

172 019 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--ELECTRON EFFECTS OF N,ALKYL GROUPS IN 1,CHLOROALKANES STUDIED BY  
NUCLEAR QUADRUPOLE RESONANCE, NQR -U-  
AUTHOR-(03)-VORONKOV, M.G., FESHIN, V.P., POPOVA, YE.P.  
COUNTRY OF INFO--USSR  
SOURCE--LAIV. PSR ZINAT. AKAD. VESTIS 1970, (2), 33-4  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY, PHYSICS  
TOPIC TAGS--ALKANE, CHLORINATED ALIPHATIC COMPOUND, ELECTRON DENSITY,  
NUCLEAR RESONANCE, ELECTRON DISTRIBUTION  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1997/0685 STEP NO--UR/0197/70/000/002/0033/0034  
CIRC ACCESSION NO--AP0119593  
UNCLASSIFIED

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PROCESSING DATE--30OCT70

2/2 019

CIRC ACCESSION NO--AP0119593

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TRANSFER OF THE ELECTRON EFFECTS ALONG THE SATD. HYDROCARBON CHAIN WAS STUDIED IN A SERIES OF COMPS. ME(CH SUB2) SUBN CL (N EQUALS 0-11) BY PRIME35 CL NZK SPECTRA AT 77DEGREESK. ON PASSING FROM N EQUALS 0 TO N EQUALS 1 THE RESONANCE FREQUENCY, NU, IS HARPLY REDUCED OWING TO A LARGE INDUCTIVE EFFECT OF ET AS COMPARED TO ME GROUP ENHANCED ALSO IN THE FORMER COMPD. BY THE SIGMA,SIGMA CONJUGATION. FOR N EQUALS 2 THE NU VALUE BECOMES LARGER TO OSCILLATE AROUND THE AV. NU VALUE OF 33.0 MHZ WITH INCREASING N. HIGHER NU VALUES FOR EVEN THAN FOR ODD N'S ARE NOTICED. ANOMALOUS BEHAVIOR FOR 1,CHLOROBUTANE WAS OBSD. ALSO HERE (NU 33.255 MHZ). THE VALUE IS CONDITIONED BY THE ELECTRON D. DISTRIBUTION BETWEEN THE CL ATOM AND THE CLOSEST CH SUB2 GROUPS IN THE CHAIN. WHEN THE HYDROCARBON CHAIN BECOMES LONGER (N GREATER THAN 4) THE AV. NU VALUE AROUND WHICH THE OSCILLATIONS OCCUR GRADUALLY INCREASES. FACILITY: INST. ORG. SIN., RIGA, USSR.

UNCLASSIFIED

1/2 015 UNCLASSIFIED PROCESSING DATE--23NOV70  
TITLE--CHLORINE 35 NUCLEAR QUADRUPOLE RESONANCE NQR OF 1,ALKANECARBOXYLIC  
ACID CHLORIDES -U-  
AUTHOR-(04)-VORONKOV, M.G., FESHIN, V.P., GONCHAROVA, I.N., MIRONOVA, L.I.  
COUNTRY OF INFO--USSR  
SOURCE--LATV. PSR ZINAT. AKAD. VESTIS 1970, (2), 35-7  
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, NUCLEAR SCIENCE AND TECHNOLOGY, PHYSICS

TOPIC TAGS--NUCLEAR RESONANCE, CARBOXYLIC ACID, ALKANE, CHLORINATED  
ORGANIC COMPOUND, SPECTRUM, ELECTRON TRANSFER, CONJUGATE BOND SYSTEM,  
CHLORINE ISOTOPE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1997/0649

STEP NO--UR/0197/70/000/002/0035/0037

CIRC ACCESSION NO--AP0119561

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2/2 015

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119561

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. WITH THE PURPOSE TO LEARN THE NATURE OF THE ELECTRON TRANSFER THROUGH SATD. HYDROCARBON CHAIN THE PRIME35 CL NQR SPECTRA WERE STUDIED IN A SERIES OF COMPS. OF THE TYPE X(CH SUB2) SUBN Y, WHERE X EQUALS ME OR COCL, N EQUALS 0-10, 12, 13, AND X EQUALS Y EQUALS COCL, N EQUALS 0-8. THE SPECTRA WERE MEASURED AT 77DEGREE SK ON A SPIN ECHO TYPE APP. THE RESONANCE FREQUENCY V FOR BOTH SERIES STUDIED ARE SIMILAR (SIMILAR TO 29 MHZ) AND LOWER THAN IN THE CORRESPONDING CL ANALOGS (X EQUALS ME, Y EQUALS CL, OR X EQUALS Y EQUALS CL). THIS IS DUE TO THE GEMINAL CONJUGATION BETWEEN THE CL ATOM AND THE C:O GROUP IN THE ACYL CHLORIDES. THE RELATION V VS. N HAS A DIFFERENT CHARACTER FOR EITHER SERIES. IN DIACYL CHLORIDES THE V VALUE DECREASES ON PASSING FROM N EQUALS 0 TO N EQUALS 3 DOWING TO A DECREASED MINUS 1 EFFECT. AT N EQUALS 3-8 IT OSCILLATES AROUND AN AV. AV. VALUE LARGER FOR EVEN AND SMALLER FOR ODD N VALUES. THE AMPLITUDE OF THESE OSCILLATIONS AND THE AV. V VALUE INCREASES WITH LENGTH OF THE CHAIN. IN MONOACYL CHLORIDES THE V VALUE OSCILLATES BEGINNING FROM N EQUALS 0. FOR N EQUALS 1 V IS INCREASED CONTRARY TO THE EXPECTATIONS ON THE BASIS OF THEIR SIGMA VALUES. THIS IS DUE TO THE SIGMA, SIGMA INTERACTION EFFECT OVERWEIGHING THE PLUS 1 EFFECT OF THE ALKYL GROUP. WHEN PASSING FROM N EQUALS 1 TO 2 THE V VALUE BECOMES LOWER AS THE PLUS 1 EFFECT BECOMES INOPERATIVE THERE. ON FURTHER LENGTHENING OF THE CHAIN (N LARGER THAN 2) THE PERIODIC CHANGES OF V RESULT ONLY FROM THE OSCILLATION EFFECT WHICH IS REGULAR THERE. FACILITY: INST. ORG. SIN., RIGA, USSR.

UNCLASSIFIED

1/2 033 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--AERODYNAMIC STUDY OF THE REMOVAL OF DUST FROM GASES IN APPARATUS  
CONSISTING OF AN EJECTOR AND A CYCLONE -U-  
AUTHOR--FESKOV, M.I.  
COUNTRY OF INFO--USSR  
SOURCE--KHIM. PROM. (MOSCOW) 1970, 46(1), 58-8  
DATE PUBLISHED-----70  
SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, PHYSICS  
TOPIC TAGS--NOZZLE, GAS, DUST TEST, CYCLONE SEPARATOR, COAGULATION,  
AERODYNAMICS  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1989/0925 STEP NO--UR/0064/70/046/001/0058/0059  
CIRC ACCESSION NO--AP0107454  
UNCLASSIFIED

2/2 033

UNCLASSIFIED

PROCESSING DATE--300CT70

CIRC ACCESSION NO--AP0107454

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A DUST REMOVER CONSISTING OF AN EJECTOR AND A CYCLONE IS DESCRIBED; THE EJECTOR SIMULTANEOUSLY COAGULATED THE DUST AND PUMPED PART OF THE GAS STREAM FROM THE CYCLONE. WATER WAS ATOMIZED INTO THE AIR JET IN THE EJECTOR NOZZLE, IN AMTS. CORRESPONDING TO 0.082 L.-M PRIME3; THE AIR VELOCITY IN THE NOZZLE WAS 60 M-SEC. THE DUST (CARBON BLACK WITH A PARTICLE SIZE OF LESS THAN 0.5-5.0 MU) CONC. IN THE AIR WAS REDUCED FROM 500-2000 AT THE INLET TO 3-13 MG-M PRIME3 AT THE OUTLET OF THE APP. AN EQUATION FOR THE EJECTION COEFF. ETA SHOWS THAT IT INCREASES WITH INCREASING DISTANCE BETWEEN THE NOZZLE AND THE AIR ROTATING PART ("ROSETTE").

UNCLASSIFIED

USSR

FET, Ya. I.

"Realization of Group Operations on a Rotary Conveyor Processor"

Sb. Tr. In-t Mat. Sib. Otd. AN SSSR [Collected Works of Institute of Mathematics, Siberian Division, Academy of Sciences, USSR], 1972, No 4(23), pp 104-115 (Translated from Referativnyy Zhurnal Kibernetika, No 4, 1973, Abstract No 4V615, by the author).

Translation: The possibility is studied of realization of certain massive computer operations on a rotary type conveyor processor. The high effectiveness of this processor is achieved by a special logic structure of the rotary arithmetic device. The performance of reductive and component-by-component operations on numerical vectors is studied in detail, as is the calculation of scalar derivatives. Time diagrams are presented. It is demonstrated that the rotary conveyor processor has a number of significant advantages over other known mass-operation arithmetic devices.

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FETIN, I. N.

SO: JPRS 54340  
28 OCT 71

PROMISING METHODS FOR WATER RECLAMATION IN SPACECRAFT LIFE SUPPORT SYSTEMS

S. V. Chibay, A. A. Kozlov, Yu. Ye. Sinyak, I. N. Fetin, V. V. Kravchenko  
640757  
SP 1-9

Abstract: 1. This paper convincingly demonstrates the need for developing regenerative life support systems, water regeneration from water-bearing wastes being the first and foremost step in their design and development. The selection of a particular water regeneration method is dependent on a complex functional relationship between the flight program, flight duration, spacecraft power supply, number of crew members, possibility of replenishing the food supply, weight and reliability of the life support system, etc. 2. An analysis of the sources of water-bearing wastes, mass flows, and their chemical composition demonstrates that most of the water can be reclaimed using the sorption technique. The technique can also be applied to the atmospheric condensate, transpiration water of higher and lower plants, water produced by electrothermal generators, condensation resulting from catalytic decomposition of hydrogen peroxide, and catalytic hydration of carbon dioxide. This technique can also be used in obtaining a high purification of water formed during any other regeneration method. It will be employed, although with certain limitations, to regenerate wash water. The application of the technique is illustrated by experimental data derived from a one-year medicobiochemical test. 3. When developing life support



FETISENKO, I. I.

SO: JPRS 5342A  
12 June 71

UDC: 614.2(65)

PUBLIC HEALTH CARE IN THE ALGERIAN PEOPLE'S DEMOCRATIC REPUBLIC

Article by I. I. Fetisenko, Chief of Section, Hygiene and Public Health Organization, Institute of Preventive Medicine, corresponding member of the USSR Academy of Medical Sciences, Leningrad, (the former Medical Institute head; Lt. Sechenov's name, Secretariat Administration, Moscow, No 5, 1971, published 5 November 1970, pp 55-59)

According to the information in the Annual of the European Regional Office of WHO, in 1963 the population of Algeria numbered 10,451,600, 612,900 of whom inhabit the "pre-desert" zone and the Sahara Desert. Most of the population lives in two of the 15 departments in the nation, Oasys and Sany.

The ethnic composition of the population is not very diversified. It is represented mainly by the Arab-Berber Group. The Arabs arrived on the territory of today's Algeria in the 7th century. Gradually the tribal differences between Berbers and Arabs disappeared. At present, in the high altitude mountain regions of Greater Kabylia and in the western part of the nation, there are Berbers who are primarily cattle breeders.

For 132 years, Algeria experienced oppression by France. In 1954, the seven-year war of the Algerian people began which ended with victory for the National Liberation Front (NLF); Algeria declared its independence on 3 July 1962.

The vast majority of therapeutic institutions in Algeria, both in colonial times and today, is concentrated in the coastal region, in major cities: Algiers, Annaba, Constantine, Oran, Tlemcen, and Tizi-Ouzou.

During the period of French rule the rural population was practically without any medical care whatsoever.

In 1962, in Tripoli, the Session of the National Council of Algeria adopted a new program of development in which attention was given to measures directed toward organizing a national public health service. In accordance with this program, in 1966 the Algerian Ministry of Health and Population was established.

