT'YEV, V. B., KAMAYEV, F. G., ASLANOV, KH. A., SADYKOV, A. S., Tashkent Order of the Red Banner of Labor State University imeni V. I. Lenin

"Conformational Conversions of Lupinin and Tropin Alkaloids During the Formation of N-Oxides"

Tashkent, Khimiya Prirodnykh Soyedinskiy, No 4, 1972, pp 477-483

Abstract: Experiments were performed in which N-oxides of lupinin and tropin were obtained under light conditions by mixing the initial bases with 5%  $H_2O_2$  at room temperature. Lupinin forms two isomeric N-oxides the separation of which is realized by solubility, and the individuality is checked by chromatography on a thin layer of  $Al_2O_3$  (the benzene-ether-methanol system, 5:2:1).

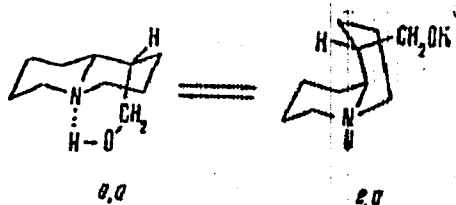
The infrared, mass and paramagnetic resonance spectral data indicate that the first isomer  $N \rightarrow O$  of lupinin has trans-conformation with a, a  $N \rightarrow O$ , the axial- $CH_2OH$  group with an intramolecular hydrogen bond between  $\rightarrow N \rightarrow O$   $CH_2OH$ , and the second isomer, cis-conformation with a, e  $N \rightarrow O$ , axial  $CH_2OH$

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USSR

YUNUSOV, T. K., et al., Khimiya Prirodnikh Soyedineniy, No 4, 1972, pp 477-483

and with an intramolecular hydrogen bond between  $>N-H$  and the  $CH_2OH$  fragments:



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USSR

UDC 621.373:535

LEONT'YEV, V. G., OSTAPCHENKO, Ye. P., and SEDOV, G. S.

"Optimal Generating Conditions for a Helium-Neon Axial-TEM<sub>00</sub>-Mode Laser"

Leningrad, Optika i Spektroskopiya, Vol 32, No 4, April 72, pp 795-797

Abstract: The authors undertook to study optimal conditions for the excitation of a helium-neon axial-mode laser with a laser wavelength of 0.63 micron, as well as to find their relation to the parameter of resonator nonconfocality. The results indicate that the optimal excitation conditions differ from those for a multimode laser. The maximum total mixture pressure and pumping current correspond to a multimode condition, the minimum to an axial-mode laser with a strongly confocal resonator ( $L/R = 0.1$ ). The optimal excitation conditions are related to the configuration of the resonator radiation field.

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1/2 014 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--EXISTENCE OF A PLACENTAL BARRIER FOR CESIUM-137 --U--  
AUTHOR--(04)--BAKLANOVA, S.M., BUROVINA, I.V., LEONTYEV, V.G., SKULSKIY,  
I.A.  
COUNTRY OF INFO--USSR  
SOURCE--RADIOBIOLOGIYA 1970, 10(1), 141-4  
DATE PUBLISHED--70  
  
SUBJECT AREAS--NUCLEAR SCIENCE AND TECHNOLOGY, BIOLOGICAL AND MEDICAL  
SCIENCES  
TOPIC TAGS--CESIUM ISOTOPE, HEART MUSCLE, WHITE RAT, GUINEA PIG, PLACENTAL  
TRANSPORT  
  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3001/1836 STEP NO--UR/0205/70/010/001/0141/0144  
CIRC ACCESSION NO--AP0127246  
UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0127246

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TISSUES OF THE GASTROCNEMIUM MUSCLE AND HEART OF NEWBORN, 8 AND 21 DAY OLD, AND ADULT WHITE RATS, AND SKELETAL MUSCLE TISSUES OF NEWBORN, AND ADULT GUINEA PIGS, WERE STUDIED. DIFFERENCES IN THE CONTENT OF THE ALKALI ELEMENTS IN THE TISSUES DEPENDED ON THE DEGREE OF FUNCTIONAL MATURITY OF THE TISSUES AND WAS NA LARGER THAN K LARGER THAN RB LARGER THAN CS. THE ION SELECTIVE PROPERTIES OF THE TISSUES, ESP. DURING ONTOGENESIS DETD. THE PRIME137 CS DISTRIBUTION BETWEEN THE MOTHER AND OFFSPRING. FACILITY: INST. EVOL. FIZIOL. BIOKHM. IM. SECHENOVA, LENINGRAD, USSR.

UNCLASSIFIED

1/2 G30 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--CHANGES IN THE DISTRIBUTION OF ALKALINE ELEMENTS IN ORGANS AND  
TISSUES IN ONTOGENETIC DEVELOPMENT OF GUINEA PIG AND ALBINO RAT --U-  
AUTHOR--(04)--SKULSKIY, I.A., BAKLANOVA, S.M., BUDOVINA, I.V., LEONTYEV,  
V.G.  
COUNTRY OF INFO--USSR  
SOURCE--ZHURNAL EVOLYUTSIONNOY BIOKHIMII I FIZIOLOGII 1970, VOL 6, NR 1,  
PP 3-11  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--ALKALI METAL, SODIUM, POTASSIUM, LIVER, HEART MUSCLE,  
RUBIDIUM, LIPID, GUINEA PIG, RAT, BRAIN, CESIUM  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3005/0385 STEP NO--UR/0385/70/006/001/0003/0011  
CIRC ACCESSION NO--AP0132614  
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--11NOV70

2/2 030

CIRC ACCESSION NO--AP0132614

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE GENERAL PATTERN OF THE DISTRIBUTION OF ALKALINE ELEMENTS IN ORGANS AND TISSUES WHICH IS REVEALED IN COMPARATIVE STUDIES ON VERTEBRATES, IS ALSO FOUND AT EARLY POSTNATAL STAGES OF MAMMALS. THESE FEATURES INCLUDE RELATIVELY CONSTANT VALUES OF NA:K RATIO IN THE LIVER AND CARDIAC MUSCLE, ELEVATED SELECTIVITY OF HEPATIC CELLS TO RUBIDIUM IONS, POSITIVE CORRELATION BETWEEN THE CONTENT OF LIPIDS AND SODIUM IN TISSUES. FORMERLY OBSERVED DIFFERENCES IN THE DISTRIBUTION OF ALKALINE ELEMENTS IN TISSUES OF ANIMALS FROM DIFFERENT CLASSES OF VERTEBRATES ARE FOUND SIMILARLY DURING ONTOGENETIC DEVELOPMENT OF GUINEA PIG AND RAT. DURING THE DEVELOPMENT OF FUNCTIONAL ACTIVITY OF MUSCLE TISSUE THE RATIO NA:K DECREASES. DIFFERENCES BETWEEN THE BRAIN AND OTHER TISSUES WITH RESPECT TO THEIR RUBIDIUM AND ESPECIALLY CAESIUM CONTENTS INCREASE. THIS PROCESS IS PRESUMABLY DUE TO THE INCREASE IN THE GLIAL MOLLITY OF THE BRAIN WHICH IS RICH IN SODIUM AND LOW IN RUBIDIUM AND CAESIUM. FACILITY: INSTITUTE OF EVOLUTIONARY PHYSIOLOGY AND BIOCHEMISTRY, USSR ACADEMY OF SCIENCES, LENINGRAD.

UNCLASSIFIED



USSR

UDC 51:621.391

LEONT'YEV, V. K."Asymptotic Stable Placement of Charges at Points of a Unit  $n$ -Dimensional Cube"

Probl. Kibernetiki [Problems of Cybernetics -- Collection of Works], No 23, Moscow, Nauka Press, 1970, pp 27-42, (Translated from Referativnyy Zhurnal, Kibernetika, No 6, 1971, Abstract No 6 V407 by G. Blokhina).

