"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

USSR UDC 621.373.43

~~MATVEYEV, B. M.~~, KITAYEV, V. A., Special Design Office for Automation in Rolling and Pipe Production

"A Device for Generating Standard Time Intervals"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 8, Mar 71, Author's Certificate No 296241, division H, filed 21 Apr 69, published 12 Feb 71, p 186

Translation: This Author's Certificate introduces a device for generating standard time intervals which contains a standard frequency oscillator, frequency divider, a counter with controllable division coefficient, and a triggering device. As a distinguishing feature of the patent, the device is simplified and reliability is improved by connecting the output of the standard frequency oscillator to the frequency divider through an additional control circuit made up of two AND cells, a flip-flop and a delay line. Each cell of the frequency divider is connected to the synchronizing input of the corresponding digital place in the above-mentioned counter, the output of the counter being connected to the line which sets the frequency divider to the initial state, and to one of the inputs of the flip-flop. Connected to the other input of the flip-flop is the first AND cell, whose inputs are

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USSR

MATVEYEV, B. M., KITAYEV, V. A., Otkrytiya, izobreteniye, promyshlennyye obraztsy, tovarnyye znaki, No 8, Mar 71, Author's Certificate No 296241, division H, filed 21 Apr 69, published 12 Feb 71, p 106

connected to the reference frequency oscillator and the triggering device. The output of the flip-flop, which is also the output of the time-interval generating device itself, is connected to the input of the counter, and through a delay line to the second AND cell, the second input of this AND cell being connected to the standard frequency oscillator.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

UDC: 8.74

USSR

DYUKOVA, L. G., MATVEIEV, E. V.

"Layer-by-Layer Interpretation of the Function $R_{1,n}$"

Uch. zap. Perm. un-t (Scientific Notes of Perm University), 1971, No 259, pp 36-41 (from RZh-Kibernetika, No 1, Jan 72, Abstract No 1V1033)

Translation: The authors consider a method of layer-by-layer interpretation of the function $R_{1,n}$, and generalize the results of realization of this method on the "Aragats" computer.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

SOV/19-59-4-85/317

9(2)

AUTHORS: Kalyuzhnaya, N.I., Porto, D.N., and [redacted] G.A.

TITLE: A Method for Making Inductance Coils

PERIODICAL: Byulleten' izobreteniy, 1959, № 4, p 21 (USSR)

ABSTRACT: Class 21a[4], 68, Nr 118050 (576473/0-4103 of 22 July 1955). Submitted to the USSR Ministry of Radio Engineering Industry. The method consists of the following: A wire braided with glass fiber is wound upon a ceramic form, and each layer of the winding is powdered with glass enamel. The wound coil will then be heated up to the melting point of glass enamel and subsequently cooled to room temperature.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

ACCESSION NR: AP4041879 S/0236/64/000/012/0026/0026

AUTHOR: Vinogradova, A. P., Izergina, Ye. V., Zholkovskiy, V. V., Bedyayev, V. Ya. Matveyev, G. A., Moshchitskiy, I. I., Rusina, L. P., Sukhanov, Yu. M.

TITLE: A method for preparing a mixture of powders for the production of ferrites. Class 18, No. 163195

SOURCE: Byul. izobr. i tovar. znakov, no. 12, 1964, 26

TOPIC TAGS: ferrite, ferrite powder mixture, bonding agent, carboxymethylcellulose

ABSTRACT: A patent has been granted for a method for the preparation of a mixture of powders for the production of ferrites through the use of a bonding agent. In order to reduce the cost of ferrite production, a 5-10% aqueous solution of sodium carboxymethylcellulose is introduced as a bonding agent into the basic powder mixture.

ASSOCIATION: none

SUBMITTED: 28Jan63 ENCL: 00

SUB CODE: MM NO REF SOV: 000 OTHER: 000

Card 1/1

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

Analysis and Testing

M

UDC: 539.[illegible]

BOGATOV, A. A., [illegible], V. L., and [illegible], [illegible], Ural Scientific Research Institute of Ferrous Metals

"Experimental Testing of Metal Failure Conditions Under Various Loading Systems"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy, Chernaya Metallurgiya, No 8, 70, pp 76-80

Abstract: The experiment involved specimens of Steel 20 (0.2[illegible] C; [illegible] Si; 0.63% [illegible]; 0.013 P, and 0.01% S) cut from a shell with a yield point of 56 to 64.0 kg/mm², tensile strength of 111.8 to 118.2 kg/mm², and reduction of area of 46.1 to 52.5%. The condition of failure was

$$\psi = \int_0^t B \frac{H(t)}{\Lambda_p [K(t)]} dt = 1,$$

where ψ is the fracturing value, K is the state of stress index, Λ_p is metal plasticity at a given state of stress, and B is the coefficient controlling