Acc. Nr: AP0050780 - Abstracting Service:  
CHEMICAL ABST. 5-70

Ref. Code:  
UA 0333

99211r Infrared analyzer of milk. Zhdanova, E. A.; Fetisov, E. A. (Vses. Nauch.-Issled. Inst. Moloch. Prom., Moscow, USSR). Moloch. Prom., 1970, 31(1), 23-5 (Russ). A description of the Grubb Parsons IRMA spectrophotometer for the anal. of fat, protein, and lactose in milk. Lola Brodfeld J

REEL/FRA  
19810780

1/2 037 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--SPATIAL DISPERSION EFFECTS IN THE OPTICS OF METALS -U-  
AUTHOR--(02)-SILIN, V.P., FETISOV, E.P. F  
COUNTRY OF INFO--USSR  
SOURCE--PHYSICA STATUS SOLIDI, 1970, VOL 39, NR 1, PP 49-60  
DATE PUBLISHED-----70  
  
SUBJECT AREAS--PHYSICS  
TOPIC TAGS--KINETIC EQUATION, PLASMA WAVE, METAL SURFACE PROPERTY, LIGHT RADIATION EFFECT, SURFACE ENERGY, ASYMPTOTIC PROPERTY, LIGHT DISPERSION  
  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1992/0083 STEP NO--GE/0030/70/039/001/0049/0060  
CIRC ACCESSION NO--AP0111277  
UNCLASSIFIED

2/2 037

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0111277

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE OBLIQUE INCIDENCE OF A LIGHT WAVE ON A PLANE BOUNDARY IS CONSIDERED USING THE METHOD OF KINETIC EQUATION. THE MAIN ATTENTION IS PAID TO THE STUDY OF THE INFLUENCE OF LONGITUDINAL PLASMA WAVE EXCITATION IN METALS ON SURFACE ENERGY LOSSES OF LIGHT WAVES AND ON VOLUME LOSSES IN THE CASE OF P-POLARIZATION. THE SIGNIFICANCE OF FERMI LIQUID EFFECTS IS CONSIDERED IN DETAIL. AN ASYMPTOTIC BEHAVIOUR OF THE FIELD INSIDE THE METAL IS OBSERVED FOR LONG DISTANCES FROM THE BOUNDARY. FACILITY: P. N. LEBEDEV PHYSICAL INSTITUTE, MOSCOW.

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FETISOV, N. N.

JRS 55570

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UDC: 614.2:061.3(100)"1971"

FOURTEENTH INTERNATIONAL PUBLIC HEALTH ASSEMBLY

Article by Professor Yu. P. Litsyn, V. K. Turochenko, doctor of medical sciences, and N. N. Fetisov, Moscow, Сырьевые Здравоохранение, Russian, No 2, 1972, subtitled 9 June 1971, pp 74-77]

In May 1971, the 14th International Public Health Assembly, the largest forum of the world's medical community, convened. As we know, the Public Health Assembly is an annual meeting of representatives of member nations of WHO. At the present time, when one more nation was accepted as a member of the WHO at a fourteenth Assembly, this organization consists of 133 nations, and it is the largest in the system of the UN.

At the Assembly, the Soviet delegation was headed by V. B. Petrovskiy, USSR Minister of Health; it also included the Uzbek Minister of Health, Professor K. S. Zaitov, deputy USSR Minister of Health D. D. Venediktov, and P. N. Burkanov, the authors of the present article, and others.

The Assembly discussed about 70 issues, including the report of the director-general on the activities of WHO in 1970, adoption of its new general program for five years, consideration of the cholera pandemic, amelioration of the environment and eradication of smallpox, control over quality and distribution of drugs, training national public health personnel, the WHO program and budget, acceptance of new members, etc.

The director-general began his report about WHO activities in 1970 with a presentation of steps to control cholera which member nations and the organization as a whole took. He commented that prompt information and WHO and its assistance to nations, especially with respect to delivery of cholera vaccines, made it possible to prepare for the cholera pandemic. Further, describing the activities of WHO in the control of infectious disease and first of all the successful global campaign to eradicate smallpox, the director-general mentioned the importance of resolving the problem of environmental pollution by pesticides, and first of all DDT and other chemicals. He stressed the significance of controlling environmental pollution by pesticides, and first of all DDT and other chemicals. As before, concern was expressed about development of public health services and training national personnel in formerly undeveloped countries.

1/2 008 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--NATURAL NIDALITY OF ERYSIPELOID AT THE SOUTH EAST OF THE RYAZAN  
DISTRICT -U-  
AUTHOR--(04)-KHCMYAKOV, A.I., SADOVNIKOVA, R.N., FETISOVA, N.A., FETISOV,  
S.A.  
COUNTRY OF INFO--USSR  
SOURCE--ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII I IMMUNOBIOLOGII, 1970, NR 3,  
PP 131-133  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--RODENT, TICK, ERYSIPELAX, GEOGRAPHIC LOCATION  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1990/1478 STEP NO--UR/0016/70/000/003/0131/0133  
CIRC ACCESSION NO--AP0109538  
UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0109538

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE SASOV AND SHATSK REGION LOCALIZED AT THE SOUTH EASTERN PART OF RYAZAN DISTRICT (TSNA RIVER BASIN) THERE WAS ESTABLISHED A NATURAL NIDALITY OF ERYSIPELOID. A TOTAL OF 2,354 OF VARIOUS SPECIES OF RODENTS AND INSECTIVOROUS ANIMALS, 9,405 TICKS (DERMAGENTOR PICTUS 4,375, IXODES RICINUS 5,030), AND 93 SAMPLES OBTAINED FROM THE OBJECTS OF THE EXTERNAL ENVIRONMENT WERE EXAMINED IN 1962-1968. EIGHT CULTURES OF ERYSIPELOTHRIX RHUSIOPATHIAE. VARIANT MURISEPTICUM WERE ISOLATED (IN 1963-4, AND IN 1968-4) FROM THE ORGANS OF 4 ARVICOLA TERRESTRIS L., 13 MICROTUS OECONOMUS, 16 MICROTUS ARVALIS PALL., ONE MYCROMYS MINUTUS, AND ONE RATTUS NORVEGICUS BERKEN.

UNCLASSIFIED

USSR

UDC 517.948:513.88

FETISOV, V. G.

"Certain Nonlinear Operators in Modular Orlicz Spaces"

Uch. zap. Kemerov. gos. ped. in-t (Scientific Notes of the Kemerov State Pedagogical Institute), No 23, 1970, pp 18-30 (from Referativnyy Zhurnal -- Matematika, No 7, July 71, Abstract No 7B865, by I. Shragin)

Translation: Properties of the integral operator

$$Au(\tau) = \int_{\Omega} K(\tau, s, u(s)) ds$$

are studied in spaces of the form  $L^*\varphi(\Omega)$  where  $\varphi$  is a  $\varphi$ -function (Referativnyy Zhurnal -- Matematika, 1961, Abstract 6B414). Different theorems on the continuity and differentiability of operator A are proven. Also proven is a theorem on the conditions for the operation of the superscript operator. More general assumptions on the superscript operator are given in a work by the abstracter (Referativnyy Zhurnal -- Matematika, 1970, Abstract No 6B747).

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Acc. Nr.: AA0040447

Ref. Code: LR0482

USSR

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JPRS 5248  
UDC 621.316.722.9

KAZANTSEV, A. D., LUNEV, A. V., and FETISOV, V. I.

"Pulse Supply Source"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 1, 1970, p 52, Author Certificate No 258397 Class 21a<sup>4</sup>.

Abstract: An author certificate has been issued for a pulse supply source, which contains an amplifier, a relaxation master oscillator, and a protection circuit. In order to increase the stability of the output voltage and to decrease its own intake power, a circuit is provided between the intake terminals, which contains a resistor and a capacitor connected in series. A diastor is connected between them by its cathode, while its anode is connected to the base of the amplifier input transistor. In addition, the output transistor collector of the amplifier is loaded through the diode on the thyristor control electrode. A load is connected between thyristor anodes and the bus bar.

Reel/Frame  
19741939

USSR

UDC 621.316.722.9

KAZANTSEV, A. D., LUNEV, A. V., and FETISOV, V. I.

"Pulse Supply Source"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 1, 1970, p 52, Author Certificate No 258397 Class 21a<sup>4</sup>.

Abstract: An author certificate has been issued for a pulse supply source, which contains an amplifier, a relaxation master oscillator, and a protection circuit. In order to increase the stability of the output voltage and to decrease its own intake power, a circuit is provided between the intake terminals, which contains a resistor and a capacitor connected in series. A diode is connected between them by its cathode, while its anode is connected to the base of the amplifier input transistor. In addition, the output transistor collector of the amplifier is loaded through the diode on the thyristor control electrode. A load is connected between thyristor anodes and the bus bar.

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1/2 030 UNCLASSIFIED PROCESSING DATE--16OCT70  
TITLE--ALLERGENIC PROPERTIES OF THE COTTON AND FLAX SPINNING MILLS DUST  
-U-  
AUTHOR--(03)-FETISOVA, A.A., TITOVA, S.M., ALEKSANDROVA, O.G.  
COUNTRY OF INFO--USSR F  
SOURCE--GIGIYENA TRUDA I PROFESSIONAL'NYYE ZABOLEVANIYA, 1970, NR 5, PP  
19-22  
DATE PUBLISHED-----70  
  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--TEXTILE INDUSTRY, NATURAL FIBER, DERMATITIS, ALLERGIC DISEASE,  
ANAPHYLAXIS, INDUSTRIAL MEDICINE  
  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1996/0692 STEP NO--UR/0391/70/000/005/0019/0022  
CIRC ACCESSION NO--AP0117917  
UNCLASSIFIED

2/2 030

UNCLASSIFIED

PROCESSING DATE--160GT70

CIRC ACCESSION NO--AP0117917

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INVESTIGATIONS INCLUDED CUTANEOUS SCARIFICATION TESTS IN WORKERS OF COTTON AND FLAX SPINNING MILLS, ANAPHYLAXIA WITH DESENSITIZATION EXPERIMENTS IN GUINEA PIGS, ALONG WITH STAGING OF INTRADERMAL AND SCARIFICATION TESTS IN SENSITIZED ANIMALS, WHEREFROM THE FOLLOWING INFERENCES ENSEW: 1. INDUSTRIAL DUST OF COTTON AND FLAX SPINNING MILLS IS AN ALLERGEN; 2. POSITIVE SKIN TESTS ARE RECORDED NOT ONLY IN PATIENTS WITH IMPAIRED BRONCHOPULMONARY SYSTEM BUT ALSO IN PRACTICALLY HEALTHY SUBJECTS, WHICH, APPARENTLY, IS INDICATIVE OF A LATENT NATURE OF THE ALLERGY; 3. ANTIGENIC PROPERTIES OF THE INDUSTRIAL DUST ARE DUE TO THE PRESENCE THEREIN OF BACTERIA AND FUNGI; 4. THERE IS AN AFFILIATION BETWEEN THE DUST GENERATED AT COTTON AND FLAX SPINNING MILLS, CONDITIONED BY THE HOMOGENEITY OF THE FUNGAL AND BACTERIAL FLORA. FACILITY: MEDITSINSKIY INSTITUT, ALLERGOLOGICHESKAYA LABORATORIYA AMN INSTITUT GIGIYENY TRUDA I PROFZABOLEVANIY AMN SSSR.

UNCLASSIFIED

USSR

UDC 632.95

LUKANINA, V. S., and FETISOVA, I. A.

"Determination of Polychlorocamphene and DDT in a 60% Emulsified Concentrate of Polychlorocamphene with DDT"

V sb. Khim. sredstva zashchity rast. (Chemical Agents for Plant Protection -- collection of works), vyp 1, Moscow, 1970, pp 83-88 (from RZh-Khimiya, No 11, Jun 72, Abstract No 11N400)

Translation: Polychlorocamphene is determined in a polydophen preparation by a photolorimetric method based on the property of polychlorocamphene of producing a strong yellow tint with thiourea in an alkaline medium. The accuracy of determination of polychlorocamphene is  $\pm 1\%$ . The DDT concentration in the compound is determined from the total chlorine by Schoenher ignition of the compound in oxygen.