Translation: Suppose  $E^n$  is the set of all binary sequences of length  $n$  and  $M = \{A_1, A_2, \dots, A_s\}$  is an arbitrary subset of set  $E^n$  (the  $s$ -subset). The quantity  $H(M) = \sum_{1 \leq i < j \leq s} \frac{1}{\rho(A_i, A_j)}$  is studied, where  $\rho(A_i, A_j)$  is the Hamming separation in  $E^n$  (energy of set  $M$ ). It is noted that S. V. Yablonskiy stated the problem of determination of the  $s$ -subset  $M \subseteq E^n$  in which the minimum of the functional  $H(M)$  is achieved. Physically, set  $M$  is interpreted as the stable position of like charged particles placed at the points of  $E^n$ . In an earlier work (IzvMat, 1963, 10V225), this problem was completely solved for the case  $s(n) = 2^{n-1}$ . It was found in this case that there are two extreme sets -- both parity counters. The problem of the construction of these sets for arbitrary  $s$  remained open. In a work by T. N. Kruglova (in Probl. Kibernetiki [Problems of Cybernetics -- Collection of Works], No 13, Nauka Press, 1965, pp 29-44) the asymptotic statement of the problem was studied, consisting of the following. Suppose  $H_1(n) = \min_{M \subseteq E^n} H(M)$  a sequence

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USSR

UDC 51:621.391

LEONT'YEV, V. K., Probl. Kibernetiki, No 23, Moscow, Nauka Press, 1970, pp 27-42.

$\{M_n\}$  of  $s$ -subsets of  $E^n$  must be constructed such that  $\lim_{n \rightarrow \infty} H_s(M_n)/H_s(n) = 1$ . It was noted in this case that where  $\log_2 s(n) \sim n$ , all  $s$ -subsets of  $E^n$  have asymptotically identical energy. The main results of the work abstracted consists of the following.

1. The asymptote is found of the expression  $H_s(n)$ , where  $s = s(n)$  is an arbitrary growing function.
  2. It is demonstrated that "almost all"  $s$ -subsets of  $E^n$  have asymptotically minimal energy, and an estimate is found for the deviation of  $H(M)$  from  $H_s(n)$  for almost  $s$ -subsets  $M$  of  $E^n$ .
  3. For a function of the form  $s(n) = 2^{\phi(n)}$  with arbitrary integer growing function  $\phi(n)$   $s$ -subsets are constructed with asymptotically minimal energy.
- It is also demonstrated that the equidistant MacDonal code has absolutely minimal energy.

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USSR

UDC 62-752:621.317.757

URETSKIY, Ya. S., CHABDAROV, SH. M., SAPAROV, V. I., and LEONT'YEV, V. V.

"Controlling the Spectrum of Simulated Random Vibrations"

Vibratsion. tekhnika No 2 -- V sb (Vibration Engineering. No 2 -- Collection of Works), Moscow, 1970, pp 57-63 (from RZh-Metrologiya i Izmeritel'naya tekhnika, No 2, Feb 71, Abstract No 2.32.654)

Translation: The deficiencies of industrially manufactured series-operation spectral analyzers used for vibration tests are investigated. The following conclusions are drawn: the equipment used permits measurement of spectra of relatively simple form; in the presence of a dip in the spectral characteristic, the spectral analyzers do not permit reliable measurements of its parameters. The deeper and better quality the dip, the higher the measurement error. There are 3 illustrations and a 5-entry bibliography.

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USSR

UDC 911.3.616.935(470.11)

LEONT'YEV, V. YA.

"An Analysis of Lethal Cases of Dysentery in Arkhangel'sk"

V sb. Akklimatiz. i krayev. patol. chelovaka na Severo (Acclimatization and Regional Pathology of Man in the Far North--collection of works), Arkhangel'sk, 1970, pp 99-100 (from RZh-30. Meditsinskaya Geografiya, No 1, Jan 71, Abstract No 1.36.253 by Ts. Minsbarg

Translation: Data is presented on lethal cases of dysentery in children for 1957-1966 at the Hospital for Infectious Diseases and some other hospitals of Arkhangel'sk. The clinical diagnosis of dysentery was confirmed bacteriologically in 41 out of 96 cases (46.2%). Flexner and Sonne dysentery bacilli were most often isolated (30 out of 41). A sharp decrease in lethal cases of dysentery in children was noted for recent years (there were 43 cases in 1957-1958 and only 3 in 1965-1966) with a significant decrease in severe forms of intestinal infections.

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1/2 014 UNCLASSIFIED PROCESSING DATE--300CT70  
TITLE--KINETIC MODEL OF THE DEHYDRATION OF ALPHA HYDROXYISOBUTYRIC ACID TO  
METHACRYLIC ACID -U-  
AUTHOR--(05)--VYTNOV, G.F., MATROS, YU.SH., SLINKO, M.G., LEDINTYEV, YA.A.,  
KUZNETSOV, YU.I.  
COUNTRY OF INFO--USSR  
SOURCE--KHIM. PROM. (MOSCOW) 1970, 46(3), 167-9  
DATE PUBLISHED--70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--DEHYDRATION, BUTYRIC ACID, HYDROXYL RADICAL, INTEGRAL  
EQUATION, MATHEMATIC MODEL, CATALYST, METHACRYLIC ACID  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--2000/0815 STEP NO--UR/0064/70/046/003/0167/0169  
CIRC ACCESSION NO--AP0124482

UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124482

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A KINETIC MODEL, WHICH ADEQUATELY DESCRIBED THE DEHYDRATION OF ME SUB2 C(OH)CO SUB2 H TO (H SUB2:CMCO SUB2 H OVER A CA SUB3(PO SUB4)SUB2 CATALYST, IS DEVELOPED BY TREATING EXPTL. DATA ANAL. THE MODEL IS DESCRIBED IN TERMS OF 3 INTEGRAL EQUATIONS AND ACCOUNTS WELL FOR THE DECREASE IN CATALYST REACTIVITY AS A FUNCTION OF TIME.

UNCLASSIFIED

USSR

UDC 539.61.620.17.546.26-162

YOLKOV, G. H., BARABANOV, V. N., VIRGIL'YEV, YU. S., ZAKHAROVA, YE. H., and LEONT'YEV, YE. A.

"The Influence of Crystallite Size Upon the Strength of Coal-Graphite Materials"

Kiev, Problemy Prochnosti, No 1, Jan 72, pp 113-115

Abstract: The influence of the nuclear and electron structure of a graphite crystallite upon the mechanics of its breakdown is studied. Use is made of molecular diagrams of some compounds of the homologous series of aromatic hydrocarbons, obtained by Fulman via wave-mechanics calculations by the method of molecular orbitals. The influence of the size of graphite crystals upon the strength of carbon pyrocarbonic material, was demonstrated. The experimental data were compared with results of structural analysis by optical-microscope and electron-microscope methods. Three figures, 4 references.

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.. 63 ..

USSR

UDC: 621.372.622.001.24:621.372.853:  
:621.317.341.3

LEONT'YEV, Ye. A.

"Scattering by Nonuniformity in a Rectangular Waveguide With Losses in the Walls"

Dokl. Nauchno-tekhn. seminar "Metrol. v radioelektron." Tезисы. Сл. 1 (Reports of the Scientific and Technical Seminar on Metrology in Radio Electronics, Summaries, Part 1), Moscow, 1970, pp 78-81 (from RZh-Radiotekhnika, No 6, Jun 70, Abstract No 6B96)

Translation: In connection with the necessity for developing a reflection standard to solve various practical problems in waveguide technology, the author studies reflection from a semicircular barrier in the narrow wall of a rectangular waveguide whose generatrices are perpendicular to the side walls. The finite conductivity of the waveguide walls is taken into account. Abstracted in two titles.  
N. S.

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USSR

UDC: 621.372.822.001.24:517.941.91

LEONT'YEV, Ye. A.