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

BOGATOV, A. A., et al, Izvestiya Vysshikh Uchebnykh Zavedeniy, Chernaya Metallurgiya, No 8, 70, pp 76-80

the vector properties of fracturing accumulation under various loading systems of deformable metals. It was found that the assumed condition of failure is valid for both constant and variable values of K in the process of loading. In the event that (on deformation) the main stress tensor components are rigidly connected with the material fibers, then coefficient B may be taken (with sufficient accuracy) to be equal to unity. In the case that in the process of loading there appears considerable deviation of the main stress tensor components from the initially connected material fibers, then B is less than 1 and its value depends on the loading system.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

1/2 037 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--INVESTIGATION OF THE ANTIFERROMAGNETISM FERROMAGNETISM TRANSITION IN THE COMPOUND MN SUB1,88 CR SUB0,12 SB -U-

AUTHOR-(05)-GRAZHDANKINA, N.P., DURKHANOV, A.M., BERSENEV, YU.S., ZAYNULLINA, R.I., MATVEYEV, G.A.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL EKSPERIMENTAL'NOY I TEORETICHESKOY FIZIKI, 1970, VOL 58, NR 4, PP 1178-1185

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, MATERIALS

TOPIC TAGS--MAGNETIC TRANSFORMATION, TRANSITION TEMPERATURE, FERROMAGNETIC MATERIAL, ANTIFERROMAGNETIC MATERIAL, STRONG MAGNETIC FIELD, HIGH PRESSURE EFFECT, CRYSTAL ORIENTATION, CRYSTAL DEFORMATION, ANTIMONIDE, MANGANESE COMPOUND, CHROMIUM COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/1502 STEP NO--UR/0056/70/058/004/1178/1185

CIRC ACCESSION NO--AP0106258

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

2/2 037 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0106258

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF HIGH PRESSURE (UP TO P EQUALS 11000 ATM.) AND A STRONG MAGNETIC FIELD (UP TO 300 KOE) ON THE ANTIFERROMAGNETISM FERROMAGNETISM TRANSITION TEMPERATURE T OF THE MN SUB1,88 CR SUB0,12 SB COMPOUND IS INVESTIGATED AND THE VALUES OF DT SUBS-DP AND DT SUBS-DH ARE DETERMINED. THE MEASUREMENTS ARE PERFORMED WITH SINGLE CRYSTAL SAMPLES. THE ELASTIC PROPERTIES OF THE COMPOUND ARE INVESTIGATED AND DILATOMETRIC MEASUREMENTS IN VARIOUS CRYSTALLOGRAPHIC DIRECTIONS ARE CARRIED OUT. THE RESULTS OBTAINED ARE DISCUSSED IN LIGHT OF THE KITTEL EXCHANGE INVERSION THEORY OF MAGNETIC PHASE TRANSITION OF THE FIRST KIND. FACILITY: INST. FIZIKI METALLOV AN SSSR.

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

USSR UDC 621.378.325

KUDRYASHOV, V.A., MATVEYEV, I.N., PSHENICHNIKOV, S.M.

"Effect Of Predetector Conversion Of Carrier Frequency On The Sensitivity Of Infrared Band Receivers"

Kvantovaya elektronika, Moscow, No 5, May 71, pp 140-142

Abstract: The statistical characteristics are considered of an optical receiver with a parametric carrier-frequency converter. It is shown that the noise index of such a receiver can be minimized. Formulas and the results of computation of the noise of concrete variants of infrared-band receivers are presented. Curves are shown of the dependence of the noise index of a receiver with a parametric frequency converter on the pump power in the case of conversion of radiation from the near-infrared region in a KDP crystal 1 cm long. Received by editors, 22 Apr 71. 1 fig. 3 ref.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

USSR UDC 621.375.826

KUDRYASHOV, V. A., MATVEYEV, I. N., and PSHENICHNIKOV, S. M.

"Statistical Characteristics of Laser Receivers With Frequency Conversion Under Noise Conditions"

V sb. Nelineyn. protsessy v optike (Nonlinear Processes in Optics -- collection of works), Vyp.2, Novosibirsk, 1972, pp 354-359 (from RZh-Radiotekhnika, No 11, Nov 72, Abstract No 11 D143)

Translation: None.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

USSR UDC: 537.312.62

MATVEYEV, I. V., SHAPIRO, B. I., IGLITSYN, M. I., BASHKIROV, Yu. A.