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1/2 008

UNCLASSIFIED

PROCESSING DATE--13NOV70

TITLE--NATURAL NIDALITY OF ERYSIPELOID AT THE SOUTH EAST OF THE RYAZAN DISTRICT -U-

AUTHGR--(04)-KHCMYAKOV, A.I., SADOVNIKOVA, R.N., FETISOVA, N.A., FETISOV, S.A.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII I IMMUNOBIOLOGII, 1970, NR 3, PP. 131-133

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--RODENT, TICK, ERYSIPELAX, GEOGRAPHIC LOCATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/1478

STEP NO--UR/0016/70/000/003/0131/0133

CIRC ACCESSION NO--AP0109538

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0109538

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE SASOV AND SHATSK REGION LOCALIZED AT THE SOUTH EASTERN PART OF RYAZAN DISTRICT (TSNA RIVER BASIN) THERE WAS ESTABLISHED A NATURAL NIDALITY OF ERYSIPELOID. A TOTAL OF 2,354 OF VARIOUS SPECIES OF RODENTS AND INSECTIVOROUS ANIMALS, 9,405 TICKS (DERMACENTOR PICTUS 4,375, IXODES RICINUS 5,030), AND 93 SAMPLES OBTAINED FROM THE OBJECTS OF THE EXTERNAL ENVIRONMENT WERE EXAMINED IN 1962-1968. EIGHT CULTURES OF ERYSIPELOTHRIX RHUSIOPATHIAE. VARIANT MURISEPTICUM WERE ISOLATED (IN 1963-4, AND IN 1968-4) FROM THE ORGANS OF 4 ARVICOLA TERRESTRIS L., 13 MICROTUS OECONOMUS, 16 MICROTUS ARVALIS PALL., ONE MYCROMYS MINUTUS, AND ONE RATTUS NORVEGICUS BERKEN.

UNCLASSIFIED

Automatic Control: Instruments

3

USSR

UDC: 681.325.65

PRANGISHVILI, I. V., POPOVA, G. M., USKACH, M. A., FETISOVA, S. V., MOSKOV, B. A., RUDERMAN, L. Z., KOPEYKIN, G. A., Institute of Automation and Remote Control (Technical Cybernetics)

"An Element of Homogeneous Structure"

USSR Author's Certificate No 287115, filed 11 Mar 69, published 18 Feb 71  
(from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 10, Oct 71, Abstract No 10B169 P)

Translation: Elements are known which can be used as cells of homogeneous structure in addition to other applications. A multifunctional element used as a cell of homogeneous structure has the disadvantage that only the outputs are commutated in such an element, and the logic inputs are not commutated. This limits its functional possibilities: e. g., the cell cannot be used for high-speed homogeneous structures with feed-through current lines through which signals propagate with practically no delay (bus structures). For coupling to the lines, the cells must have commutatable inputs and outputs: i. e., they must receive signals from the line and transfer signals to the line. In addition, in the case of external interference the information must be periodically transferred to the cell flip-flops to correct  
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USSR

PRANGISHVILI, I. V. et al., Soviet Patent No 287115

failures which may occur. In a multifunctional logic circuit in the multiple-transfer mode, all flip-flops are preset to the zero state each time, regardless of the presence of failures. This interrupts the function being realized by the structure each time, which is a considerable disadvantage of the logic circuit. The purpose of this invention is to extend the functional possibilities and increase the speed of the homogeneous structure. In the proposed element, this purpose is achieved by redistributing the control circuit between the inputs and outputs of the element without increasing the total number of components: i. e., some of the inputs and outputs are made commutable, and some are not. Only the commutable inputs and outputs are used in connecting the element to the lines. In connecting the elements to one another, the noncommutable inputs of one element are connected to the commutable inputs of the other, and vice versa. Thus between any elements of the structure (between adjacent cells or between the cells and the lines) a controllable data transmission channel is formed which may be switched on or off depending on the debugging code. The circuit for setting and resetting the flip-flops is made in such a way that when information is being transferred, the flip-flops are set immediately to a predetermined state without presetting to the zero state in order to correct failures. This procedure makes it possible to use a logic cell in high-

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USSR

PRANGISHVILI, I. V. et al., Soviet Patent No 287115

-speed bus structures, as well as to improve the interference suppression of the structure by means of multiple transfer. One illustration.

3/3

USSR

UDC 681.3.056

PRANGISHVILI, I. V., POPOVA, G. M., USKACH, M. A., FETISOVA, S. V., MOSKOV, B. A., RUDERMAN, L. Z., KOPEYKIN, G. A., Institute of Automation and Remote Control (Technical Cybernetics)

"An Element of Homogeneous Structure"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, 1970, No 35, Soviet Patent No 287115, class 21, filed 11 Mar 69, published 19 Nov 70, pp 62-63

Translation: This Author's Certificate introduces an element of homogeneous structure which contains AND, OR, AND-NOT and NOT circuits, flip-flops, commutated inputs, noncommutated inputs, and inputs for horizontal and vertical tuning lines. As a distinguishing feature of the patent, the functional possibilities of the element are extended and the speed of the homogeneous structure is increased by connecting the inputs of the AND circuits for setting the flip-flops to one, to the horizontal and vertical tuning lines, while the inputs of the AND circuits for setting the flip-flops to zero are connected to the horizontal tuning lines, and through the NOT circuits to the vertical tuning lines. The outputs of the first two flip-flops are connected to the inputs of the OR circuits, which are

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PRANGISHVILI, I. V., et al., Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, 1970, No 35, Soviet Patent No 287115, class 21, filed 11 Mar 69, published 19 Nov 70, pp 62-63

also connected to the commutated inputs of the element. The outputs of these OR circuits are connected together with the noncommutated inputs of the element through an AND circuit to the input of a "mod 2 addition" circuit. Also connected to this addition circuit are the outputs of a third flip-flop. The outputs of the remaining flip-flops are connected to AND-NOT output circuits, whose inputs are also connected to the output of the "mod 2 addition" circuit and through a NOT element to one of the outputs of the structure element.

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USSR

UDC 632.95

ITSKOVA, A. L., GAR, K. A., MANDEL'BAUM, YA. A., FETISOVA, V. F., and ORLOVA, V. I.

"An Arcaricide"

USSR Authors' Certificate No 267244, Cl. A 01 n 9/36; A 01 n 9/14, filed 16 Sep 68, published 17 Jan 72 (from RZh-Khimiya, No 14, 25 Jul 72, Abstract No 14N468 by T. A. Belyayeva)

Translation: For the control of spider mites the authors suggest application of a thiophosphate with the general formula  $(RO)(R'R''N)P(O)SCH_2CON(Et)SO_2Me$  (I) (R = Me or Et; R' = Me, Et, Pr; R'' = H, Me, Et). Results of I tests on spider mite specimens are presented.

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UNCLASSIFIED

PROCESSING DATE--17JUL70

TITLE--ADRENALIN, NCRADRENALIN AND THEIR PREDECESSOR EXCRETION (DOPA AND DOPAMIN) IN PATIENTS WITH MIGRAINE -U-  
ALTHGR--GOLDMAN, A.B., MATLINA, E.S.F., FETS, A.N.

CCOUNTRY OF INFO--USSR

SCURCE--ZHURNAL NEVROLOGII I PSIKHIATRII, 1970, VOL 70, NR 2, PP 199-203

DATE PUBLISHED-----70

18  
5  
23

SUBJECT AREAS--PSYCHOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HEADACHE, ADRENALINE, NCRADRENALINE, URINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1979/0670

STEP NO--UR/0246/70/070/002/0199/0203

CIRC ACCESSION NO--APOC47175

UNCLASSIFIED

Acc. Nr: AP0047175

Ref. Code: UR 0246

PRIMARY SOURCE: Zhurnal Nevropatologii i Psikhatrii, 1970,  
Vol 70, Nr 2, pp 199-203

ADRENALIN, NORADRENALIN AND THEIR PREDECESSOR  
EXCRETION (DOPA AND DOPAMIN) IN PATIENTS WITH MIGRAINE

N. B. Goldman, E. S. Mallina and A. N. Fets

The authors conducted an investigation of 25 patients with migraine, where they studied the diurnal urine excretion (as well as in partial excretion of urine) of adrenaline, noradrenalin, dopamin and dopa in the intercrises period, during crises, as well as during the introduction of insulin. It was possible to show that in the intercrises period the excretion of these substances did not disclose significant differences compared to normals. It was demonstrated that there was only a decrease in the noradrenalin--adrenalin excretion ratio. In the period prior to a crisis there was a decrease in adrenalin excretion. In the crucial period of the crisis adrenalin excretion rose significantly. In those cases where during the introduction of insulin a migrainous attack ensued there was an increased adrenalin excretion which exceeded the changes seen in normals. The achieved results give grounds to assume that the changed adrenalin content plays a certain role in the development of a migrainous attack.

REEL/FRA  
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Microbiology

USSR

UDC 576.851.45.077.3:576.8.073.4

URALEVA, V. S., FETSAYLOVA, O. P., MYASNIKOVA, G. S., DASHKEVICH, L. V., and AZARTSEV, A. N., Rostov-na-Donu Scientific Research Antiplague Institute and Poltavskaya, Yaroslavskaia, and Orlovskaya Oblast Sanitary Epidemiological Stations

"Results Obtained by Means of Fluorescent Antibodies During Investigation of Natural Foci of Tularemia"

Moscow, Laboratornoye Delo, No 1, 1973, pp 57-58

Abstract: Spleen, blood, lymph node, liver, and lung smear prints of 13 infected laboratory mice were treated with luminescent tularemia serum. A large number of brightly luminescent microbes were found in the samples of seven animals. Bacteriological investigations yielded tularemia pathogen from all 13 animals. Luminescent bodies resembling tularemia microbes were also observed in two additional mice infected with Dermacentor pictus ticks. However, no tularemia bacteria were isolated from these animals. It was established that smear prints of internal organs remain suitable for treatment with luminescent serum for up to 6 months if kept in a refrigerator and for up to 3 months if kept at room temperature. The method of contrasting specific luminescence yields good results only if bovine albumin tagged with fluorothiocyanate is used. Albumin tagged with isothiocyanate is ineffective.

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1/2 022 UNCLASSIFIED PROCESSING DATE--0200T70  
TITLE--VERTICAL PROFILES OF LONG WAVE RADIATION FLUXES IN A CLOUDY  
ATMOSPHERE -U-  
AUTHOR-(03)-GOISA, N.I., OPPENGEIM, V.D., FEYGELSON, R.M.  
COUNTRY OF INFO--USSR  
SOURCE--AKADEMIIA NAUK SSSR, IZVESTIYA, FIZIKA ATMOSFERY I OKEANA, VOL 6  
FEB 1970, P 198-203  
DATE PUBLISHED-----70

SUBJECT AREAS--ATMOSPHERIC SCIENCES

TOPIC TAGS--LONG WAVE RADIATION, VERTICAL PROFILE, RADIATION FLUX,  
ATMOSPHERIC CLOUD, ATMOSPHERE, RADIATIVE HEATING, RADIATIVE COOLING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1989/1905

STEP NO--UR/0362/70/006/000/0198/0203

CIRC ACCESSION NO--AP0108235

UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0108235  
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. MEASUREMENT OF UPWARD AND DOWNWARD LONG WAVE RADIATION FLUXES UNDER CLOUDY CONDITIONS DURING DAYTIME AND NIGHTTIME HOURS. A SHARP CHANGE IN THE DOWNWARD FLUX UPON ENTRY INTO THE CLOUDY LAYER FROM ABOVE IS NOTED, WHILE THE PROFILE OF THE UPWARD FLUX IS EVERYWHERE SMOOTH. ON THE BASIS OF 25 VERTICAL PROFILES OF THE EFFECTIVE RADIATION IN THE CASE OF SINGLE LAYER STRATUS CLOUDS, A MODEL OF THE RADIATION TRANSPORT IN AN AVERAGE STRATUS CLOUD IS CONSTRUCTED. IT IS SHOWN THAT THE RADIATION FLUX DIVERGENCE IN THE ATMOSPHERE ABOVE THE CLOUD IS SIMILAR TO THE DIVERGENCE UNDER CLEAR SKY CONDITIONS. WITHIN THE CLOUD, THE MOST ACTIVE AREA FROM THE RADIATION STANDPOINT IS THE UPPERMOST 50 M LAYER. IN THE UNDERLYING 50 M LAYER THE RADIATION FLUX DIVERGENCE DECREASES FIVEFOLD. CONSIDERABLE RADIATIVE COOLING PENETRATES DOWN TO 150 M. THEN FOLLOWS A LAYER WHERE THE FLUX DIVERGENCE IS CLOSE TO ZERO. FINALLY, NEAR THE LOWER BOUNDARY OF THE CLOUD RADIATIVE HEATING IS OBSERVED.