"On the Structure of the Normal Modes of a Rectangular Waveguide With Non-Ideal Walls"

Dokl. Nauchno-tekhn. seminar "Metrol. v radioelektron." Tezisy. Ch. 1 (Reports of the Scientific and Technical Seminar on Metrology in Radio Electronics, Summaries, Part 1), Moscow, 1970, pp 73-77 (from RZh-Radiotekhnika, No 6, Jun '70, Abstract No 6B95)

[No abstract]

1/1

1/2 021 UNCLASSIFIED PROCESSING DATE--11SEP70  
TITLE--DEPENDENCE OF THERMOCONDUCTIVITY OF TERRIGENE ROCKS OF THE WEST  
SIBERIAN LOWLAND ON OTHER PHYSICAL PARAMETERS -U-  
AUTHOR--MOISEYEVKO, U.I., DOROGINITSKAYA, L.M., LEONTYEV, YE.I., SOKOLOVA,  
L.S.  
COUNTRY OF INFO--USSR  
SOURCE--GEOLOGIYA I GEOFIZIKA, 1970, NR 2, PP 106-110  
DATE PUBLISHED-----70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, PHYSICS

TOPIC TAGS--ROCK, SANDSTONE, POROSITY, ELASTIC WAVE, HEAT CONDUCTIVITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REFL/FRAME--1986/1232

STEP NO--UP/0210/70/D00/002/0106/0110

CIRC ACCESSION NO--AP0103120

UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0103120

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RESULTS OF THE STUDY OF SANDSTONES, ALVRLITES AND ARGYLITES THERMOCONDUCTIVITY DEPENDENCE ON SPECIFIC GRAVITY, POROSITY, DENSITY, ELASTIC WAVES VELOCITY AND SPECIFIES ELECTRIC RESISTANCE ARE LISTED IN THE PAPER. THE MEASUREMENTS OF PHYSICAL PARAMETERS WERE MADE ON THE DRY SAMPLES AND THOSE SATURATED IN WATER. THE RESULTS OF OBTAINED DEPENDENCE OF THERMOCONDUCTIVITY ON ENUMERATED PARAMETERS ARE PRESENTED AS EMPIRICAL EQUATIONS AND DIAGRAMS.

UNCLASSIFIED

L/2 009 UNCLASSIFIED PROCESSING DATE--20NOV70  
TITLE--AERATED CONCRETES --U-  
AUTHOR--(05)-SHVARTZAYD, M.S., LAPARDIN, V.N., KRYZHANOVSKIY, B.B.,  
LEONTYEV, YE.N., ZEMTSOV, J.G.  
COUNTRY OF INFO--USSR  
SOURCE--U.S.S.R. 267,427  
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRATSY, TOVARNYE ZNAKI 1970,  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATERIALS  
TOPIC TAGS--PATENT, CONCRETE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--3002/1402 STEP NO--UR/0482/70/000/000/0000/0000  
CIRC ACCESSION NO--AA0128801  
UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AA0126801

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CELLULAR CONCRETES BASED ON GROUND QUICKLIME AND SILICEOUS COMPONENTS WERE PREPD. BY 2 STAGE MIXING OF THESE COMPONENTS. IN THE 1ST STAGE ALL DRY COMPONENTS WERE MIXED WITH THE ADDN. OF 70-100PERCENT WATER. THE MIXT. WAS ALLOWED TO STAND WHILE THE TEMP. WAS LOWERED TO 35-40DEGREES. THEN THE MIXT. WAS THIXOTROPICALLY THINNED BY PUTTING INTO IT A STEAM GENERATOR AND THE REMAINING WATER, AND THEN IT WAS MIXED A 2ND TIME. FACILITY: ALL UNION SCIENTIFIC RESEARCH INSTITUTE OF CONSTRUCTION MATERIALS AND CONSTRUCTION.

UNCLASSIFIED

172 027 UNCLASSIFIED PROCESSING DATE--07OCT70  
 TITLE--RESULTS OF STUDYING HEAT TRANSFER DURING THE BOILING OF SOLUTIONS  
 IN TUBES UNDER CONDITIONS OF FORCED CONNECTION -U-  
 AUTHOR--(02)-LEONTYEVA, L.A., GALTSOV, V.YA.  
 COUNTRY OF INFO--USSR  
 SOURCE--KHIM. NEFT. MASHINOSTR. 1970, (3), 14-15  
 DATE PUBLISHED-----70  
 SUBJECT AREAS--CHEMISTRY  
 TOPIC TAGS--HEAT TRANSFER, HYDRATION, SODIUM HYDROXIDE, POTASSIUM  
 HYDROXIDE, BOILING, UREA  
 CONTROL MARKING--NO RESTRICTIONS  
 DOCUMENT CLASS--UNCLASSIFIED  
 PROXY REEL/FRAE--1990/1303 STEP NO--UR/0314/70/000/000/0014/0015  
 CIRC ACCESSION NO--AP0109387  
 UNCLASSIFIED

2/2 027

UNCLASSIFIED

PROCESSING DATE--020070

CIRC ACCESSION NO--AP0109387

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HEAT TRANSFER STUDIES WERE CONDUCTED ON H SUB2 O, NaOH, KOH, AND UREA SOLN. CONCNS. OF 2.5-40, 2.5-45, AND 2.5-60PERCENT, RESP. AT HEAT FLOWS (Q) OF 50,000-200,000 KCAL-M<sup>2</sup> HR AND FLOW RATES (W) OF 0.8-2.5 M-SEC. EXPTL. DETA. BOILING HEAT TRANSFER COEFFS. (ALPHA) ARE SHOWN FOR H SUB2 O, NaOH 20, KOH 30, AND UREA 50PERCENT AS A FUNCTION OF W FOR A SERIES OF Q VALUES. ALPHA INCREASED WITH INCREASE IN W AND Q; VALUES ARE COMPARED WITH CALCD. ALPHA BASED ON HEAT TRANSFER BY CONVECTION. ALPHA OF NaOH AND KOH DECREASED AT CONCNS. 5-20 AND 5-36PERCENT, RESP., AND INCREASED AT HIGHER CONCNS.; ALPHA FOR UREA DECREASED STEADILY WITH INCREASED CONCNS. THE CONC. EFFECT ON ALPHA WAS ATTRIBUTED TO HYDRATED CRYSTAL FORMATION DESCRIBED BY O. YA. SAMILOV (1957); AN EQUATION WAS DEVELOPED FOR THE CALC. OF ALPHA CORRECTED FOR CONC. EFFECTS.

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--30OCT70  
EIRC ACCESSION NO--A0126435  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE NECESSITY OF USING STATISTICAL  
METHODS IN THE FIELD OF EPIDEMIOLOGICAL INVESTIGATIONS IS  
SUBSTANTIATED. A METHOD AND INDICATIONS TO DETERMINATION OF THE MEAN  
VALUES, OF ASSESSMENT CRITERIA OF THE SIGN VARIABILITY, AND METHODS AN  
ANALYSIS OF DISTRIBUTION OF THE DATA IN SOLVING DEFINITE EPIDEMIOLOGICAL  
PROBLEMS ARE EXEMPLIFIED. THE LEADING ROLE PLAYED BY ANALYZING THE  
MATERIAL NATURE OF THE METHODS INVESTIGATED IN ASSESSING THE RESULTS OF  
STATISTICAL TREATMENT OF THE MATERIAL IS EMPHASIZED. FACILITY:  
TSENTRAL'NYI INSTITUT EPIDEMIOLOGII, MOSKVA.

UNCLASSIFIED



1/2 008 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--THE USE OF MATHEMATICAL METHODS IN EPIDEMIOLOGY, REPORT II,  
EMPIRICAL AND THEORETICAL DISTRIBUTIONS -U-  
AUTHOR--(05)-BEZDENEZHNYKH, I.S., BURGASOV, YU.A., YELKIN, I.I., LEONTYEVA,  
TKACHEVA, M.N.  
COUNTRY OF INFO--USSR  
SOURCE--ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII I IMMUNOBIOLOGII, 1970, NR 6,  
PP 3-9  
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--EPIDEMIOLOGY, APPLIED MATHEMATICS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--3001/0723

STEP NO--UR/0016/70/000/006/0003/0009

CIRC ACCESSION NO--AP0126435

UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0126435

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE NECESSITY OF USING STATISTICAL METHODS IN THE FIELD OF EPIDEMIOLOGICAL INVESTIGATIONS IS SUBSTANTIATED. A METHOD AND INDICATIONS TO DETERMINATION OF THE MEAN VALUES, OF ASSESSMENT CRITERIA OF THE SIGN VARIABILITY, AND METHODS AN ANALYSIS OF DISTRIBUTION OF THE DATA IN SOLVING DEFINITE EPIDEMIOLOGICAL PROBLEMS ARE EXEMPLIFIED. THE LEADING ROLE PLAYED BY ANALYZING THE MATERIAL NATURE OF THE METHODS INVESTIGATED IN ASSESSING THE RESULTS OF STATISTICAL TREATMENT OF THE MATERIAL IS EMPHASIZED. FACILITY: TSENTRAL'NYI INSTITUT EPIDEMIOLOGII, MOSKVA.