"Investigation of Some Properties of the Mixed State of Superconducting Niobium in Alternating Magnetic Fields"

Kratkiye soobshch. po fiz. (Brief Reports on Physics), 1971, No 2, pp 3-11 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6D509)

Translation: The authors present the results of research on determining the configuration of a magnetic field penetrating a superconducting cylinder. The method is developed by Bean in application to determination of the critical current density on the basis of Fourier analysis of the voltage induced in a flip coil containing a specimen placed in a magnetic field. According to this method, the odd harmonics of the induced voltage are related to the critical current density of the specimen j_c. Temperatures close to the critical temperature T_c are used. Curves of the magnetization and induced voltage are plotted for four specimens of niobium single-crystals grown by the method of zone refining. Identical values of j_c are found for polished homogeneous specimens both from the magnetization curves

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

MATVEYEV, I. V. et. al., Kratkiye soobshch. po fiz., 1971, No 2, pp 3-11

and from Fourier analysis of the induced voltage curves. A difference of more than an order of magnitude between the j_c values obtained by these two methods for a specimen with a rough surface is attributed to the fact that a shallow-penetrating alternating field is sensitive only to the destroyed layer which gives the true localized critical current density. A. K.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

Therapy

UDC 616.981.551-085.373.39-039.71-039.11

USSR

BYCHENKO, B. D., and MATVEYEV, K. [redacted], Institute of Epidemiology and Microbiology imeni Gamaleya and State Control Institute imeni Tarasevich

"Emergency Prevention of Tetanus by Revaccination With Toxoid"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 9, 1971, pp 88-91

Abstract: Study of the efficacy of revaccination with tetanus toxoid of 231 persons who had been immunized against tetanus 1 to 3 years before revealed that the distribution of antitoxin titers was close to normal. After revaccination most of the persons quickly produced a sufficient quantity of antitoxin. About 15% of patients were capable of producing a large quantity of antitoxin, whereas 6.5% were immunologically inert. Almost 3.9% of those revaccinated did not have a protective titer of the antitoxin 10 to 15 days after receiving the toxoid. It was concluded that in order to guarantee the efficacy of emergency revaccination, one must check the dynamics of change in antitoxin titers after revaccination, for in the absence of such check, revaccination may be useless (as in the 3.9% of the cases mentioned above). The check should be made on the 6th day after revaccination in persons with extensive wounds contaminated by soil

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

USSR

BYCHENKO, B. D., and MATVEYEV, K. I., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 9, 1971, pp 88-91

or clothing. If they lack a protective titer (0.01 IU/ml, tetanus antitoxin (5,000 to 10,000 IU/ml) or donor antitetanus gamma globulin (900 to 1500 IU) should be promptly administered.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

UDC 615.373:616.981.553-078.73

USSR

BULATOVA, T. I., IVANOVA, L. G., and MATVEYEV, K. I., Institute of Epidemiology and Microbiology imeni Gamaleya, Academy of Medical Sciences USSR

"The Use of Highly Specific Antibotulinus Sera to Detect Cl. botulinum Types A and B by the Fluorescent-Antibody Method"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 9, 1971, pp 101-106

Abstract: Inoculation of rabbits with O-type-specific antigen isolated from Cl. botulinum types A and B yielded highly specific sera suitable for detecting the microorganisms by the fluorescent antibody method in environmental objects. Study of pure cultures and over 150 samples of soil and food in which Cl. botulinum types A and B were detected both by the neutralization test in mice and by the indirect fluorescent antibody method confirmed the high specificity of the sera. Cl. botulinum was detected by the fluorescent antibody method in every one of the samples containing botulinus toxin.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

USSR

MATVEYEV, K. I., Professor, and SERGEYEVA, T. I., Candidate of Medical Sciences

"Tetanus"

Moscow, Zdorov'ye, No 8, 1971, p 14

Abstract: Studies have shown that the incidence of tetanus in the USSR increases in a southerly direction. It is particularly prevalent in the Ukraine, Moldavia, Krasnodarskiy and Stavropolskiy krayn, and Rostovskaya Oblast, among the rural population. The most effective prophylactic measures are the administration of tetanus antitoxin, which imparts passive immunity for 8 to 10 days, and inoculation of tetanus toxoid (2 injections 30 to 40 days apart and a third injection a year later, which provides active immunity for many years. Since 1960 all Soviet children have been receiving tetanus toxoid at age 5 to 6 months and, in the southern regions, all adults as well. The tetanus rate has declined markedly as a result. Efforts are now under way to extend inoculations to the entire USSR population.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

USSR UDC 576.851.555.097.2.083.3

SHAMRAYEVA, S. A., ZEMLYANITSKAYA, Ye. P., and MATVEYEV, K. I., Institute of Epidemiology and Microbiology imeni Gamaleya, Academy of Medical Sciences USSR

"Study of Soluble Antigens of Cl. perfringens Types D and E in Tissue Cultures"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 8, 1971, pp 58-63