UNCLASSIFIED

672 019 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--SOME FEATURES IN MODERN PHYSIOLOGY OF HIGHER NERVOUS ACTIVITY -U-

AUTHOR--FEYGENBERG, I.M. **F**

COUNTRY OF INFO--USSR

SOURCE--VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR, VOL 25, NO 1, 1970,  
PAGES 59-62

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PSYCHOLOGY, CONDITIONED REFLEX, NEUROPHYSIOLOGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/0960

STEP NO--UR/0248/70/025/001/0059/0062

CIRC ACCESSION NO--AP0130017

UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0130017

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN ITS OVER 50 YEAR EXISTENCE PHYSIOLOGY OF HIGHER NERVOUS ACTIVITY BRILLIANTLY FOUNDED THROUGH THE WORKS OF I. P. PAVLOV HAS UNDERGONE A RATHER SUBSTANTIAL EVOLUTION. PARTICULARLY SIGNIFICANT CHANGES OCCURRED IN THIS FIELD IN THE LAST DECADE. FIRST OF ALL WE MUST NOTE THE RAPPROCHEMENT OF CONCEPTS OF PHYSIOLOGY OF HIGHER NERVOUS ACTIVITY AND PSYCHOLOGY, A RAPPROCHEMENT THAT IS SO CLOSE THAT AT TIMES IT IS EVEN DIFFICULT TO DRAW THE LINE BETWEEN THE TWO. THIS APPROXIMATION IS NOW A VERY VALID AND FRUITFUL PHENOMENON, JUST AS IT WAS FRUITFUL, AT THE EARLY STAGES OF DEVELOPMENT OF PHYSIOLOGY OF HIGHER NERVOUS ACTIVITY, FOR I. P. PAVLOV TO REJECT THE USE OF PSYCHOLOGICAL TERMS TO DESCRIBE AND INTERPRET PHYSIOLOGICAL FACTORS OBTAINED IN THE LABORATORY. AT THIS STAGE, THE USE OF TERMS OF INTROSPECTIVE PSYCHOLOGY (SUCH AS THE DOG REALIZED THAT) COULD ONLY HAVE CONFUSED THE ISSUE, CREATING THE ILLUSION OF AN EXPLANATION WHERE THERE WAS NONE. FRUITFUL WAS THE TENDENCY OF I. P. PAVLOV, AS HE INVATED THE AREA OF MENTAL PROCESSES, TO BE GOVERNED ONLY ON CLEARLY FORMULATED PHYSIOLOGICAL CONCEPTIONS OF REFLEX ACTIVITY AND TO INTRODUCE NEW CONCEPTS ONLY WITH EXTREME CAUTION, ONLY WHERE THERE WAS NO WAY TO MAKE ENDS MEET, AND BASING HIMSELF ONLY ON ALREADY ESTABLISHED CONCEPTIONS. PRECISELY IN THIS MANNER DID THE CONCEPT OF CONDITIONED REFLEX ARISE, AS EFFECTED BY THE REFLEX ARC WHICH CLOSSES UNDER SPECIFIC CONDITIONS.

FACILITY: CENTRAL INSTITUTE FOR THE ADVANCED TRAINING OF PHYSICIANS, MOSCOW.

UNCLASSIFIED

USSR

FEYGENBERG, I. M.

Mozg. Psikhika, Zdorov'ye (The Brain, Psychology, and Health), Moscow, Izdatel'stvo Nauka, 1972, 111 pp

Translation: Annotation: The book by Prof I. M. Feygenberg acquaints the reader with various aspects of human mental activity in popular form. Special attention is devoted to probabilistic predictions of the psychic capabilities of the brain, the study of which is the principal subject of the author's research. Some problems of the psychophysiology of perception, emotions, and memory and certain problems of engineering psychology and pathopsychology are treated in the book.

The book is written for a wide range of readers.

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USSR

FEYGENBERG, I. M., Izdatel'stvo Nauka, 1972, 111 pp

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USSR

UDC 669.295.004.2

FEYGIN, B. G.

"Hydrogen Chloride Air Pollution Resulting from Production of Titanium"

Tr. In-ta krayev. patol. KazSSR, (Works of the Institute of Regional Pathology, Kazakh SSR), 1970, Vol. 19, pp. 51-54, (from RZh-Metallurgiya, No 2, 1971, Abstract No. 2G198 by A. Tseydler)

Translation: Considering the corrosive nature and extreme toxicity of  $TiCl_4$  and HCl, their content in the air in production rooms must be decreased to below the permissible concentration, which requires careful sealing of technological equipment.

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USSR

UDC 615.616.24-003.656.6

FEYGIN, B. G.

"Toxicology of Titanium Welding Aerosol"

Tr. NII krayev. patol. KazSSR (Works of the Scientific Research Institute of Marginal Pathology of the Kazakh SSR), 1972, No 23, pp 143-146 (from RZh--Farmakologiya. Khimioterapevticheskiye Sredstva. Toksikologiya, No 3, Mar 73, Abstract No 3.54.894)

Translation: Over a 12 month period, rats were administered 50 mg of titanium welding aerosol containing Ti, Al, Si and Fe from one to ten percent; Mg, Pb, Ni, Cr, Cu, Cd and Zn from 0.1 to 1 percent; Mn from 0.01 to 0.1 percent once intratracheally. After one month, interstitial pneumonia of a diffuse nature was observed (proliferation of the histiocytic and lymphoid elements, in the interalveolar septa, the bronchial and vascular walls, and so on). After 6 months the pneumonia acquired a diffuse-interstitial nature; after 9 months the phenomena of peribronchial perivascular fibrosis were added. After 12 months all the described phenomena were redoubled.

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USSR

UDC 615.616.24-003.656.6

FEYGIN, B. G., KILAMITOVA, V. Z., ZIZANGIROVA, L. A.

"Problem of the Effect of Titanium Admixture in Quartz on the Development of Silicosis"

Tr. NII krayev. patol. KazSSR (Works of the Scientific Research Institute of Marginal Pathology of the Kazakh SSR), 1972, No 23, pp 147-151 (from RZh--Farmakologiya, Khimioterapevticheskiye Sredstva. Toksikologiya, No 3, Mar 73, Abstract No 3.54.893)

Translation: A dose of 0.5 ml of suspension containing 25 ml of Ti and 25 mg of quartz (first group) or 30 mg of quartz (second group) was administered daily intratracheally to male rats for 12 months. After one month, fine-focal inflammatory alterations of the interstitial type with round-celled and histocytic infiltration of the alveolar septa were observed in the lungs of the animals of the first group. After six months the inflammatory alterations in the lungs were accompanied by the development of large centers of cellular proliferation, nodular and perivascular cellular accumulations. After 9 and 12 months, attenuation of the inflammatory process was noted with normalization of the histologic picture  
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USSR

FEYCIN, B. G., et al., Tr. NII krayev. patol. KazSSR, 1972, No 23, pp 147-151

of the lungs. In the animals of the second group, the development of the typical silicosis picture was observed: infiltrative-proliferative part in the septum inter-alveolarium, then individual silicotic nodes of the lymphocytes, epithelial cells, compressed vessels and bronchi, then generalization of the process with partial deterioration of the lung tissue. It is considered that Ti does not intensify the silicosogenic properties of Si.

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USSR

UDC 669.295.004.2

FENGIN, B. G., BELOSKURSKAYA, G. I., POMAZKINA, L. G., OSIPOVA, I. A.

"The Problem of Labor Hygiene in Titanium Production"

Tr. In-ta krayev. patol. KazSSR, (Works of the Institute of Regional Pathology, Kazakh SSR), 1970, Vol 19, pp 55-57, from RZh-Metallurgiya, No 2, 1971, Abstract No 2G199 by A. Tseydler)

Translation: Preliminary data on the general morbidity of workers in titanium production indicate that there are harmful factors influencing the morbidity of the respiratory organs and nasopharynx.

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USSR

UDC 669.295.004.2

BELOSKURSKAYA, G. I., and FEYGIN, B. G.

"Morbidity of Titanium Production Workers at the Ust'-Kamenogorskiy Titanium-Magnesium Combine"

Tr. In-ta krayev, patol. KazSSR (Works of the Institute of Regional Pathology, Kazakh SSR), 1970, 19, pp 247-249 (from Zh Metallurgiya, No 1, 71, Abstract No 1G197 by A. Tseydler).

Translation: Studies of the general and occupational morbidity of workers involved in titanium production have shown that the greatest production dangers are to be found in the air of the working zone of the  $TiCl_4$  shop, where the concentration of harmful chemical components significantly exceeds the permissible norm.

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USSR

UDC 621.383.292.8

SOSFENOV, N. I., FEYGIN, L. A.

"Detector of Soft Roentgen Radiation Based on FEU-85 Photomultiplier"

V sb. Apparatura i metody rentgenovsk. analiza (Apparatus and Methods of Roentgen Analysis--Collection of Works), Issue 7, Leningrad 1970, pp 66-71 (from RZh--Elektronika i yeye primeneniye, No 5, May 1971, Abstract No 5A189)

Translation: A scintillation detector based on an improved model of the FEU-85 is described. The new photomultiplier (FEU) differs from the FEU-35 (sic) by a more rugged construction and a higher amplification factor ( $10^7$  instead of  $10^5$ ) thanks to the addition of two dynodes. The possibility is mentioned of registration of Roentgen radiation of high intensity by use of a small load resistance. 3 ill. 3 ref. N. S.

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1/2 023 UNCLASSIFIED PROCESSING DATE--20NOV70  
TITLE--X RAY METHOD FOR DETERMINING THE GAPS BETWEEN HEAVY ATOMS IN  
MACROMOLECULES IN SOLUTION AND ITS USE FOR STUDYING GRAMICIDIN S  
AUTHOR--(03)-VAYNSHTEYN, B.K., SUSFENOV, N.I., FEYGIN, L.A.  
COUNTRY OF INFO--USSR  
SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(3) 574-7  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--MACROMOLECULE, X RAY STUDY, MOLECULAR STRUCTURE, IODINATED  
ORGANIC COMPOUND, ORGANOMERCURY COMPOUND, ANTIBIOTIC,  
CRYSTALLOGRAPHY/(U)GRAMICIDIN S ANTIBIOTIC  
CENTRAL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1587/0179 STEP NO--UR/0020/70/190/003/0574/0577  
CIRC ACCESSION NO--AT0103858

UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AT0103858

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IT IS POSSIBLE TO DET. THE MUTUAL POSITION OF HEAVY ATOMS FOR LIMITING DISORDERED SYSTEMS SUCH AS SOLNS. OF MACROMOLS. WHEN THE DIFFRACTION PICTURE IS POOR AND CENTERED IN THE REGION OF SMALL ANGLES. THE METHOD WAS CHECKED EXPTL. FOR SOLNS. OF DIIDOANTHRAQUINONE IN H SUB2 SO SUB4, AND THE DISTANCE BETWEEN THE HEAVY MOLS., CALCD. FROM THE POSITION OF THE MAX., IS 9.4 ANGSTROM WHICH AGREES WITH CRYSTALLOGRAPHIC DATA. FURTHER, THE METHOD WAS USED FOR GRAMICIDIN S DERIVS.: IODOGRAMICIDIN HYDROCHLORIDE AND MERCURIOGRAMICIDIN HYDROCHLORIDE. THE DISTANCES OBTAINED FROM THE MAX. ARE 9.7 AND 10.4 ANGSTROM, RESP.

UNCLASSIFIED

USSR

UDC: 51

FEYGIN, L. I.

"Use of the Method of Statistical Modeling for Determining the Optimum Frequency of Schedule Correction"

V sb. Operativn. upr. proiz-vom (Operational Control of Production-- collection of works), Moscow, "Nauka", 1971, pp 60-67 (from RZh-Kiber-netika, No 4, Apr 72, Abstract No 4V451)

Translation: The period of schedule correction is determined under the condition that some quantity called the scheduling error not exceed the permissible value with a predetermined probability. A computational procedure is outlined which is based on statistical modeling. A flow-chart is presented for the modeling algorithm. Author's abstract.

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- 22 -



FEYGIN, L.I.