UNCLASSIFIED

USSR

UDC 612.35.017.1

SUKERNIK, R. I., SKVORTSOVA, T. A., ~~LEONTIYEVA, I. I.~~, and LADYGIN, V. I.,  
Central Scientific Research Laboratory, Novosibirsk Medical Institute

"Induction of Auto-Immune Cellular Response to Liver Cells in Mice by  
Implantation of Spleen Cells From Syngenic Donors With Toxic Hepatitis"

Leningrad, Tsitologiya, Vol 13, No 5, May 71, pp 636-643

Abstract: The effect of lymphoid spleen cells from donor mice, after repeated treatment with  $CCl_4$ , on the liver parenchyma was studied. Both the eight control and the 12 test animals (CEA strain) were given  $H^3$ -thymidine intraabdominally over a period of 6 days, thrice daily. Toxic hepatitis was produced by  $CCl_4$  inhalation. The animals were sacrificed 16-20 hours after the last  $CCl_4$  inhalation and 9-10 hours after the last  $H^3$ -thymidine injection. The spleens were removed, ground and cell suspensions prepared for implantation. The recipients were sacrificed 58 hours after the transfer and their liver, spleen, and inguinal lymph nodes removed and studied. Spleen cells from test and control donor mice were transfused in a dose of  $25 \times 10^6$  into normal recipient mice and into mice which were subjected to a single  $CCl_4$  intoxication immediately after the transfusion. This led to stimulation of DNA synthesis and to reutilization of labelled products of regenerating

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SUKERNIK, R. I., et al., Tsitologiya, Vol 13, No 5, May 71, pp 636-643

hepatocytes. Cytophotometric examination and evaluation of DNA in hepatocyte nuclei of recipients injected with spleen cells obtained from test donors showed that the number of tetraploid and octoploid nuclei had slightly increased. The activated DNA synthesis is considered a response of the liver cells which had been attacked by cell-bound auto-antibodies transferred in the spleen cells from CCl<sub>4</sub>-treated donor mice. Histograms are shown.

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Molecular Biology

USSR

UDC 576.858.71.098.396.332:576.858.71.095.6

PRASOLOVA, Z. V., LEONT'YEVA, N. A., and GALIKOV, G. A., Virology Institute  
imeni D. I. Ivanovskiy, USSR Academy of Medical Sciences, Moscow

"RNA Synthesis and Reproduction of Yellow Fever Virus (Strain 17D)"

Moscow, Voprosy meditsinskoy Khimii, Vol 19, No 6, 73, pp 665-666

Translation: Studies were conducted on the synthesis of RNA by following uridine- $H^3$  incorporation and accumulation of infectious virus in tissue culture of chick embryo fibroblasts, and kidneys from pig embryos. Synthesis of viral RNA in the presence of actinomycin D begins 6 hours following infection; it precedes the formation of infectious virus by 6 hours. Roller cultures yielded virus titers of  $9.0 \log \text{BCIE/ml}$  [BOE expansion unknown -- Plaque-Forming Units].

The yellow fever virus continues to be of importance in infectious pathology of man, despite the presence of effective vaccines. In the literature at our disposal we did not find any information on RNA synthesis and a correlation between viral RNA synthesis and the formation of the infectious virus.

The present communication deals with this aspect of the problem. A number of communications are available in the literature on RNA synthesis in  
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PRASOLOVA, Z. V., et al., Voprosy Meditsinskoy Khimii, Vol 19, No 6, 73, pp 665-666

viruses belonging to the Flava genus /1-3/.

Methods

The yellow fever virus<sup>1</sup> was introduced in the usual manner into cultures of chick embryo fibroblast monolayers (CEF) and kidneys from pig embryos (KPE). Medium 199 with 10% natural calf serum was employed. The virus was titrated by the plaque method /4/.

Synthesis of virus induced RNA was followed by the incorporation of uridine-H<sup>3</sup> into the acid insoluble fraction of infected and uninfected cultures. Consequently, 3.5 h prior to sampling 5  $\mu$ g/ml of actinomycin D was added.

Uridine-H<sup>3</sup> (5  $\mu$ Ci/ml; 14  $\mu$ Ci/mM specific activity) was added 90 min after the antibiotic addition. The incubation time with the radioactive precursor was two hours. The medium was then removed, and the cell monolayer washed twice with cold Hanks medium and thrice with cold 95% TCA, followed by a 1:1 ether ethanol mixture. To the cells fixed in this manner was added 0.3 N KOH 2/6

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PRASOLOVA, Z. V., et al., Voprosy Meditsinskoy Khimii, Vol 19, No 6, 73, pp 665-666

and the samples were placed in a thermostat at 37° for 18 h. The neutralized incubate was placed on filter paper disks and the radioactivity was determined with a Packard liquid scintillator counter.

The relative resistance of yellow fever virus reproduction and its RNA synthesis to actinomycin D made it possible to study the temporal dynamics of uridine-H<sup>3</sup> incorporation. In the concentration used by us, the antibiotic inhibited viral reproduction by 1.0 log BCF/ml.

Use of roller tube cultures for the yellow fever virus in KFE cells yielded infectious titers ranging from 8.96 to 9.46 log BCF/ml.

<sup>1</sup>The yellow fever virus (strain 17D) was kindly provided by V. F. Grachov' (Institute of Poliomyelitis and Viral Encephalitis, USSR Academy of Medical Science).

#### Results and Discussion

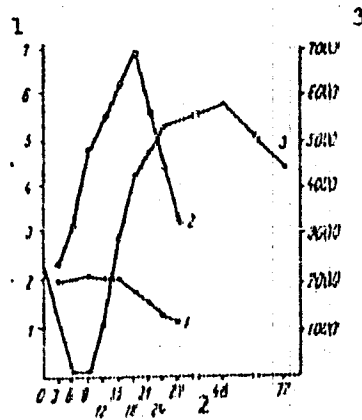
The data given in Fig. indicate that CBF cells infected with yellow fever virus show significant resistance to actinomycin D as fast as RNA synthesis goes, which commences six hours after infection and increases until

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PRASOLOVA, Z. V., et al., Voprosy Meditsinskoy Khimii, Vol 19, No 6, 73, pp 665-666

the 18<sup>th</sup> hour after which there is a progressive decrease in uridine-H<sup>3</sup> incorporation for the next nine hours.



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PRASOLOVA, Z. V., et al., Voprosy Meditsinskoy Khimii, Vol 19, No 6, 73, pp665-666

Figure 1. RNA Synthesis and Yellow Fever Reproduction in CEF Culture. The Abscissa Indicates Time of Infection (in Hours). The Left Ordinate Indicates Virus Titer in Log BOE/ml. 1 -- Uridine- $^3$ H Incorporation in Uninfected Cells. 2 -- Uridine- $^3$ H Incorporation in Infected Cells. 3 -- Virus Accumulation in Culture Medium. Multiplicity of Infection: 0.2-0.4 Log BOE/ml.

Key: 1. Log BOE/ml  
2. Hours  
3. CFU/ $10^5$  cells

Reproduction of yellow fever virus begins 12 hours after infection and an apparent logarithmic growth is seen until the 24th hour. Analysis of the curves representing viral RNA synthesis and accumulation of the infectious virus reveals that RNA synthesis precedes the appearance of virus by not less than 6 hours. Maximum accumulation of the virus takes place when RNA synthesis has decreased by more than 50%. This indicates that the appearance of extracellular viral particles requires time for the synthesis of structural proteins, viral assembly and their release.