Abstract: The effect of activated Σ toxin of Cl. perfringens type D on animals and in 11 tissue cultures (KB, PH, HK, HeLa, HEp-2, and others was studied and an attempt was made to determine whether the tissue cultures can be used to identify strains of Cl. perfringens type E. Activated Cl. perfringens type D toxin caused necrotic changes in the skin of mice and guinea pigs, but was nontoxic with respect to the 11 types of tissue cultures investigated. The heteroploid cell lines HK, KB, PH, HeLa, and HEp-2 could be used to identify Cl. perfringens type E strains in the reaction of neutralization of soluble type E antigens with dry type E antitoxic diagnostic serum. Cl. perfringens type E toxin killed the experimental mice and produced cytotoxic changes in the KB, PH, HeLa, and HEp-2 tissue cultures.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

USSR

UDC 911.3:616.981.551(47+57)

MATVEYEV, K. I., and SERGEYEVA, T. I.

"Means of Combatting Tetanus and Related Problems in Connection With the Elimination of Tetanus in the USSR"

V sb. Materialy XV Vses. s'ezda epidemiologov, mikrobiologov i infektsionistov, Tezisy Dokl. Ch. 1 (Proceedings of the 15th All-Union Congress of Epidemiologists, Microbiologists, and Infectious Disease Specialists, Theses Reports, Part 1 -- collection of Works), Moscow, 1970, pp 102-104 (from RZh-Meditsinskaya Geografiya, No 2, Feb 71, Abstract No 2.36.79)

Translation: The first studies of the distribution of tetanus in the Soviet Union were made in 1956. Mass immunization of the population led to a drop in the incidence of the disease in 1968, in comparison with the period of previous mass immunization, for the whole country by a factor of 3.3, in the RSFSR by a factor of 3.4, in the Ukrainian SSR by a factor of 4, in the Belorussian SSR by a factor of 5, and in the Moldavian SSR by a factor of 9. In most republics of the Soviet Union, intensive immunization of the entire population is planned within the framework of the 5-7 year plans. Realization of this program will help to reduce the occurrence of the disease in the Soviet Union to a few individual cases.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

USSR

UDC 576.851.555.083.3.07

ZEMLYANITSKAYA, YE. P., SHAMRAYEVA, S. A., and KATVEYEV, K. I., Institute of Epidemiology and Microbiology imeni Gamaleya, Academy of Medical Sciences USSR

"Identification of Clostridium perfringens Types B, C, and F in Tissue Culture"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 3, 1971, pp 89-93

Abstract: To test the possibility of identifying the B, C, and F types of C. perfringens in tissue cultures, experiments were performed with five strains of each type and six kinds of tissue cultures - 5 heteroploid cell lines (KB, Rh, L, Hela, HK) and primary trypsinized cultures of chick embryo cells. Study of the spectrum of action of soluble antigens of the three types of Cl. perfringens in tissue culture and examination of the antigens in the neutralization reaction with antitoxic sera of the corresponding three types revealed that the cytotoxic effect of the soluble antigens was caused not by the activity of the main lethal and necrotic beta toxin alone, but by a complex of toxins. The B and C strains elaborated soluble antigens that induced cytotoxic changes in primary trypsinized embryonic cells and were toxic to some of the heteroploid lines. In tissue cultures the soluble antigens exhibited cross neutralization with the antitoxic sera of Cl. perfringens

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

USSR

ZEMLYANITSKAYA, YE. P., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 3, 1971, pp 89-93

types B, C, and F. However, neutralization of the toxins required the less active sera of the B and C types and the more active type F serum. The type F strains synthesized soluble antigens which had a cytotoxic effect on the heteroploid cell lines and did not induce cytotoxic changes in the primary trypsinized chick embryo cells. The soluble type F antigens were neutralized in the tissue cultures only by homologous serum.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

1/2 015 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--THE PROTECTIVE DOSE OF ANTITOXIN IN EXPERIMENTAL TETANUS -U-

AUTHOR-(02)-BYCHENKO, B.D., MATVEYEV, K.I.