JPRS 54729  
17 Dec 71  
UDC 519.95

CONTROL AND PREDICTION IN SCHEDULING THEORY PROBLEMS WITH INCOMPLETE INFORMATION

Article by L. I. Feygin, State All-Union Central Scientific Research Institute of Complex Automation, Moscow; Moscow, U.S.S.R. Akademi Nauk SSSR, Russian, Vol. 200, No. 6, 1971, pp. 1298-1301

In scheduling theory  $\Gamma_{1,2}$  problems, it is usually assumed that the parameters of the operations are deterministic values. In this article, we will discuss the construction of optimum schedules with random parameters. The methods of statistical decision theory and dynamic programming will be used in the investigation.

1. Formulation of the problem. The term schedule is usually understood to mean the vector  $X = (x_1, \dots, x_n)$ , where  $x_i$  = beginning of the execution of the  $i$ -th operation,  $i$  = duration of the execution of the  $i$ -th operation;  $n$  = number of operations in the schedule.

The controlling influences in the construction of a schedule may be the operating sequence of systems in machines, the method of assigning projects to machines, and other characteristics. When constructing an optimum schedule with deterministic parameters for the operations, it is necessary to define that controlling influence  $u$  for which the function of losses  $W$  is minimized.

Let us examine the case where the parameter of the  $q$ -th operation  $A_q$  ( $q = 1, \dots, d$ ) is a random value with unknown mathematical expectation  $m_q$  ( $q = 1, \dots, d$ ). This parameter can be the duration of the operation, the cost of carrying it out, and so forth. Using the bayesian  $Z$ -translation from Russian  $Z$ -process, we will compute, for the known value of  $m_q$ , the a priori density of the distribution of probabilities  $P(m_q)$ , since the operations for which the schedule is being compiled can be repeated many times, we will investigate the multistep

automation

UNCLASSIFIED

PROCESSING DATE--17JUL70

TITLE--ON THE EFFECT OF INSULIN ON THE LIPID METABOLISM IN DIABETES MELLITUS -U-

AUTHOR--FEYGIN, M.B.

COUNTRY OF INFO--USSR

SOURCE--VRACHEBNYE DELC, 1970, NR 2, PP 32-35

DATE PUBLISHED-----70

26  
5  
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31

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES.

TOPIC TAGS--INSULIN, DRUG EFFECT, LIPOPROTEIN, FATTY ACID, BLOOD CHEMISTRY, LIPID METABOLISM, DIABETES MELLITUS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1982/0384

STEP NO--UR/C475/70/000/002/0032/0035

CIRC ACCESSION NO--APOC51901

UNCLASSIFIED

Acc. Nr: AP0051901

Ref. Code: UPO425

PRIMARY SOURCE: Vrachebnoye Delo, 1970, Nr 2, pp 32-35

/ ON THE EFFECT OF INSULIN ON THE LIPID METABOLISM  
IN DIABETES MELLITUS

M. B. Feygin (Kiev)

Determination of the blood bethalipoproteid concentration, non-esterised fatty acids concentration, lipoproteid lipase activity and total lipolytic activity indicates that patients with diabetes mellitus show hyperbethalipoproteidemia, increased content of blood non-esterised fatty acids, decreased total lipolytic activity of the blood and decreased lipoproteid lipase activity.

Administration of insulin in diabetes mellitus reduces the non-esterised fatty acids concentration, increases the total lipolytic activity of the blood, but increases the concentration of betha-lipoproteids. No decrease of the betha-lipoid concentration occurred when insulin was combined with lipocain.

REEL/FRAME  
**19820384**

Forming

USSR

UDC 669.717:669-42

YERMANOK, M. Z., FEYGIN, V. I.

"Production of Aluminum Alloy Sections"

Moscow, Proizvodstvo profiley iz alyuminiyevykh splavov (cf. English above), Metallurgiya, 1972, 271 pp (from Proizvodstvo profiley iz alyuminiyevykh splavov, pp 2-3)

Translation: The assortment and extrusion systems are presented for the following sections: continuous cross section, hollow and variable cross section of aluminum alloys. A study was made of the characteristic features of flow of the metal and calculation of the force conditions during the extrusion of sections and also the problems of calculation, planning and design of the extruded tool.

The advanced techniques for extrusion, heat treatment, straightening and finishing the sections are described. The primary data with respect to deformable aluminum alloys and also steel for manufacturing the extrusion tool are presented.

This book is intended for engineers of the extrusion shop and the researchers and workers in the branches of industry in which aluminum alloy sections are used. It can be useful to students and teachers at the institutions of higher learning and the specialized secondary schools. There are 69 tables, 148 illustrations and a 137-entry bibliography.

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USSR

YERMANOK, M. Z., et al. Proizvodstvo profiley iz alyuminiyevykh splavov, Metallurgiya, 1972, 271 pp

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USSR

YERMANOK, M. Z., et al., Proizvodstvo profiley iz alyuminiyevykh splavov, Metallurgiya, 1972, 271 pp

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USSR

UDC: 621.396.6-181.5(08B.8)

FEYGINOV, N. I., GALKOV, V. S.

"A Method of Making Hybrid Integrated Circuits"

USSR Author's Certificate No 283340, filed 13 Jun 69, published 3 Dec 70  
(from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6V199 P)

Translation: A method is proposed for making hybrid integrated microcircuits which is based on producing passive elements on a dielectric plate, connecting the active elements to current-conducting circuit tracks, and dividing up the plate into functional modules. To ensure orientation of the active elements with respect to the points of connection and to automate the assembly process, the active elements are presoldered to lead groups made in a metal plate, from which the active elements are then cut out in sequence together with the leads and attached to the current-conducting circuit tracks while simultaneously moving the plate together with the active and passive elements through a step equal to the spacing of the elements and points of lead attachment.

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USSR

UDC: 621.3.049.73

FEYGINOV, N. I., GALKOV, V. S.

"A Method of Making Hybrid Integrated Circuits"

Moscow, Otkrytiya, Izobreneniya, Promyshlennyye Obraztzy, Tovarnyye Znaki, No 31, 1970, Soviet Patent No 283340, Class 21, filed 13 Jun 69, p 54

Abstract: This Author's Certificate introduces a method of making hybrid integrated circuits based on producing passive elements on a dielectric plate, connecting active elements to the current-conducting tracks of the circuit, and dividing the plate into functional modules. As a distinguishing feature of the patent, provision is made for orienting the active elements with respect to the points of attachment, and the assembly procedure is automated by presoldering the active elements to groups of leads on a metal plate from which the active elements are then cut out one by one together with the leads and attached to the current-conducting tracks of the circuit while simultaneously shifting the plates with the active and passive elements through a distance equal to the spacing between the elements and the lead attachment points.

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USSR

UDC: 621.373.42(088.8)

TAYBERG, N. O., SULIM, V. A., FEYNBERG, S. Ya.

"A Self-Excited Harmonic Signal Oscillator"

USSR Author's Certificate No 282439, filed 12 May 68, published 11 Dec 70  
(from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6D341 P)

Translation: This Author's Certificate introduces a self-excited harmonic signal oscillator in a three-point circuit based on a vacuum tube or semiconductor device. The oscillator contains a tank circuit with electronic frequency tuning by connecting a varicap in the tank. The varicap is connected in turn to a source of controlling voltage. To reduce the nonlinearity of frequency response with tuning over a wide range, the oscillator is equipped with an additional varicap which is connected through a threshold semiconductor diode to the source of controlling voltage, and through a resistive voltage divider to a source of DC voltage which blocks the threshold diode in the controlling voltage circuit. Two illustrations.  
V. P.

1/1

USSR

UDC: 621.396.621.55:621.374.33(088.3)

TAYBERG, N. O., SULIM, V. A., FEYNBERG, S. Ya.

"A Transistorized Time Discriminator"

USSR Author's Certificate No 270796, filed 12 May 68, published 11 Aug 70  
(from RZh-Radiotekhnika, No 2, Feb 71, Abstract No 2D53 P)

Translation: This Author's Certificate introduces a transistorized time discriminator of a periodic pulse signal. The unit contains two identical conversion channels with detector stages, diode-regenerative comparators and flip-flops connected in each of them. To increase the slope and improve the linearity of the discrimination characteristic, a selecting stage is included in each discriminator channel, and a pulse-duration converter is connected to the output of this selecting stage. The outputs of the channels are connected to an output mixer -- a device which shapes pulses of normalized amplitude; the polarity of these pulses determines the sign, and their duration determines the magnitude of the time mismatch.

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Theoretical Automation

USSR

EISENSTADT, V. S., LISKOVETS, V. A., FEINBERG, V. Z. (Mathematics Institute, Belorussian Academy of Sciences)

"Solution of the Problem of Optimal Distribution of Memory Between Working Area of Subroutines"

Minsk, Vestsi Akademii Navuk BSSR, Seryya Fizika-Matehmatychnykh Navuk, No 6, 1970, pp 12-26

Abstract: Let  $S_1, S_2, \dots, S_n$  be the set of subroutines (procedures) of a program  $S$ ; and  $r_1$ , the volume of the working area of  $S_1$ . One subroutine during the course of its operation can be changed to (initiate) another subroutine. In that case their working areas cannot overlap. The authors study the problem of distributing the memory between working areas of subroutines  $S_1, S_2, \dots, S_n$  in such a way as to minimize the total number of storage locations occupied by them.

The program  $S$  is given by an oriented graph  $G$  for the initiation of subroutines, to the vertices of which are assigned the weights  $r_1, r_2, \dots, r_n$ . The sum of the weights for the various vertices is called the "weight of the oriented chain 1/2

USSR

EISENSTADT, V. S., et al, Vestsi Akademii Navuk BSSR, Seryya Fizika-Matematychnykh Navuk, No 6, 1970, pp 19-26

of G." It is shown that the necessary minimum number of working locations of the program S is equal to the weight of the maximum chain of the graph G. An efficient algorithm for the optimal distribution of memory is derived.

The suggested algorithm can be used for minimal coloring of the vertices of a transitive graph.

There are five bibliographic references.

2/2

- 103

USSR

FEYOKTISTOV, B.

"Structure of Optimal Prices in an Interbranch Model"

Ekon.-mat. Metody i Vychisl. Tekhn. v upr. Finansami. Vyp 1 [Mathematical Economics Methods and Computer Equipment in the Control of Finances, No 1 -- Collection of Works], Moscow, Finansy Press, 1971, pp 118-135, (Translated from Referativnyy Zhurnal, Kibernetika, No 3, 1972, Abstract No 3 V446).

NO ABSTRACT.

USSR

UDC 535.31

FYZULIN, Z.I. [Radio Engineering Institute, AS, USSR]

"Optical Image Of Two-Dimensional Object Using Ultrasonic Light Diffraction"

Izv. VUZ: Radiofizika, Vol XV, No 5, May 72, pp 713-717

Abstract: With the use of the plane wave expansion of light and sound fields, the interaction is studied of a cylindrical light wave with a wave ultrasonic field. It is assumed that a two-dimensional object is located in the plane  $z = 0$  with a complex function of transmissivity for the ultrasound  $f(x,y)$  at which a plane ultrasonic wave impinges in the positive direction of the  $z$  axis. The region occupied by the wave ultrasonic field is illuminated by a cylindrical light wave emitted by a luminous thread parallel to the  $y$  axis. The light wave experiences diffraction at the inhomogeneities of the dielectric constant of the photoelastic medium which are produced by the ultrasonic field. The problem considered is to find the connection between  $f(x,y)$  and the structure of the scattered light field and to ascertain the conditions during which the scattered light reproduces exactly the function of transmissivity  $f(x,y)$ . The author thanks S.M. Rytov and V.V. Karavayev for helpful discussions. 3 fig. 3 ref. Received by editors, 13 March 1971; after further improvement, 14 January 1972.

1/1

USSR

UDC: 551.510.535

BURKIN, V. S., KRAVTSOV, Yu. A., FEYZULIN, Z. I.

"Analysis of Errors in Measuring Parameters of the Ionosphere by Means of Multifrequency Pulse Emission"

Moscow, Radiotekhnika i Elektronika, Vol 17, No 4, Apr 72, pp 673-679

Abstract: The method of small perturbations is applied to equations of geometric optics to calculate systematic and random errors in measuring the parameters of the ionosphere by using multifrequency pulse emission. The measurement procedure is based on determining the times of delay and the directions of arrival of a wave on various frequencies reflected from an artificial satellite. The measurement on each frequency is distorted by wave propagation errors in the ionized atmosphere, and by instrument noises. On high frequencies, the errors are determined by the distribution of ionization alone at the time of measurement. Expressions are given which relate the parameters determined by distribution of ionization to the electron concentration of the ionospheric plasma. Determination of the unknown parameters is reduced to solution of a system of linear algebraic equations. In conclusion the authors thank S. M. Rytov and V. G. Repin for interest in the work.