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FRASOLOVA, Z. V., et al., *Voprosy Meditsinskoy Khimii*, Vol 19, No 6, 73, pp 665-666

The resultant data will be useful in more detailed studies on RNA synthesis of this virus, as well as in the testing of various synthetic preparations on this model system.

BIBLIOGRAPHY

1. Solov'yev, G. Ya., Bogomolova, N. N. and Andzhaparidze, D. G., *Voprosy Virusol.*, No 2, 219, 1972.
2. Takehara, H., *Arch. ges. Virusforsch.*, Vol 34, 266, 1971.
3. Trent, D. W., Swensen, C. C., and Gureshia, A. A., *J. Virol.*, Vol 3, 385, 1969.
4. Grachev, V. P., *Proceedings of the Institute of Poliomyelitis and Viral Encephalitis*, USSR Academy of Medical Sciences, Vol 12, 319, 1968.

6/6

- 29 -

USSR

DOC 576.858.25.085.35

GAVRILOV, V. I., LEONT'YEVA, N. A., and FADEYEVA, E. L., Institute of Virology  
imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR, Moscow

"Chronic Infection of Cultures of Transplanted RES Cells Caused by Gmeta  
Arbovirus"

Moscow, Voprosy Virusologii, No 3, May-Jun 70, pp 270-274

Abstract: Chronic infection of a culture of transplanted fetal pig kidney cells was produced by the Gmeta arbovirus (strain AMM 2021). During the observation period (302 days), a typical feature in the development of these cultures was the successive alternation of phases of degeneration and repopulation of the cell monolayer. The percentage of infected cells in the repopulation phase, established by the method of infection centers, was 6-7 percent. The proliferative activity of the RES-Gmeta cultures was about three times lower than that of normal RES cultures. The chronic infection of the RES-Gmeta cultures was accompanied by the production of interferon in the cells. The RES-Gmeta cell cultures were resistant to superinfection with homologous virus. An attempt to treat RES-Gmeta cultures with hyperimmune specific serum was unsuccessful.

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USSR

UDC 576.856.25.095.6.095.18

LEONT'YEVA, N. A., GAVRILOV, V. I., FADEYEVA, L. L., and GALEBOV, G. A., Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR, Moscow

"Stimulation of Gbeta and O'nyong nyong Virus Reproduction by L-Glutamine and Low Concentrations of 5-Bromo-2-Desoxyuridine"

Moscow, Voprosy Virusologii, No 4, Jul/Aug 70, pp 452-456

Abstract: Cultures of BHK-21 cells were grown on Eagle's medium with 10% calf serum and then inoculated with Gbeta or O'nyong nyong virus. Addition to the medium of L-glutamine (500 micro g/ml) or 5-bromo-2-desoxyuridine (20 to 40 micro g/ml) markedly intensified viral reproduction. Despite the different chemical nature of the two substances, their effects were similar and directly related to the time at which they were added. The effect was most pronounced when they were added 2 hours after inoculation of the cultures. The amino acid provided greater stimulation. In the presence of L-glutamine and under optimal conditions, accumulation of Gbeta virus was 2500 times higher and that of O'nyong nyong virus 1200 times higher than in the control. For 5-bromo-2-desoxyuridine under optimal conditions, reproduction of Gbeta and O'nyong nyong viruses was only 250 and 80 times higher, respectively.

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USSR

UDC 616.989.25-092.9-084.37:576.858.095.383

LEONT'YEVA, N. A., FOMINA, A. N., IDRISOVA, Z. V., SHUHLADZE, A. K., and  
GALEGOV, G. A., Institute of Virology imeni D. I. Ivanovskiy, Academy of  
Medical Sciences USSR, Moscow

"Combined Use of Interferon and Some Styrylquinolines in Cell Culture and in  
Experimental Arbovirus Infection"

Moscow, Voprosy Virusologii, No 4, Jul/Aug 72, pp 482-485

Abstract: The synergistic prophylactic and therapeutic effects of interferon and styrylquinolines were studied in chick embryo fibroblast cultures and white mice infected with Venezuelan equine encephalomyelitis (VEE) and Western equine encephalomyelitis (WEE) viruses. The following compounds were employed: hydrate of 2-(4<sup>1</sup>-bromostyryl)-4-(delta-diethylamino-alpha-methylbutylamino)-7-chloroquinoline triphosphate (R-29P), 2-(3<sup>1</sup>-methoxy-4<sup>1</sup>-hydroxystyryl)-4-(delta-diethylamino-alpha-methylbutylamino)-6-methoxyquinoline triphosphate (R-43P), and 2-(3<sup>1</sup>-methoxy-4<sup>1</sup>-hydroxystyryl)-4-(delta-ethylamino-alpha-methylbutylamino)-7-chloroquinoline triphosphate (R-42P). In cell culture these compounds reduced infectious titers of VEE and WEE virus by 2 and 2.6 lg respectively. When used in combination with interferon, these compounds reduced the titers by 6.6 and 7.5 lg respectively. R-42P was the most effective. When used on white mice

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LEONT'YEVA, N. A., et al., Voprosy Virusologii, No 4, Jul/Aug 72, pp 482-485

infected with WEE virus, R-42P administered twice at 9 mg/ml to animals with 0.03 ml 10 LD<sub>50</sub> (minimum dosage) resulted in the highest survival rate (35%). Combined 2-time administrations of interferon prior to WEE infection and R-42P after infection resulted in enhancement of the protective antiviral effect and prevented development of disease in 60-75% of the animals. Thus interferon and styrylquinolines act synergistically in response to arbovirus infection, indicating that their combined use may be effective in preventing and treating such infections.

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1/2 019 UNCLASSIFIED PROCESSING DATE--300CT70  
 TITLE--CHRONIC INFECTION OF CONTINUOUS CELL CULTURES, RES. CAUSED BY CHETA  
 ARBOVIRUS -U-  
 AUTHOR-(03)-GAVRILOV, V.I., LEONTYEVA, N.A., FADEYEVA, L.L.  
 COUNTRY OF INFO--USSR  
 SOURCE--VOPROSY VIRUSOLOGII, 1970, NR 3, PP 270-274  
 DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
 TOPIC TAGS--ARBOVIRUS, CONTINUOUS CULTURE, INTERFERON, TISSUE CULTURE

CONTROL MARKING--NO RESTRICTIONS  
 DOCUMENT CLASS--UNCLASSIFIED  
 PROXY REEL/FRAE--2000/1850  
 STEP NO--UR/0402/T0/000/003/02T0/0274  
 CIRC ACCESSION NO--AP0125461  
 UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--000170

CIRC ACCESSION NO--AP0125461

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A CHRONIC INFECTION OF CONTINUOUS PIG EMBRYO KIDNEY CELL CULTURE CAUSED BY GHETA ARBOVIRUS (AMN 2021 STRAIN) WAS REPRODUCED. DURING THE OBSERVATION PERIOD (302 DAYS) A TYPICAL FEATURE OF EVOLUTION OF THESE CULTURES CONSISTED IN SUCCESSIVE ALTERNATION OF PHASES OF DEGENERATION AND REPOPULATION OF THE CELL MONOLAYER. THE PER CENT OF INFECTED CELLS IN THE REPOPULATION PHASE ESTABLISHED BY THE METHOD OF INFECTIOUS CENTERS WAS 6-7%. THE PROLIFERATIVE ACTIVITY OF RES-GHETA CULTURES WAS ABOUT 3 FOLD LOWER THAN THAT OF NORMAL RES CULTURES. THE PERSISTENT INFECTION OF RES-GHETA CULTURES WAS UNDERBID BY INTERFERON PRODUCTION BY THE CELLS. THE RES-GHETA CELL CULTURES WERE RESISTENT TO SUPERINFECTION WITH HOMOLOGOUS VIRUS. AN ATTEMPT OF "TREATMENT" OF RES-GHETA CULTURES BY ADDITION OF HYPERIMMUNE SPECIFIC SERUM TO THE CULTURE MEDIUM WAS UNSUCCESSFUL.

FACILITY: INSTITUT VIRUSOLOGII IMENI D. I. IVANOVSKOGO AMN SSSR, MOSKVA.