COUNTRY OF INFO--USSR

SOURCE--BYULLETEN' EKS IMENTAL'NOY BIOLOGII I MEDITSINY, 1970, VOL 69, NR 6, PP 72-74

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--CLOSTRIDIUM TETANI, TETANUS TOXOID, ANTITOXIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/0194 STEP NO--UR/0219/70/069/006/0072/0074

CIRC ACCESSION NO--AP0130953

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

2/2 015 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0130953

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ON A MODEL OF EXPERIMENTAL TETANUS IN A GUINEA PIG INDUCED WITH A SUSPENSION OF CL. TETANI SPORES THE AUTHORS ESTABLISHED THAT THE PROTECTIVE DOSE OF ANTITOXIN WHICH GUARRANTEES PREVENTION OF THE DISEASE SHOULD BE ABOVE 1 IU PER GRAM OF ANIMAL WEIGHT. AN ANTITOXIN DOSE OF 0.1 IU PER GRAM OF WEIGHT PROTECTED APPROXIMATELY 50PERCENT OF GUINEA PIGS FROM EXPERIMENTAL INFECTION. ANTITOXIN INJECTED ONE HOUR AFTER INFECTION PROTECTED THE ANIMALS FROM TETANUS BETTER THAN ANTITOXIN INTRODUCED SIX HOURS AFTER INFECTION.

FACILITY: N. F. GAMALEYA INSTITUTE OF EPIDEMIOLOGY AND MICROBIOLOGY OF THE ACADEMY OF MEDICAL SCIENCES OF THE USSR, MOSCOW.

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

1/2 026 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--THE DURATION OF PASSIVE IMMUNITY IN PROPHYLAXIS OF TETANUS -U-

AUTHOR-(05)-MATVEYEV, K.I., KASHINTSEVA, N.S., PETROV, P.N., KASPAROVA, YE.M., KHARMOVA, S.A.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII I IMMUNOBIOLOGII, 1970, NR 5, PP 32-36

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PASSIVE IMMUNITY, PROPHYLAXIS, TETANUS TOXOID, TETANUS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/0104 STEP NO--UR/0016/70/000/005/0032/0036

CIRC ACCESSION NO--AP0114500

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

UNCLASSIFIED PROCESSING DATE--16OCT70

2/2 026

CIRC ACCESSION NO--AP0114500

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CHANGES OF ANTITOXIN TITRE AFTER THE ADMINISTRATION OF 3,000 AU OF ANTITOXIN SERUM WERE STUDIED ON 98 PATIENTS OF THE TRAUMATOLOGICAL DEPARTMENT OF THE SKLIFOSOVSKY INSTITUTE. BLOOD ANTITOXIN TITRE WAS DETERMINED ON THE 2ND, 4TH, 6TH, 8TH, 10TH, 12TH, 15TH, 20TH AND 30TH DAYS. IN THE MAJORITY OF CASES THE ANTITOXIN TITRE REMAINED WITHIN THE RANGE OF 0.01 AU-ML UP TO THE 8TH-12TH DAY. LATER ITS TITRE DISPLAYED A RAPID FALL. TO INCREASE THE EFFICACY OF TETANUS PROPHYLAXIS IN NONIMMUNIZED WOUNDED PERSONS AN ACTIVE PASSIVE PROPHYAXIS WITH THE SERUM AND TOXOID IS NECESSARY. FACILITY: INSTITUT EPIDEMIOLOGII I MIKROBIOLOGII IM. SAMALEI AMN SSSR AND INSTITUT IM. SKLIFOSOVSKOGO, MOSCOW.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

1/2 029 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--DEVELOPMENT OF ACTIVE IMMUNITY IN PERSONS AFTER AN ACTIVE PASSIVE PROPHYLAXIS OF TETANUS -U-

AUTHOR-(05)-MATVEYEV, K.I., BYCHENKO, B.D., PETROV, P.N., KASPAROVA, YE.M., TRUNOVA, Z.N.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII I IMMUNOBIOLOGII, 1970, NR 5, PP 26-32

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ACTIVE IMMUNITY, PROPHYLAXIS, TETANUS, TETANUS TOXOID, VACCINATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/0103 STEP NO--UR/0016/70/000/005/0026/0032

CIRC ACCESSION NO--AP0114499

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

2/2 029 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0114499

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. OF 39 INJURED PERSONS WHO WERE NOT SUBJECTED FORMERLY TO IMMUNIZATION AGAINST TETANUS 45PERCENT IN 3 MONTHS, AND 73PERCENT IN 12 MONTHS, AFTER AN URGENT ACTIVE PASSIVE PROPHYLAXIS (TOXOID PLUS SERUM), WERE PREPARED TO REVACCINATION WITH TOXOID AND REQUIRED NO ADMINISTRATION OF TETANUS ANTISERUM IN REPEATED TRAUMAS. AMONG HEALTHY PERSONS GIVEN A SINGLE INJECTION OF TETANUS TOXOID IN A DOSE OF 20 BU (50 PERSONS), 84PERCENT IN 3 MONTHS, AND 100PERCENT IN 8-12 MONTHS WERE PREPARED TO REVACCINATION WITH THE USUAL DOSE OF THE TOXOID (10 BU). THIS POINTED TO THE POSSIBILITY OF WIDE SINGLE IMMUNIZATION OF ADULT POPULATION WITH SUBSEQUENT REVACCINATION IN 8 TO 12 MONTHS. ANTITOXIC TETANUS ANTISERUM (3,000 IU) INJECTED TOGETHER WITH THE TOXOID (20 BU) PRODUCED SOME DEPRESSIVE EFFECT ON THE DEVELOPMENT OF ACTIVE IMMUNITY IN FORMERLY NON IMMUNIZED PERSONS. PERSONS IMMUNIZED AGAINST TETANUS IN WHOM THE ANTITOXIN TITRE WAS 0.001 IU-ML, EVEN AFTER SEVERE TRAUMAS PRODUCED THE ANTITOXIN RAPIDLY IN RESPONSE TO THE ADMINISTRATION OF THE TOXIN TOGETHER WITH THE SERUM.