1/1

Acc. Nr:

AP0043928

Abstracting Service: 5/70  
INTERNAT. AEROSPACE ABST.

Ref. Code:

UR 0141

F

A70-23139 " Fluctuations of the parameters of spherical waves propagating in a turbulent atmosphere (Fluktuatsii parametrov sfericheskikh voln, rasprostraniayushchikhsia v turbulentnoi atmosfere). A. I. Kon and Z. I. Fezulin (Akademiia Nauk SSSR, Institut Fiziki Atmosfery, Moscow, USSR). *Radiofizika*, vol. 13, no 1, 1970, p. 71-74, 6 refs. In Russian.

72 v v u z

The amplitude and phase correlations of two spherical waves are calculated in the approximation of the smooth perturbation method. The case considered is when the sources are at some distance from the turbulent layer and the observation points are spaced. (Author)

965

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REEL/FRAME  
19770354



USSR

UDC: 8.74

ASKEROV, T. M., FEYZULLAYEV, A. P.

"Principle of Organization of an Information System in a Sectoral Automated Control System"

V sb. Tsifr. vychisl. tekhnika i programmir. (Digital Computer Technology and Programming--collection of works), vyp. 7, Moscow, "Sov. radio", 1972, pp 83-93 (from RZh-Kibernetika, No 8, Aug 72, Abstract No 8V625)

Translation: The paper describes the principle of organization of an information system in a sectoral automated control system. The principle is based on the method of logic scales. The system is universal both from the standpoint of fields of application, and from the standpoint of types of computers on which it can be realized. The system is described on the example of data collection for the machine building industry. Authors' abstract.

1/1

1/2 - 025 UNCLASSIFIED PROCESSING DATE--18SEP70  
TITLE--KINETIC EFFECTS IN (PBTE) SUBL MINUS X (SNTE) SUBX COMPOSITIONS -U-  
AUTHOR--(03)-YEFIMOVA, B.A., DUBROVSKAYA, I.N., FGURIYEVA, YE.A.  
COUNTRY OF INFO--USSR  
SOURCE--FIZ. TEKH. POLUPROV. 1970, 4(2) 245-51  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY, PHYSICS  
TOPIC TAGS--HALL CONSTANT, ELECTROMOTIVE FORCE, MAGNETIC FIELD EFFECT,  
MODEL, SOLID SOLUTION, ELECTRICAL CONDUCTIVITY, CONDUCTION BAND, LEAD  
COMPOUND, TELLURIUM COMPOUND, SELENIUM COMPOUND, REACTION KINETICS  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1988/0588 STEP NO--UR/0449/70/004/002/0245/0251  
CIRC ACCESSION NO--AP0105571  
UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC. ACCESSION NO--AP0105571

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. N-TYPE SOLID SOLNS. OF (PBTE) SUBI  
MINUSX (SNT) SUBX OF SNT CONTENTS 5-60PERCENT WERE SUBJECTED TO HALL  
EFFECT AND THERMO EMF. MEASUREMENTS IN A STRONG MAGNETIC FIELD AT  
85DEGREES K. THE SP. ELEC. RESISTANCE, SIGMA, THE THERMOEMF. COEFF.  
ALPHA, THE HALL CONST., R, AND THE TRANSVERSE NERNST ETTINGSHAUSEN  
EFFECT, Q, WERE MEASURED AT 80-300DEGREES K IN WEAK AND ZERO MAGNETIC  
FIELDS. THE DEPENDENCES OF THE EFFECTIVE MASS D. OF STATES AT THE FERMI  
LEVEL ON THE COMPN. OF THE SOLID SOLN., THE TEMP., AND THE CONC. WERE  
DETD. AT 85DEGREES K, THE CONDUCTION BAND OF THE SOLID SOLNS. OF 5 AND  
25PERCENT SNT, AS ALSO THE CONDUCTION BAND FOR PBTE, IS WELL DESCRIBED  
BY A KEAN MODEL, AND THE PARAMETERS OF THIS MODEL ARE DETD. AT HIGHER  
TEMPS., A DEPARTURE FROM THE KEAN DISPERSION LAW IN THE DIRECTION OF  
INCREASED DEPARTURE FROM A PARABOLOID IS OBSO. WITH RISE IN TEMP. AND  
CONC. EXPTS. ON SOLID SOLNS. WITH HIGH CONTENTS OF SNT REVEALED THE  
ANOMALOUS NATURE OF THE CONC. AND TEMP. RELATIONS FOR THE EFFECTIVE  
MASS D. OF STATES AT THE FERMI LEVEL, WHICH MUST BE ASSOCD. WITH A  
CHANGE IN SIGN OF THE TEMP. COEFF. FOR THE WIDTH OF THE FORBIDDEN BAND.  
THE DATA OBTAINED AGREE WITH THE BAND INVERSION MODEL PROPOSED BY J. O.  
DIMMOCK, J. MELNGAILIS, AND A. J. STRAUSS (1966).

UNCLASSIFIED

USSR

UDC 547.341.07

KARRAFOVA, F. M., KAMAY, G. KH., YEFIMOVA, V. D., and RHIGABIYEVA, F. A.,  
Kazan Chemical Technology Institute imeni S. M. Kirova

"Process for the Preparation of Methylchlorophosphines"

USSR Author's certificate No 362026, filed 24 Apr 70, published 13 Dec 72  
(from Otkrytiya, Izobreteniya, Promyshlennyye Obratzsy, Tovarnyye Znaki, No 2,  
1973, p 55)

Translation: This process is based on tertiary phosphines and is improved  
in that in order to strengthen the process, dichlorides of methylphosphonic  
acid react with tertiary phosphines while being heated. The desired pro-  
duct is subsequently separated by known methods. 2. The process in number  
1 is improved in that it is carried out at temperatures between 175-190°C.  
under a stream of inert gas, for example, carbon dioxide.

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USSR

UDC: 621.371

F  
FIALKO, Ye. I.

"Radio Observation of Short-Term Meteor Trails"

Kiev, Izvestiya Vuzov SSSR -- Radioelektronika, Vol 13, No 3,  
1970, pp 415-417

Abstract: Although observation of long-lasting meteor trails has been successfully done, short-trail observation of thick meteor swarms, is more complex when done by radar, especially when the orbit of the trail is perturbed. This complication arises because of the so-called normal dispersion of radio waves by the ionized meteor trails. Although it would seem natural to use a nondirectional or slightly directional antenna, observation under such conditions turns out to be poor, especially if the transmitting power is low. It is best to use directed antennas for transmitter and receiver. To guarantee that these short-term trails are properly observed, a number of radar stations should  
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USSR

FIALKO, Ye. I., Izvestiya Vuzov SSSR -- Radioelektronika, Vol 13,  
No 3, 1970, pp 415-417

be used with the antenna coverage of each overlapped by the other. The author suggests a simpler method based on the assumption that a single immobile and highly directional antenna is used for both transmitter and receiver, and explains this method in some detail. It was used to observe the Leonid showers of 1967. His method, he concludes, is not complex and can be easily realized. The diagram accompanying the article is helpful in following his exposition.

2/2

1/2 030 UNCLASSIFIED PROCESSING DATE--23OCT70  
TITLE--RADIO OBSERVATIONS OF SHORT LIVED METEOR SHOWERS -U-  
AUTHOR--FIALKO, YE.I. F  
COUNTRY OF INFO--USSR  
SOURCE--RADIOELEKTRONIKA, VOL. 8, MAR. 1970, P. 415-417  
DATE PUBLISHED----MAR70  
SUBJECT AREAS--ASTRONOMY, ASTROPHYSICS  
TOPIC TAGS--METEOR SHOWER, RADIO WAVE SCATTERING, METEOR TRAIL, ANTENNA,  
RADIO ASTRONOMY  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3001/0251 STEP NO--UR/0452/70/008/000/0415/0417  
CIRC ACCESSION NO--AP0126023  
UNCLASSIFIED

272 030

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0126023

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DESCRIPTION OF A TECHNIQUE FOR OBSERVATIONS OF A DENSE BRIEFLY VISIBLE METEOR SHOWER WITH THE AID OF A FIXED PENCIL BEAM ANTENNA. THE TECHNIQUE IS PROPOSED AS ONE MORE EFFECTIVE THAN OTHER TECHNIQUES IN COPING WITH NORMAL RADIO WAVE SCATTERING IN THE TRAILS OF SUCH SHOWERS. SUGGESTIONS ARE GIVEN FOR THE PRACTICAL USES OF THIS TECHNIQUE. ITS APPLICATION IN OBSERVATIONS OF LEONIDS IN 1967 IS MENTIONED.

UNCLASSIFIED



USSR

UDC 661.666-494.001.5

FIALKOV, A. S., SIDOROV, N. M., SMIRNOV, B. N., and DYUZHNIKOV, B. I.

"Specific Features of the Structure and Growth of Threadlike Pyrocarbon Formations"

Moscow, Doklady Akademii Nauk SSSR, Vol 211, No 1, Jul-Aug 73, pp 158-160

Abstract: The initial period of the growth of thread-like pyrocarbon formations -- the so-called "whiskers" -- has been investigated. The "whiskers" were obtained at a temperature 900-1000° in 10-40 mm Hg vacuum from benzene vapors without any gas diluent, over graphite supports, using metallic catalyst. It has been shown that the actual carbon whisker consists of a central core shooting out of the surface of the activated support in form of a band 100-200 Å thick, rolled into a cylindrical spiral. The formation process of these whiskers goes through several stages: activation of the support, radical-chain type reaction occurring during the cracking of the hydrocarbon followed by chain polymerization of the products. The thickening of the cores is due to the deposition of sooty and pyrocarbon films on its surface.

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USSR

UDC 678.06

FIALKOV, A. S., and CHEKANOVA, V. D.

"Polymeric Carbon-Graphite Material Glass-Carbon"

Moscow, *Plasticheskiye Massy*, No 6, 1973, pp 65-66

Abstract: Glass-carbon is obtained by thermal decomposition of some carbonaceous materials which during pyrolysis are converted to carbonized products, by-passing the liquid phase. The starting materials consist of synthetic resins or aromatic hydrocarbons. The carbonization takes place with or without catalysts by slow heating in a reducing or neutral atmosphere. Glass-carbon remains solid up to 4000°K, its properties depending on the treatment temperature. The material has a very high mechanical strength, chemical stability, low gas penetration and very good electroconductivity. In neutral media it can be utilized instead of such expensive materials as platinum, titanium, and molybdenum.

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Acc. Nr:

A10047387

Abstracting Service:

GEOPHYSICAL ABST.

5/70

Ref. Code:

UR0467

F

91798s Microscopic studies of the structure of petroleum cokes. Smirnov, B. N.; Fialkov, A. S. (USSR). *Khim. Tverd. Topl.* 1970, (1), 155-6 (Russ). The structure of pyrolysis and cracked petroleum cokes was studied with optical and electron microscopes. The cracked cokes consisted of groups of parallel crystallites. The fine structure in both cokes was the same. The electron microscope revealed layered or laminar structures. Spherulitic structures, observed only in the pyrolysis coke, consisted of layered crystallites with radial orientation. Oriented, mosaic, and petal-shaped structures, obsd. with an optical microscope, were different aspects of the same layered structure.

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REEL/FRA  
19790913

1/2 033

UNCLASSIFIED

PROCESSING DATE--04DEC70

TITLE--CARBONIZATION OF RESOL TYPE PHENOL FORMALDEHYDE RESINS -U-

AUTHOR--(05)-BERLIN, A.A., FIALKOV, A.S., TSVELIKHOVSKIY, G.I., ASEYEVA, R.M., BAVER, A.I.