UNCLASSIFIED



1/2 025 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--COMPLICATIONS AFTER OPERATIONS ON THE STOMACH IN AGED PATIENTS -U-

AUTHOR--(03)--LEGNTYEVA, N.S., MESHALKIN, I.N., GVCHININSKIY, N.N.

COUNTRY OF INFO--USSR

SOURCE--KHIRURGIYA, 1970, NR 6, PP 46-50

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--SURGERY, STOMACH, GERONTOLOGY, TUMOR, PERITONEUM, SUTURE,  
ARTERIAL ANASTOMOSIS, EMBOLISM, LUNG, CARDIOVASCULAR SYSTEM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--3002/1783

STEP NO--UR/0531/70/000/006/0046/0050

CIRC ACCESSION NO--AP0129151

UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0129151

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS ANALYZE DATA OF 175 RADICAL OPERATIONS ON THE STOMACH (OF THEM 28 GASTRECTOMIES) PERFORMED FOR CANCER (108), PEPTIC ULCER (49) AND BENIGN TUMORS (12). CONCOMITANT DISEASES OF INTERNAL ORGANS WERE NOTED IN 101 PATIENTS. IN 54 PATIENTS IN THE POSTOPERATIVE PERIOD THERE WERE OBSERVED FUNCTIONAL DISORDERS OF INTERNAL ORGANS AND COMPLICATIONS, WHICH IN 7 CASES WERE THE CAUSE OF A LETHAL OUTCOME (4. PLUS OR MINUS 1.5PERCENT): 5 PATIENTS DIED FROM PERITONITIS DUE TO FAILURE OF ANASTOMOTIC SUTURES, 2 FROM EMBOLISM OF THE PULMONARY ARTERY. BESIDES, IN 8.7PERCENT OF PATIENTS THERE WERE SURGICAL COMPLICATIONS, IN 8.7PERCENT, CARDIOVASCULAR, IN 5.4PERCENT, PULMONARY, IN 3PERCENT, THROMBOEMBOLIC. THE AUTHORS EMPHASIZE THAT CONSTANT CLINICO FUNCTIONAL OBSERVATION OVER PATIENTS IN A SPECIALIZED POSTOPERATIVE DEPARTMENT ENSURES THE TIMELY DETECTION AND FUNCTIONAL DISORDERS OF INTERNAL ORGANS IN OPERATED PATIENTS AND THE REQUIRED CORRECTION OF THESE DISTURBANCES BEFORE THE DEVELOPMENT OF COMPLICATIONS.

UNCLASSIFIED

USSR

UDC 532.5

LEONT'YEVA, N. V., LUN'KIN, YU. P., FURSENKO, A. A., Leningrad

"Flow around Blunt Bodies by a Nonequilibrium-Ionized Radiating Gas"

Novosibirsk, Fizika Goreniya i Vzryva, Vol 9, No 5, 1973, pp 653-658

Abstract: A study is made of hypersonic flow of a nonequilibrium-ionized mono-atomic nonviscous radiating gas around a spherical blunt body taking into account the leading radiation. In calculating the flow parameters the system of gas dynamic equations was solved jointly with the equations of radiation transfer. In the range of the investigated parameters, consideration of the resonance radiation has a weak effect on the position of the shock wave and the gas dynamic fields in the shock layer. As a result of the comparatively low recombination rate, the degree of ionization on the upper beams can significantly exceed the corresponding equilibrium values. The study includes a discussion of the kinetics of ionization and radiation in the shock layer, the calculation of the parameters in the heated layer, and the method of solution. The solution technique is reduced to binary iterations just as was previously done by M. D. Kremenetskiy, et al. [PMTF, No 4, 1971].

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TC

LEONT' YEVA, N. YU.

SPRS 57499  
14 JULY 72

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We carried out investigations on animals with two objectives in mind: determining the minimum altitudes at which visible gas emboli appear in the blood and study of the external symptoms of high-altitude decompression disorders in animals.

The need has arisen for developing regimes for man's transition from normal pressure to reduced pressure which would completely preclude the possibility of the appearance of decompression disorders. This in turn required that systematic investigations be made for determining the conditions for the appearance of decompression disorders in a particular atmosphere and for studying their preventative and mechanical of development. Such investigations have not yet been made because the problem of decompression disorders has been developed experimentally for the most part applicable to underwater dives and catson work.

As a result of the development of decompression the problem of decompression disorders arising due to atmospheric pressure has arisen with a new acuteness. It has been found that the recommendations on the prevention of decompression disorders taken in aviation cannot be used during space flights. Investigations have shown that for conditions of man's prolonged exposure at a pressure of 170 mm Hg when performing an intensive physical load over a six-hour period, inert nitrogen desaturation does not give any guarantee against decompression disorders.

Article by N. Y. Leont'eva and N. M. Golitsyn, Moscow, Akademiya SSSR, Institute of Space Medicine, 1971 (Soviet Journal of Space Medicine and Biology, 1971, Vol. 12, No. 2, pp. 267-269)

EXPERIMENTAL DATA ON DECOMPRESSION DISORDERS ACCORDING TO  
ANIMALS INVESTIGATION

USSR.

UDC 611.83-07.519.92

LEONTYUK, A. S., Minsk Medical Institute, Minsk

"Informational Characteristics as Integral Criteria of the Inner Structure of Peripheral Nerve Stems"

Minsk, Izvestiya Akademii Nauk BSSR, Seriya Biologicheskikh Nauk, No 2, 1971, pp 82-88

Abstract: Data were obtained by counting the distribution of myelin nerve fibers according to size (diameter) and fiber groups in more than 700 specimens of human and animal peripheral nerves. The informational characteristics of nerve structure were calculated with respect to entropy (H) and excessiveness (R). Shannon's formulas were used in the calculations. From the standpoint of the general theory of systems, the nerve stem was regarded as an integral system composed of an optimum set of structurally and functionally different elements. The results demonstrate that one can apply mathematical methods of information theory for analysis of the inner structure of peripheral nerve stems in regard to the distribution of nerve fibers, changes due to age, asymmetry, and aspects of comparative morphology.

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Acc. Nr: AP0047373

Ref. Code: UR0587

PRIMARY SOURCE: Vestnik Khirurgii imeni I. I. Grekova, 1970,  
Vol 104, Nr 1, pp 107-111

**THE EFFECT OF VARIOUS METHODS OF PREMEDICATION ON SOME  
NEURO-ENDOCRINOUS REACTIONS IN SURGICAL PATIENTS**

By V. A. Leosko, V. E. Ryzhenkov, G. L. Kotomina, V. M. Korvaldi and M. P. Romanova

In 166 surgical patients the effect of various combinations of preparations used for premedication has been studied. The data obtained enabled the authors to recommend the authors a more wide use of cholinolytics of central action in a complex of premedication agents.

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hdy

REEL/FRAME

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USSR

UDC 621.791.5:669.715+669.14.018.8

KOBYLYANSKIY, I. F., KONONENKO, Yu. F., GUSEV, V. R., ~~TSVETKOV~~ Yu. F.,  
OSIPOVA, K. Ya., LEPANOV, N. S., and CHULKOY, Ye. I., Engineers

"Soldering of Aluminum and Its Alloys With Stainless Steel"

Moscow, Svarochnoye Proizvodstvo, No 11, Nov 70, pp 41-44

Abstract: A method has been developed for fluxless soldering allowing firm attachment of aluminum and its alloys to steel for parts and units working at temperatures up to 400°C. The hypoeutectoid alloy produced during soldering greatly limits the formation and growth of the intermetallide layer around the soldered joint due to the high heating rate to 640°C and low force of external clamping of the parts being connected (1 kg/cm<sup>2</sup>).