FACILITY: INSTITUT EPIDEMIOLOGII I MIKROBIOLOGII IM. GAMALEI AND INSTITUT IM. SKLIFOSOVSKOGO, MOSCOW.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

1/2 007 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--PLATINUM MONOCARBONYL -U-

AUTHOR-(03)-RACHKOVSKAYA, L.N., YEREMENKO, N.K., MATVEYEV, K.I.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(6), 1396-8

M

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PLATINUM COMPOUND, CARBONYL COMPOUND, CHLORINE, COMPLEX COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/1592 STEP NO--UR/0020/70/190/006/1396/1398

CIRC ACCESSION NO--AT0117000

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

UNCLASSIFIED PROCESSING DATE--16OCT70

2/2 007

CIRC ACCESSION NO--AT0117000

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PT MONOCARBONYL IS PREPD. IN THE SOLID STATE AND ITS COMPN. AND PROPERTIES ARE STUDIED BY MEANS OF IR ANAL. THE COMPN. OF THE COMPD. IS PT(CO)(HCL) SUB2. IN SOLN. THIS COMPD. ADDS A 3RD MOL. OF HCL AND IS CONVERTED TO THE ACID H(PTCO(HCL) SUB2 CL). THE CL NEGATIVE IN THE COMPLEX ARE NOT EQUIV. AND THE H HAVE A HYDRIDE CHARACTER. FACILITY: INST. KATAL., NOVOSIBIRSK, USSR.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

Acc. Nr: AP0043759 Ref. Code: UR 0050

PRIMARY SOURCE: Meteorologiya i Gidrologiya, 1970, Nr 3, pp 34-44

M

CLOUD MOISTURE BALANCE

V. N. Kozlov, Matveyev, L. T.

The solution of moisture balance equation with vertical velocity and coefficient of turbulence depending on height is given. The liquid-water content profiles and height of cloud boundary are calculated. The amount of cloud precipitation under the influence of vertical velocity decrease and enlargement of cloud elements is evaluated. The problem of the influence of supersaturation on the calculation accuracy of liquid-watercontent in clouds is discussed.

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19770165

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

USSR

UDC 669.018.45-15:539.214

KAYBYSHEV, O. A., MATVEYEV, L. V., GUSEVA, S. P., and MARKELOV, A. A.,
Ufa Aviation Institute

"Relation Between the Structure and Properties of EI929 Alloy"

Moscow, IVUZ. Chernaya Metallurgiya, No 5, 1972, pp 125-128

Abstract: An investigation is made of the effect which structure obtained by various kinds of heat treatment has on the properties of EI929 heat resistant alloy. Open and vacuum-arc melts were studied. The chemical composition of both melts corresponded to technical specifications. The hardening γ'-phase was analyzed: the amount of γ'-phase, mean grain size and lattice parameter were determined. The structure and properties of the alloys are compared. The high-temperature strength of the alloy can be attributed to grain size, while the ductility is a function of the distribution and degree of dispersion of the hardening γ'-phase.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

1/2 014 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--THE STUDY OF PRIMARY PYELONEPHRITIS IN CHILDREN -U-

AUTHOR-(05)-MATVEYEV, M.P., IGNATOVA, M.S., KLEMBOVSKIY, A.I., KOROVINA, N.A., TEVOSYAN, V.K.