COUNTRY OF INFO--USSR

F

SOURCE--PLAST. MASSY 1970, (6), 44-8

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--PHENOL FORMALDEHYDE RESIN, PYROLYSIS, X RAY STUDY, IR SPECTRUM, METHYLENE, DEHYDROGENATION, GAS CHROMATOGRAPHY, MASS SPECTROSCOPY, CONJUGATE BOND SYSTEM, POLYMER STRUCTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3007/0732

STEP NO--UR/0191770/000/006/0044/0048

CIRC ACCESSION NO--AP0136171

UNCLASSIFIED

2/2 033

UNCLASSIFIED

PROCESSING DATE--04DEC7

CIRC ACCESSION NO--AP0136171

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SAMPLES OF BAKELITE (I) CONTG. VARIOUS AMTS. OF PHOH WERE PREPD. BY THE PURIFICATION OF COM. I. I WAS THEN PYROLYZED IN VACUUM OR IN AR AT TEMPS. LESS THAN OR EQUAL TO 1000DEGREES. ANAL. OF DTA DATA AND S RAY AND IR SPECTRA SHOW THAT THE MAIN REACTIONS WERE BREAKING CH SUB2 BRIDGES, DEHYDROGENATION, AND FREE RADICAL REACTIONS INVOLVING QUINONOID STRUCTURES. GAS CHROMATOG. AND MASS SPECTROSCOPY SHOWED THAT THE MAIN DECOMP. PRODUCTS WERE PHOH, CRESOL, BENZENE, H SUB2, CH SUB4, CO, CO SUB2, AND H SUB2 O. THE CARBONIZED RESIDUE OBTAINED AT 900DEGREES HAD AN UNORGANIZED STRUCTURE. INCREASING THE PYROLYSIS TEMP. INCREASED THE NO. OF CONJUGATED STRUCTURES AND ORDERING. THE SAMPLES WITH LOWER INITIAL PHOH CONTENTS GAVE DENSER PYROLYZED STRUCTURES.

USSR

UDC 669.721.074.2

FIALKOV, Yu. G., TARAT, E. Ya., PICHUKOV, A. P., NIKITINA, A. P., SHKODINA, V. G.

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

Tr. Vses. N-i. i Proyechn. In-ta. Alyumin., Magn. i Elektrodn. Prom-sti [Works of All-Union Scientific Research and Planning Institute of the Aluminum, Magnesium and Electrode Industry], 1970, No. 72, pp. 123-132. (Translated from Referativnyy Zhurnal Metallurgiya, No. 5, 1971, Abstract No. 5 G205 by the authors).

Translation: The influence of the composition of the absorbent, speed and direction of gas flow, and sprinkling density on absorption of Cl by lime milk was studied in an industrial scrubber. The decrease in the degree of gas purification resulted from a change in the hydrodynamic conditions in the scrubber due to foaming of the absorber. Foaming began at concentrations of  $\text{Ca}(\text{ClO})_2$  of 45-60 g/l with various contents of  $\text{Ca}(\text{OH})_2$  and resulted from decomposition of the  $\text{Ca}(\text{ClO})_2$ . Addition of  $\text{CaCl}_2$  to the absorbent (initial content 100 g/l) did not change the indices of absorption. With counterflow movement of the phases, increasing the gas speed from 1 to 2.5 m/sec improved purification. The effectiveness of operation of the direct flow zone of the scrubber was decreased with increasing gas speed. Increasing the sprinkling density from 18 to 60  $\text{m}^3/\text{m}^2\cdot\text{hr}$  helps to improve the absorption indicators. With counterflow, the empirical equation  $K_V = 2.75 \cdot W^{1.25} \cdot L^{-0.67}$  was produced, where  $K_V$  is the volumetric coefficient of the rate of absorption,  $\text{Kmol}/\text{m}^3\cdot\text{hr}\cdot\text{bar}$ ,  $W$  is the gas speed, m/sec, and  $L$  is the sprinkling density,  $\text{m}^3/\text{m}^2\cdot\text{hr}$ . 6 figs.

USSR

UDC 669.721.074.2

PICHUKOV, A. P., KRIVITSKAYA, L. I., FIALKOV, Yu. G.

"Variation of pH with Composition of Solutions Produced in Purification of Magnesium Production Gases"

Tr. Vses. N-i. i Proyechn. In-ta. Alyumin., Magn. i Elektrodn. Prom-sti [Works of All-Union Scientific Research and Planning Institute of the Aluminum, Magnesium and Electrode Industry], 1970, No. 72, pp. 133-138. (Translated from Referativnyy Zhurnal Metallurgiya, No. 5, 1971, Abstract No. 5 G204 by the authors).

Translation: The pH of aqueous, alkaline, and acid solutions of  $\text{CaCl}_2$  in the 0-4 mol/l concentration interval and of  $\text{Ca(OH)}_2$  and  $\text{CaCO}_3$  solutions with and without added  $\text{CaCl}_2$  was measured. The pH decreases from 12.65 to 10.0 for saturated  $\text{Ca(OH)}_2$  solutions and from 9.25 to 5.10 for saturated  $\text{CaCO}_3$  solutions as the  $\text{CaCO}_2$  content is varied from 0 to 4 mol/l. Similar dependences are produced for acid solutions of  $\text{CaCl}_2$ . These regularities indicate the possibility of creating an automatic system for testing and control of the process of HCl and Cl removal from gases, based on measurement of the pH and redox potential of the solution. 4 figs.

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USSR

UDC 669.71.074.2

FIALKOV, YU. G., BURKAT, V. S., LISITSYNA, N. I.

"Absorption of Hydrogen Fluoride from Aluminum Production Gases in a Hollow High-Speed Scrubber"

Tr. Vses. n.-i. i proekt. in-ta alyumin., magn. i elektrokn. prom-sti  
(Works of the All-Union Scientific Research and Planning and Design Institute of Aluminum, Magnesium and Electrode Industry), 1970, No 71, pp 157-167 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G209)

Translation: A study was made of the absorption of HF by a 5% soda solution in a hollow high-speed scrubber at an aluminum plant. The scrubber is a cylindrical unit 1 meter in diameter with evolvent atomizers arranged in three tiers and louvered separators. The basic laws of gas absorption in hollow scrubbers are discussed. The effect of a number of factors on the process is discovered: the arrangement of the atomizers, the gas velocity, and the reflux density. The operation of the scrubbers with reflux of its individual atomizer in different positions is studied. On the basis of this study, the optimal direction of the liquid feed is selected -- upward through the middle and lower atomizers and downward through the upper atomizer. With a reflux density of  $L = 20$  m/hour and three atomizers, this made it possible to obtain

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USSR

FIALKOV, YU. G., et al., Tr. Vses. n.-i. i proyekt. in-ta alyumin., magn. i elektrodn. prom-sti, 1970, No 71, pp 157-167

absorption indexes analogous to the indexes for 30 m/hour and 6 atomizers directed in both directions. The effect of the flow rate of the absorbent on the cleaning efficiency and the absorption coefficient  $K_V$  is studied. The dependence of  $K_V$  on  $L$  is expressed in the form  $K_V = AL^x$  where the experimental value of  $x$  is 0.46. The effect of the gas velocity  $W_g$  was studied within the limits of 2.8-8.0 m/sec;  $y$  is defined as equal to 0.96 in the expression  $K_V = BW_g^y$ . Thus, with an increase in  $W_g$  to 8 m/sec, the purification efficiency is almost not reduced. The resistance of the unit for  $W_g = 8$  m/sec and  $L = 45$  m/hour was 65 mm  $H_2O$ . The results of the research are generalized in the form of the empirical equation  $K_V = 267L^{0.46}W_g^{0.96}$  permitting hollow scrubbers to be calculated under conditions close to the tested ones. There are 5 illustrations.

2/2

USSR

UDC 535.215.1

FIALKOVSKAYA, O.V., KHIRUNENKO, L.I.

"Photoconductivity And Phototransfer Of Charge In CdS Crystals Activated By Dysprosium"

V sb. Probl. fiz. soyedineniy A<sup>II</sup>B<sup>VI</sup>. T. 1 (Problems Of The Physics Of A<sup>II</sup>B<sup>VI</sup> Compounds. Part 1. -- Collection Of Works), Vil'nyus, 1972, pp 77-81 (from RZh:Elektronika i yeye primeneniye, No 11, Nov 1972, Abstract No 11B295)

Translation: The effect was studied of  $\gamma$ -irradiation and illumination on the photoconductivity and absorption spectrum of CdS-Dy crystals. The photoconductivity (PC) was measured in a vacuum at 293 and 77° K. Together with the maximums inherent in pure CdS, maximums exist on the curves of the spectral distribution of the PC of nonirradiated CdS-Dy crystals, caused by the presence of Dy the position of which corresponds to the positions of the maximums of absorption of Dy<sup>3+</sup>. After  $\gamma$ -irradiation by doses of  $2 \times 10^8$  r, the maximums of PC caused by Dy<sup>3+</sup> (12 200 cm<sup>-1</sup>) are decreased and the maximums characteristics for Dy<sup>2+</sup> (14 250 cm<sup>-1</sup>) are increased; at the same time, at the spectrum interval 5100--7000 cm<sup>-1</sup> a negative PC develops. An analogous effect was observed during illumination for 15-20 hours in the band Dy<sup>3+</sup> (12 200 cm<sup>-1</sup>). The reverse transfer of the charge with breakdown of Dy<sup>2+</sup> and formation of Dy<sup>3+</sup> is accomplished by illumination in band Dy<sup>2+</sup> (4250 cm<sup>-1</sup>). 2 ill. 4 ref. 1.v.

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Electromagnetic Wave Propagation

USSR

UDC 538.576.3

NEFEDOV, YE.I., ~~PIALKOVSKIY, A.T.~~

"Diffraction Of Plane Electromagnetic Wave At An Anisotropic Half-Plane In Free Space And In A Plane Waveguide"

Radiotekhnika i elektronika, Vol XVII, No 6, June 1972, pp 1141-1152

Abstract: Two problems are considered of the diffraction of a plane electromagnetic wave at a half-plane with the external anisotropic boundary conditions specified for it: 1) The half-plane is located in infinite space; and 2) The half-plane is in a plane waveguide. The results are obtained in the form of two pairs of integral equations for the first case, and for the second -- in the form of an infinite system of algebraic equations. An example is presented of the solution of equations for one special case. The problems considered have a practical value for problems of diffraction at ferrite and plasma layers and also in a whole series of other problems of antenna-waveguide techniques, measuring devices, etc. The authors thank P.Ya. Ufimtsev for discussion of the work and for his comments. 4 fig. 14 ref. Received by editors, 7 May 1971.

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USSR

UDC 621.372.414.2

FIALKOVSKIY, A. T., CHAYKA, V. YE.

"Coaxial Open Resonator formed by Barrel-Shaped Outer and Cylindrical Inner Mirrors"

Gor'kiy, Izvestiya vysshikh uchevnykh zavedeniy, Radiofizika, Vol XV, No 1, 1972, pp 117-125

Abstract: A theoretical calculation was made of the basic parameters of the open coaxial resonator formed by barrel-shaped outer and cylindrical inner mirrors. Analytical expressions were obtained for the natural frequencies, the position of the caustics, the field distribution and the ratio of the Q-factors of various types of oscillations for  $2\pi d/\lambda \gg 1$  ( $\lambda$  is the wavelength,  $d$  is the characteristic dimension of the resonator). The results of the numerical calculations permit selection of the resonator geometry for practical applications. The analysis performed shows that the selection of the azimuthal forms both respect to frequency and Q-factor is insufficient, and in practical devices it is necessary to take additional measures to isolate the operating form of the oscillations.

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USSR

UDC 621.372.54

NEFEDOV, YE.I., FIALKOVSKIY, A.T.

"Open Coaxial Cylindrical Resonator"

Kiev, Izvestiya Vuzov SSSR--Radioelektronika, Vol XIV, No 10, 1971, pp 1115-1122

**Abstract:** It is shown that a high-Q oscillation can exist in a segment of a coaxial waveguide with an internal conductor unrestricted in length. The characteristics of the open resonator are found and the area of use of the studies of the system are discussed. In the work only those oscillations are studied in which dependence on the azimuthal angle  $\varphi$  is absent. For a generalization in the case of  $\partial / \partial \varphi = 0$ , it is necessary with the cylindrical functions participating in the derivation to substitute the index 0 at  $n = 1, 2, \dots$  and upon obtaining the final formulas the Debye asymptotic formulas are used. The second polarization (of H-wave) is studied similarly. During this the dispersion equation for transverse oscillations must be transformed in a corresponding wave and the function  $\beta_E$  must be substituted for the function  $\beta_H$ . Received by editors 14 Sept 70; after revision 21 Jan 71. 12 ref. 3 fig. 1 tab.