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1/2 013 UNCLASSIFIED PROCESSING DATE--23OCT70  
TITLE--EVALUATING THE WATERPROOFING CAPACITY OF PAINT AND VARNISH COATINGS  
APPLIED ON CAPILLARY POROUS MATERIALS -U-  
AUTHOR-(03)-LEPARSKIY, L.O., MYSELOVA, G.N., GORGUNOVA, R.I.  
COUNTRY OF INFO--USSR  
SOURCE--LAKOKRASOCH. MATER IKH PRIMEN. 1970, (1), 57-9  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATERIALS  
TOPIC TAGS--WATERPROOFING, PAINT, VARNISH, WOOD, ENAMEL, ALKYD RESIN, UREA  
RESIN, POLYESTER RESIN/(U)MALIH DII BASE COATING  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1997/0425 STEP NO--UR/0303/70/000/001/0056/0098  
CIRC ACCESSION NO--AP0119361  
UNCLASSIFIED



2/2 013

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119361

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN APP. IS DESCRIBED FOR DETG. THE INTERNAL STRESS (SIGMA) DUE TO SWELLING WHEN A MATERIAL ABSORBS WATER. THE SAMPLE IS KEPT AT A CONST. TEMP. AND VOL. IN WATER AND THE INCREASE IN SIGMA WITH TIME IS DETD. ALTERNATIVELY, THE DECREASE OF SIGMA DURING DRYING AT CONST. VOL. CAN BE DETD. THE APP. WAS USED TO DET THE SIGMA OF UNCOATED PINWOOD AND OF PINWOOD COATED WITH VARIOUS ENAMELS. NATURAL OIL BASED COATING MA-11H WAS FOUND TO PREVENT WOOD SWELLING IN WATER BETTER THAN COM. ALKYD UREA OR POLYESTER COATING.

UNCLASSIFIED

*LEPARSKY, Ye. A.*

*FRS: SKN11  
10 July 1913*

THE USSR is a country with a population of 190 million. The USSR has a large area of land, including the entire North Polar region, and a long coastline. The USSR has a rich natural resources base, including oil, gas, coal, gold, and other minerals. The USSR has a strong scientific and technological base, and is a leading power in the world.

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The following information was obtained from a review of the records of the Federal Bureau of Investigation, Washington, D. C., dated 10/17/60, regarding the activities of the "Arabs for Free Palestine" organization in the United States. It is noted that this organization was organized in New York City in 1958. The membership of this organization includes individuals of various nationalities, including Americans, British, and Canadians. The organization's objectives are to bring about the establishment of a Jewish state in Palestine and to secure the withdrawal of British troops from the area. The organization has been active in the United States since its formation. It has held several meetings and has published a journal titled "The Arab Bulletin". The organization has also been active in raising funds and in recruiting new members. It is noted that the organization has been active in the United States since its formation. It has held several meetings and has published a journal titled "The Arab Bulletin". The organization has also been active in raising funds and in recruiting new members.

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The World Health Organization (WHO) has been instrumental in the development of public health programs in many developing countries. The WHO has been particularly active in the field of child health, and has been instrumental in the development of the Expanded Programme on Immunization (EPI). The EPI is a program of immunization for children under the age of 15, and is one of the most successful public health programs in the world. The WHO has also been instrumental in the development of the International Code of Marketing of Breastmilk Substitutes, and has been instrumental in the development of the International Code of Ethics for Pharmaceutical Marketing.

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BIBLIOGRAPHY

1. *Report of the Expert Committee on Immunization, World Health Organization, Geneva, 1970.*
2. *Report of the Expert Committee on Immunization, World Health Organization, Geneva, 1970.*
3. *Report of the Expert Committee on Immunization, World Health Organization, Geneva, 1970.*
4. *Report of the Expert Committee on Immunization, World Health Organization, Geneva, 1970.*
5. *Report of the Expert Committee on Immunization, World Health Organization, Geneva, 1970.*

6. Journal of International Law, Vol. 2, No. 1, 1968.
7. Journal of International Law, Vol. 2, No. 1, 1968.
8. Journal of International Law, Vol. 2, No. 1, 1968.
9. Journal of International Law, Vol. 2, No. 1, 1968.
10. Journal of International Law, Vol. 2, No. 1, 1968.
11. Journal of International Law, Vol. 2, No. 1, 1968.
12. Journal of International Law, Vol. 2, No. 1, 1968.
13. Journal of International Law, Vol. 2, No. 1, 1968.

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001 13644

USSR

UDC 621.371.332.31551.465.71538.5

AFANAS'YEV, K.L., BOL'SHAPOV, E.V., GARNIKER'YAN, A.A., LEPANDIN, I.F., LOBACH,  
V.T., TIMONOV, V.V., CHEREPANTSEV, S.F.

"To The Problem Of Measuring The Height Of Sea Waves By The Radar Method From  
Aircraft"

Tr. Taganrog. radiotekhn. in-ta (Works Of The Taganrog Radio Engineering  
Institute), 1971, No 22, pp 148-158 (from RZh: Radiotekhnika, No 2, Feb 72,  
Abstract No 2G15)

Translation: The theoretical bases are stated of the radar method of measuring  
the height of waves. It is shown that in order to increase the precision of  
measurement it is necessary to have a tunable transmitter or some fixed radiat-  
ion frequencies (3 are sufficient). A measuring unit is described, constructed  
on the basis of a pulse radar station of the meter range; technical data are  
presented. An analysis of the results obtained during flight tests shows that  
the discrepancy between these results and the data obtained with the aid of a  
wave graph does not exceed 10--12 percent. The defect of the method is the  
impossibility of determining the character of the waves and the length of a wave.  
1 ill. 2 tab. 4 ref. N.S.

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USSR

UDC: 534.2

LEPENDING, L. F. and KAL'YANOV, B. I.

"Thermodynamic Computation of the Velocity of Sound in Water of Supercritical State by the Electronic Computer"

Tr. Taganrogek. radiotekhn. in-ta (Works of the Taganrog Radio Engineering Institute) No. 21, 1969, pp 46-55 (from RZh-Mekhanika, No. 8, Aug '70, Abstract No. 8B390)

Translation: Investigation of the supercritical state in water is of substantial practical importance for designing thermal power boiler supercritical parameters. Beginning with the recently developed methods for setting up exact equations of state and using experimentally obtained values for heat capacity and specific volumes, the authors have computed the temperature dependence of the velocity of sound in water on the electronic computer, for supercritical isobars of 250, 275, 300, 400, 500, and 1000 kg/cm<sup>2</sup> and the critical isochore. For all isobars, the following conclusions are drawn: 1) The temperature coefficient of sound velocity  $(\partial a / \partial T)_p$  varies in sign, which indicates readjustment of the

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USSR

LEPENDING, L. F., et al, Tr. Taganrogsk. radiotekhn. in-ta, No 21, 1969, pp 46-55 (from RZh-Mekhanika, No 8, Aug 70, Abstract No 8B390

material's molecular structure; 2) The higher the constant pressure, the greater the temperature corresponding to the minimum sound velocity; 3) With increasing pressure, the minima become less expressible. The adiabatic compressibility for all isobars is computed. The results show that there are compressibility maxima for isobars 250, 275, and 300 kg/cm<sup>2</sup>; for boilers of supercritical parameters, therefore, it is best to use the region above 300 kg/cm<sup>2</sup>. Bibliography of 12. G. P. Karashev

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- 5 -



USSR

UDC 621.385.033.22.001.5

ANDRONOV, A. N., LEPESHINSKAYA, V. N.

"On the Problem of Destruction of Oxide Films by an Electron Beam"

Moscow, Radiotekhnika i Elektronika, Vol 16, No 10, Oct 71, pp 2005-2006

Abstract: The authors propose a simple phenomenological model of the process of destruction of oxide films under electron bombardment. The proposed scheme elucidates the possible reasons for the disagreements between different researchers in interpreting experimental results on this phenomenon.