COUNTRY OF INFO--USSR

SOURCE--PEDIATRIYA 49(2): 34-40. ILLUS. 1970

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--GENITOURINARY SYSTEM DISEASE, KIDNEY, NEPHRITIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605006/E12 STEP NO--UR/0546/70/049/002/0034/0040

CIRC ACCESSION NO--AT0139810

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

UNCLASSIFIED PROCESSING DATE--04DEC70

2/2 014

CIRC ACCESSION NO--AT0139810

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PROBLEM OF PYELONEPHRITIS HAS BECOME ONE OF THE PRINCIPLE ONES IN NEPHROLOGY. CLINICAL, LABORATORY, ROENTGENOLOGICAL AND MORPHOLOGICAL CHARACTERISTICS OF 50 CHILDREN WITH AN INFECTIOUS PROCESS IN THE URINARY SYSTEM WERE GIVEN. THE INVESTIGATIONS CONDUCTED MADE IT POSSIBLE TO SINGLE OUT 3 GROUPS OF CHILDREN: THE FIRST GROUP INCLUDED CHILDREN (12) WITH DISTINCT CLINICAL AND ROENTGENOLOGICAL SIGNS OF PYELONEPHRITIS, THE SECOND GROUP INCLUDED CHILDREN (12) WITHOUT ROENTGENOLOGICAL SIGNS OF PYELONEPHRITIS AND MINIMUM BIOCHEMICAL SHIFTS OF THE BLOOD, WHO WERE REGARDED AS PATIENTS WITH AN INFECTION OF THE URINARY SYSTEM. CHILDREN OF THE THIRD GROUP (26), IN WHOM IN SPITE OF THE NORMAL X RAY PICTURE OF THE KIDNEYS ALONGSIDE PROTEINURIA, LEUKOCYTURIA AND BACTERIURIA MARKED SHIFTS OF PROTEIN, LIPID AND MUCOID METABOLISM, A TENDENCY TOWARDS THE TUBULAR FUNCTION WERE OBSERVED, COULD BE REGARDED AS PATIENTS WITH THE INITIAL PYELONEPHROTIC AFFECTION OF THE KIDNEYS. FACILITY: DEP. PEDIAT., CENT. INST. POSTGRAD, MED., MOSCOW, USSR.

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

USSR

UDC: 51

MATVEYEV, M. T.

"Concerning a Procedure for Approximate Solution of an Integer Distribution Problem"

Moscow, Mat. metody resheniya ekon. zadach--sbornik (Mathematical Methods of Solving Economics Problems--collection of works), No 3, "Nauka", 1972, pp 111-118 (from RZh-Kibernetika, No 5, May 73, abstract No 5V656 by Yu. Finkel'shteyn)

Translation: The paper deals with the problem of distribution of a limited quantity of technological equipment of a single type among certain objects with given limitations on capital investments, introduction and arrangement. A formulation of this kind is applicable for instance to the problem of distribution of coal extraction complexes among the mines of coal combines. The same procedure can be used for formulating the problem of loading transport facilities, warehouses and various storage facilities. The following mathematical model is derived:

$$\sum_{i=1}^{n} c_i x_i \to \max,$$

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

USSR

MATVEYEV, M. T., Mat. metody resheniya ekon. zadach, No 3, "Nauka", 1972, pp 111-118

$$\sum_{i=1}^{n} x_i = b_1,$$

$$\sum_{i=1}^{n} a_{ji} x_i > b_j, \quad j = 2, \ldots, m_1,$$

$$\sum_{i=1}^{n} a_{ji} x_i < b_j, \quad j = m_1 + 1, \ldots, m,$$

$$x_i = 0 \text{ or } 1, \quad i = 1, \ldots, n.$$

Here all coefficients c_i and a_{ji} are positive. For solution of the problem, an approximate method is proposed which is based on step-by-step distribution of all equipment within b_i steps with respect to unity on each step. A numerical example is considered.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

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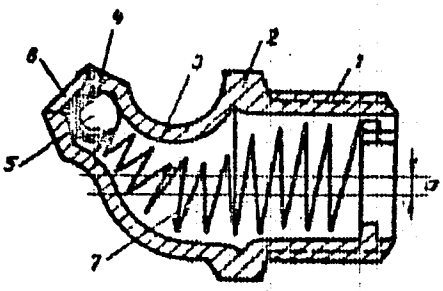
UR 0482

Soviet Inventions Illustrated. Section III Mechanical and General, Derwent, 1-70

241162 ANGULAR PRESSURE LUBRICATOR contains an intermediate pipe bend and a straight oil can with a working element (4) the working element has a ball (5) and a spring (7). In order to simplify the structure and to retain the set dimensions the lubricator is made in the form of one non-detachable stamped body (1) with a working element which is situated on the neck (3) of the body. The neck is displaced in relation to the body's longitudinal axis and is bent in the direction which is opposite to the displacement. 5.4.68. as 1233454/25-8, DUBININ L.N. and MATVEEV, N.I. (14.8.69) Bul. 13/1.4.69. Class 47e, Int. Cl. F 16n.



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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

AA0101167

AUTHORS: Dubrovin, L. N.; Matveyev, N. I.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

UNCLASSIFIED

PROCESSING DATE--20NOV70

1/2 025

TITLE--ACUTE GASTRODUODENAL EROSIONS AND ULCERS -U-

AUTHOR-(03)-VASILENKO, V.KH., MATVEYEV, N.K., NIKOLAYEV, N.U.