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USSR

UDC 533.922

AVRAMENKO, M. I., KUZNETSOV, V. S., KUZNETSOVA, N. P., NIKOL'SKIY, N. A.,  
and FIDEL'SKAYA, R. P.

"Calculation of Phase Focusing of Intensive Bunches of Charged Particles in  
Direct-Action Accelerators"

Moscow, Atomnaya Energiya, Vol 32, No 5, May 72, pp 437-440

Abstract: The study of particle dynamics in direct-action accelerators re-  
quires consideration of the Coulomb interaction of particles in a bunch, as  
well as the velocity spread of the particles. Such a problem is complicated  
to solve in a full volume, since the particle motion has to be considered in  
a six-dimensional coordinate and velocity space. To simplify the problem,  
it is assumed that the longitudinal motion of the particles of the bunch does  
not depend on their radial coordinates, nor the radial motion of the particles  
on their axial coordinates. It is also assumed that the particle density  
distribution in the transverse phase space is microcanonical and at a given  
moment of time is the same for any cross-section of the bunch  $z = \text{const}$ .  
These assumptions permit reducing the six-dimensional problem of the phase

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AVRAMENKO, M. I., et al., *Atomnaya Energiya*, Vol 32, No 5, May 72, pp 437-440

focusing of a bunch to a two-dimensional problem concerning the longitudinal coordinates and velocities of particles. The article considers a nonstationary case. No constraints are imposed on the particle density distribution function in the longitudinal phase space. A description is given of the calculation method used to study peculiarities of the formation of intensive bunches of nanosecond duration in direct-action accelerators. A diagram is given showing successive variations in the configuration of the longitudinal phase volume, the linear charge density distribution, and the longitudinal Coulomb repulsive force along a bunch during passage through an accelerator. It is shown that, due to the nonlinearity of the longitudinal Coulomb forces, the configuration of the longitudinal phase volume of the bunch is considerably distorted, which phenomenon limits the bunching factor.

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USSR

UDC 621.384.6.01

KUZNETSOV, V. S., ABROYAN, M. A., SOLNYSHKOV, A. I., and FIDEL'SKAYA, R. P.

"Measurement and Investigation of the Redistribution of the Phase Density of Charged Particles in Real Fluxes"

Leningrad, Zhurnal Tekhnicheskoy Fiziki, Vol XLI, No 8, 1971, pp 1611-1617

Abstract: The density distribution of the charged particles of a beam in a four-dimensional phase space of transverse coordinates and velocities determines all the basic characteristics of the flux. The authors' actual measurements of this distribution for proton beams with a current of approximately 400 milliamperes and particle energies of 30 and 650 kiloelectron volts showed that the actual distribution of charged particles differs substantially from the distribution as it is usually calculated theoretically. Most methods of computing the parameters of intensive fluxes assume a microcanonical distribution in which the phase density of the particles does not change from one cross section of the beam to another. In actual fact, the phase density of the particles does change and, consequently, so do such basic characteristics of the flux as the density distribution of the current and the magnitude and configuration of the phase volume.

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USSR

KUZNETSOV, V. S.; FIDEL'SKAYA, R. P.

"Intense Beams with an Arbitrary Distribution of the Phase Density in External Focussing Fields"

Leningrad, Zhurnal Tekhnicheskoy Fiziki; October, 1970; pp 2099-2105

ABSTRACT: A method of obtaining beams with an arbitrary distribution of the phase density, developed by the authors in previous works appearing in earlier issues of the same journal (XXXVII, No. 5, 1967; XXXVIII, No. 2, 1968; XXXVIII, No. 10, 1968), is generalized for the case of the presence of external magnetic and electrical fields. Conditions are presented and formulated under which the general, stationary, six-dimensional problem on the determination of the distribution of the particle density in phase space can be reduced to a non-stationary, four-dimensional problem. Results of actual calculations illustrating the basic properties of beams with a distribution of the phase density different from the microcanonical are presented. In particular, it is shown that in such beams the projection of a four-dimensional phase space on the plane of cartesian coordinates  $x, x'$  may become larger.

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USSR

UDC: 621.372.852.15

KADUK, B. G., ROVENSKIY, A. Ya., ROVENSKIY, D. Ya., FILMAN, B. G., All-Union Scientific Research Institute of Analytical Instrument Building

"An Electronic Filter"

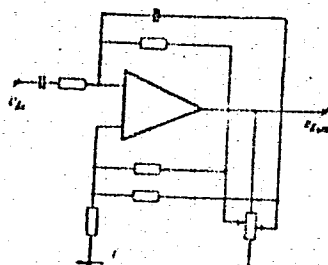
Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsoy, tovarnyye znaki, No 24, Aug 71, Author's Certificate No 311372, Division H, filed 10 Apr 70, published 9 Aug 71, p 207

Translation: This Author's Certificate introduces an electronic filter which contains an amplifier with a differential input and a parallel RC circuit. As a distinguishing feature of the patent, provision is made for adjusting the resonance frequency over a broad range by connecting the common point of the RC circuit to the inverting input of the amplifier, connecting the second ends of the elements in the RC circuit to different leads of a variable resistor at the output of the device, and connecting the same ends of these elements through resistors to a fixed resistor which is connected to the noninverting input of the amplifier.

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USSR

KADUK, B. G., et al., Otkrytiya, izobreneniya, promyshlennyye obraztsy, tovarnyye znaki, No 24, Aug 71, Author's Certificate No 311372, Division H, filed 10 Apr 70, published 9 Aug 71, p 207



2/2

1/2 021 UNCLASSIFIED PROCESSING DATE--09OCT70  
TITLE--THE DIAGNOSIS OF TRAUMATIC INTESTINAL INTRAMURAL HEMATOMAS -U-  
AUTHOR--(02)--YEVDOKIMOV, V.N., FIDRUS, YE.I.  
COUNTRY OF INFO--USSR  
SOURCE--VESTNIK KHIRURGII IMENI I. I. GREKOVA, 1970, VOL 104, NR 5, PP  
94-98  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--SMALL INTESTINE, TRAUMATOLOGY, RADIOGRAPHY, DIANOSTIC MEDICINE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1990/0581 STEP NO--UR/0589/70/104/005/0094/0098  
CIRC ACCESSION NO--AP0108796  
UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0108796

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. OBSERVATIONS OVER 12 PATIENTS WITH TRAUMATIC INTRAMURAL HEMATOMAS OF THE BOWEL ARE SUMMARIZED. CONTRAST X RAY INVESTIGATION OF THE BOWEL IS FELT TO BE OF GREAT IMPORTANCE FOR THE DIAGNOSIS. SURGICAL POLICY IS VARIED DEPENDING ON THE CHARACTER OF CLINICORADIOLOGICAL CHANGES. INDICATIONS TO URGENT SURGICAL INTERVENTION IN SUCH AN AFFECTION ARE DESCRIBED. FACILITY: RENTGENOVSKOGO OTD. AND KHIRURGICHESKOY KLINIKI MOSKOVSKOGO N I INSTITUTA IM. N. V. SKLIFOSOVSKOGO.

UNCLASSIFIED

1/2 018 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--LIGHTWEIGHT CONCRETE MIXTURE FOR STRUCTURAL COMPONENTS -U-  
AUTHOR--(03)-BUZHEVICH, G.A., KURASOVA, G.P., FIGARDY, R.G.  
COUNTRY OF INFO--USSR F  
SOURCE--U.S.S.R. 267,426  
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,  
DATE PUBLISHED--01APR70  
SUBJECT AREAS--MATERIALS  
TOPIC TAGS--CONCRETE, PATENT, MECHANICAL STRENGTH, GRAVEL, CEMENT,  
LIMESTONE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--3002/1416 STEP NO--UR/0482/70/000/000/0000/0000  
CIRC ACCESSION NO--AA0128815  
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AA0128815

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. LIGHTWT. CONCRETE MIXT. OF  
DECREASED BULK D. AND INCREASED STRENGHT CONSISTED OF: PORTLAND CEMENT  
20-5, 5-20 MM FRACTION OF KERANZIT GRAVEL 40-5, WATER 10-15, AND 0-2.5  
MM FRACTION OF LIMESTONE SAND 25-30 WT. PERCENT. FACILITY:  
SCIENTIFIC RESEARCH INSTITUTE OF CONCRETE AND REINFORCED CONCRETE.

UNCLASSIFIED

1/2 033 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--HEAT TREATMENT OF TUNGSTEN DURING HIGH SPEED ELECTRIC HEATING -U-  
AUTHOR-(02)-BOGATVREV, YU.M., FIGELMAN, M.A. F  
COUNTRY OF INFO--USSR  
SOURCE--METALLOVED. TERM. OBRAB. METAL. 1970, (3), 70-1  
DATE PUBLISHED-----70  
  
SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR  
TOPIC TAGS--METAL HEAT TREATMENT, POWDER METALLURGY, COLD ROLLING,  
PLASTICITY, TUNGSTEN ALLOY, MECHANICAL PROPERTY  
  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1997/0012 STEP NO--UR/0129/70/000/003/0070/0071  
CIRC ACCESSION NO--AP0119008  
UNCLASSIFIED



2/2 033

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0119008

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TO IMPROVE THE PLASTICITY OF POWDER METALLURGICAL, COLD ROLLED W HIGH SPEED ELEC. HEATING TO 1270-2400DEGREES WAS APPLIED AT A HEATING RATE OF 100DEGREES-SEC WITH HOLDING TIMES OF 1 AND 10 MIN, UNDER VACUUMS OF 10 PRIME NEGATIVE2, 10 PRIME NEGATIVE3, AND 2 TIMES 10 PRIME NEGATIVES TORR. THE HIGH SPEED ELEC. HEATING IMPROVED THE PLASTICITY (ELONGATION INCREASED FROM 7 TO 20PERCENT AFTER 10 MIN HOLDING AT 1600DEGREES). INCREASING THE TEMP. OVER 1800DEGREES LOWERED THE PLASTICITY SLIGHTLY. THE DEGREE OF VACUUM DURING HEATING HAD NO EFFECT ON THE MECH. PROPERTIES OF W. THE MAGNETIC SUSCEPTIBILITY OF W AFTER ALL HEAT TREATMENT OPERATIONS INDICATED THE ABSENCE OF FERROMAGNETIC OR STRONGLY PARAMAGNETIC PHASES IN THE W.

UNCLASSIFIED

USSR

UDC 535.376:621.382

POPOV, Yu. V., SHILOV, A. F., MANAK, I. S., KOBAK, I. A., FIGURIN, V. A.

"Nonuniformity of Glow and Percentage Modulation Lengthwise of P-N Junction in GaAs Diodes"

Vestn. Belorus. un-ta (Bulletin of Belorussian University), 1970, Series 1, No 3, pp 63-64 (from RZh--Elektronika i yeye primeneniye, No 5, May 1971, Abstract No 5B232)

Translation: The results are presented of a study of the nonuniformity of glow and percentage modulation of a p-n junction in GaAs diodes, which can be accounted for by the nonuniformity of distribution of impurities. 2 ill. 4 ref. Summary.

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USSR

UDC 612.815.1+612.826

AYRAPET'YANTS, E. SH., AUBKOVA, B. A., and FIGURINA, I. I., Laboratory of Comparative Physiology of Internal Analysors, Institute of Physiology imeni I. P. Pavlov, Academy of Sciences, USSR, Leningrad

"On the Role of Thalamic Structures in the Function of Visceral Analysors in Dogs"

Leningrad, Fiziologicheskly Zhurnal SSSR, imeni I. M. Sechenov, Vol 59, No 8, Aug 73, pp 1,158-1,167

Abstract: The retrograde degeneration of the thalamic nuclei of dogs was studied following removal of various areas of the visceral cortex. Conditioned reflexes of stomach and intestinal receptors were used as functional indicators of visceral analyzor activity. It was observed that bilateral removal of the precoronary region caused the greatest degeneration in the ventral nucleus of the thalamus with other parts of the thalamo-cortical complex degenerating as well. This was accompanied by an immediate weakening of visceral afferent signals, with a resumption of visceral analyzor activity in the second postoperative month. After removal of the postcoronary region of the cortex degeneration of the ventral and contralateral nuclei was noted. In this case visceral signals were disturbed for only 18 days. If the post-  
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