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USSR

UDC 616.9-036.211:681.3(476)

KARDASH, I. B., KLIMENKO, Ye. P., DROSDOVA-TIKHOMIROVA, A. A., POLIYODA, Z. M.,  
RUBANOVA, F. G., LEPESHINSKAYA, I. V., RYTIK, P. G., and KNYSH, I. N., Ministry  
of Health Belorussian SSR, Central Institute of Epidemiology of the Ministry  
of Health USSR, Belorussian Institute of Epidemiology and Microbiology, and  
Belorussian Republic Sanitary Epidemiological Station

"Experience Gained in the Belorussian SSR During Introduction of a New Epidemio-  
logical Investigation Card Adapted for Processing on IBM Computer Minsk-22"

Moscow, Zhurnal Mikrobiologii Epidemiologii i Immunobiologii, No 12, 1972,  
pp 124-128

Abstract: A new IBM card with a detachable statistical stub, developed for  
epidemiological investigations at the Central Institute of Epidemiology, was  
tested in 1968-1970 in a feasibility study conducted throughout the Belorussian  
Republic. The project was a success not only because the IBM card is useful  
and convenient but also because the personnel at district and municipal  
epidemiological stations had received through advance training in how to fill  
in the cards and code the stubs. A control staff routinely examined the cards  
and corrected errors detected in a total of 3.1% of the stubs. Procedural  
improvements were introduced throughout the 3 year period as dictated by  
expediency. After each quarter-year, the stubs were checked at the local

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KARDASH, I. B., et al., Zhurnal Mikrobiologii Epidemiologii i Immunobiologii, No 12, 1972, pp 124-128

stations and submitted to the municipal or oblast stations where they were recorded and checked again. Next, they were sent to the Belorussian Institute of Epidemiology and Microbiology for the third check, and from there to the Computer Center of Belorussia's Central Statistical Administration where the data were transferred on perforated tapes and processed on the computer. The method yielded statistical charts with more accurate and detailed information than was ever available in the past. The method was approved by the Ministry of Health USSR and, in 1970, it was introduced on a permanent basis in epidemiological stations throughout the Belorussian SSR.

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USSR

UDC 536.212.2.083

BORZYAK, A. N., LEPESHKIN, YU. D., and KUVSHINOV, G. A.

"An Experimental Device for Measuring the Thermal Conductivity of Metals and Alloys at Low Temperatures"

Moscow, Teplofiz. svoystva veshchestv pri nizk. temperaturakh -- sb. (Thermophysical Properties of Substances at Low Temperatures -- Collection of Works), 1972, pp 159-162 (from Referativnyy Zhurnal -- Metrologiya i Imeritel'naya Tekhnika, No 2, 1973, Abstract No 2.32.979 by V. S. K.

Translation: The authors describe a device for measuring the thermal conductivity coefficient of metal samples by the steady-state heat flow method. The device is a metallic helium cryostat containing a chamber for the sample in which the sample is mounted on a metal block suspended from the top of the chamber. A heater is fastened to the bottom end of the sample, which is surrounded by a protective cylinder to eliminate radiation losses of heat from the surface. The temperature along the sample is measured by thermocouples or semiconductor resistance thermometers. In order to maintain the necessary thermal state in the sample, four independent automatic temperature control systems are used, giving a control accuracy of approximately  $10^{-2}$  K. Measurement accuracy is 2.5-3 percent. (2 illustrations; 3 bibliog. ref.)  
1/1

1/2 006 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--POTASSIUM SULFATE, RUBIDIUM SULFATE, WATER SYSTEM AT 0, 25, AND  
100DEGREES -U-  
AUTHOR--LOZI-KARATAYEVA, I.K., LEPESHKOV, I.N.  
COUNTRY OF INFO--USSR  
SOURCE--ZH. NEORG. KHIM. 1970, 15(4), 1113-16  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--POTASSIUM SULFATE, RUBIDIUM COMPOUND, SOLID SOLUTION  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1999/1123 STEP NO--UR/0078/70/015/004/1115/1116  
CIRC ACCESSION NO--AP0123115  
UNCLASSIFIED

272 006 UNCLASSIFIED PROCESSING DATE--13NOV70  
CIRC ACCESSION NO--AP0123115  
ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE SOLY. AND THE NATURE OF THE  
SOLID PHASES WERE STUDIED IN THE K SUB2 SO SUB4-RB SUB2 SO SUB4-H SUB2 O  
SYSTEM AT 0, 25, AND 100DEGREES. THE SYSTEM FORMS A CONTINUOUS SERIES  
OF SOLID SOLNS. AT THESE TEMPS. THE NS OF THE SALTS AND SOLID PHASES  
ARE TABULATED. FACILITY: INST. OBShCh. NEORG. KHIM. IR.  
KURNAKOVA, MOSCOW, USSR.

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--13NOV70

1/2 013

TITLE--UREA CHROMIUM III NITRATE WATER SYSTEM AT 25DEGREES U-

AUTHOR--(03)-TATARINOV, V.A., LEPESHKOV, I.N., KARNAUKHOV, N.S.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(3), 785-8

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--UREA, CHROMIUM COMPOUND, NITRATE, AQUEOUS SOLUTION, ELECTRICAL SOLUTION, ELECTRICAL CONDUCTIVITY, ISOTHERM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--300472042

STEP NO--08/0078/10/015/004/0735/0788

CIRC ACCESSION NO--AP0132299

UNCLASSIFIED

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CIRC ACCESSION NO--AP0132299  
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--13NOV70

ABSTRACT. THE SOLY. OF THE COINH SUB2)  
SUB2,CR(INO SUB3) SUB3,H SUB2 O SYSTEM WAS DETD. AT 125DEGREES. THE  
SOLY. ISOTHERM OF THE SYSTEM AND ISOTHERMS OF D., VISCOSITY, AND ELEC.  
COND. OF THE LIQ. PHASES ARE CONSTRUCTED. CR(INO SUB3) SUB3,6COINH SUB2)  
SUB2,3H SUB2 O (HAVING N SUBALPHA, N SUBBETA, AND N SUBGAMMA EQUAL  
1.463, 1.573, AND 1.639, RESP.) FORMS IN THE SYSTEM.

UNCLASSIFIED



1/2 020 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--LITHIUM NITRATE, AMMONIUM NITRATE, WATER SYSTEM AT 25 DEGREES -U-  
AUTHOR--(03)-GANINA, G.I., KARNAUKHOV, A.S., LEPESHKOV, I.N.  
COUNTRY OF INFO--USSR  
SOURCE--ZH. NEORG. KHIM. 1970, 15(4), 1105-8  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--LITHIUM COMPOUND, NITRATE, AMMONIUM NITRATE, CHEMICAL RESEARCH FACILITY, ISOTHERM  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1999/1109 STEP NO--08/0078/70/015/004/1105/1108  
CIRC ACCESSION NO--AP0123101  
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--19NOV70

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CIRC ACCESSION NO--AP0123101

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

ABSTRACT. THE SOLY. ISOTHERM (250DEGREES) OF  
 THE LIND SUB3-NH SUB4 NO SUB3-H SUB2 O SYSTEM IS PRESENTED; IT HAS 3  
 BRANCHES CORRESPONDING TO LIND SUB3 .3H SUB2 O, LIND SUB3, AND NH SUB4  
 NO SUB3. THE ELEC. COND., VIXCOSITY, AND D. OF SATO. SOLNS. OF THE  
 SYSTEM WERE OBT. THE ISOTHERMS OF THESE PROPERTIES ARE IN AGREEMENT  
 WITH THE SOLY. ISOTHERMS OF THIS SYSTEM. FACILITY: INST.  
 OBSHCH. NEURG. KHIM. IM. KURNAKOVA, MOSCOW, USSR.

UNCLASSIFIED

172 013  
 UNCLASSIFIED  
 TITLE--ASYMMETRY IN THE ANGULAR DISTRIBUTION OF "DIRECT" PHOTONEUTRONS FROM BISMUTH -U-  
 PROCESSING DATE--16OCT70  
 AUTHOR--(02)-LAZAREVA, L.E., LEPESTKIN, A.I.  
 COUNTRY OF INFO--USSR  
 JOURNAL--PHYS. REV. 1970, 11(2), 266-72  
 DATE PUBLISHED-----70  
 SUBJECT AREAS--PHYSICS  
 TOPIC TAGS--PHOTONEUTRON, ANGULAR DISTRIBUTION, BISMUTH, BREMSSTRAHLUNG, GAMMA QUANTUM  
 CONTROL MARKING--NO RESTRICTIONS  
 DOCUMENT CLASS--UNCLASSIFIED  
 PROXY REEL/FRAME--1980/0365 STEP NO--0870367770/081730070260/0272  
 CIRC ACCESSION NO--AP0048637  
 UNCLASSIFIED