COUNTRY OF INFO--USSR

SOURCE--KLINICHESKAYA MEDITSINA, 1970, VOL 48, NR 4, PP 33-40

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DIGESTIVE SYSTEM DISEASE, DUODENUM, LESION, PATHOGENESIS, PROPHYLAXIS, DIAGNOSTIC MEDICINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

STEP NO--UR/0497/70/048/004/0033/0040

PROXY REEL/FRAME--3004/0740

CIRC ACCESSION NO--AP0131041

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

2/2 025 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0131341

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS COMMIT TO PAPER LITERATURE DATA AND AN ANALYSIS OF THE CASE HISTORIES OF 254 PATIENTS WITH ACUTE GASTRODUODENAL EROSIONS AND ULCERS. SPECIAL ATTENTION IS DRAWN TO THE INCIDENCE, CAUSES OF DEVELOPMENT AND PATHOGENESIS OF ACUTE ULCERS, CLINICAL PICTURE AND DIAGNOSIS, AS WELL AS THE PROPHYLAXIS OF THESE SEVERE COMPLICATIONS. FACILITY: VSESOYUZNYY N-I INSTITUT GASTROENTEROLOGII MZ SSSR, MOSCOW.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

USSR

UDC 621.376.234

RYVKIN, S.M., MATVEYEV, O.A., NOVIKOV, S.R., STROKAN, N.B.

"Semiconductor Detectors Of Nuclear Radiation"

V sb. Poluprovodnikovyye pribory i ikh primeneniye (Semiconductor Devices And Their Application--Collection Of Works), Moscow, Izd-vo "Sovetskoye Radio," No 25, 1971, pp 267-298

Abstract: The principal problems which arise during design and production of semiconductor counters are described. It is shown that the basic reason which at present limits the resolution of counters is the quality of the starting material. The parameters of the material which determine the characteristics of the counters are shown and methods of measuring the magnitudes indicated are presented. Data are presented on germanium lithium-drift detectors, germanium "radiation" detectors, silicon surface-barrier detectors, and silicon lithium-drift detectors. The technological processes for production of the counters are considered, in particular the various methods for accomplishment of compensation in the operating zone of the detector, as well as methods for creation of contacts. Together with transition procedures, considerable attention is given to ion implantation methods. 13 fig. 1 tab. 64 ref.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

1/2 020 UNCLASSIFIED PROCESSING DATE--30DEC70

TITLE--ELECTRICAL PROPERTIES OF SURFACE BARRIER P-N JUNCTIONS ON HIGH RESISTANCE CADMIUM TELLURIDE -U-

AUTHOR-(05)-BOGOMAZOV, A.P., KARPENKO, V.P., KASHERININOV, P.G., MATVEYEV, ~~[illegible]~~, STETSYUK, R.S.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TEKH. POLUPROV. 1970, 4(4), 813-14

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--CADMIUM TELLURIDE, ELECTRIC PROPERTY, PN JUNCTION, ELECTRIC FIELD, VOLT AMPERE CHARACTERISTIC

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/0932 STEP NO--UR/0449/70/004/004/0813/0814

CIRC ACCESSION NO--AP0121534

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

2/2 020 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121534

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DARK CURRENT VOLTAGE CHARACTERISTICS OF SURFACE BARRIER P-N JUNCTIONS ON HIGH RESISTANCE CDTE ARE QUADRATIC AND MORE INFLUENCED BY THE ELEC. FIELD IN THE BASE AREA THAN BY THE RESISTANCE OF THE JUNCTION ITSELF. THE LATTER BECOMES IMPORTANT WHEN THE BASE RESISTIVITY IS REDUCED BY ILLUMINATION; IN THIS CASE, THE CURRENT VOLTAGE CURVE IS EXPONENTIAL. FACILITY: FIZ. TEKH. INST. IM. IOFFE, LENINGRAD, USSR.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

1/2 022 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--EFFECT OF HETEROGENEITIES ON THE MOBILITY OF ELECTONS IN CADMIUM TELLURIDE -U-

AUTHOR-(03)-ALEKSEYENKO, M.V., ARKADYEVA, YE.N., MATVEYEV, O.A.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TEKH. POLUPROV. 1970, 4(2), 414-16

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--CADMIUM TELLURIDE, ELECTRON MOBILITY, CRYSTAL DEFECT, IMPURITY LEVEL, PARTICLE DISTRIBUTION, FERMI LEVEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0092 STEP NO--UR/0449/70/004/002/0414/0416

CIRC ACCESSION NO--AP0105178

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

2/2 022 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0105178

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A THEORETICAL TREATMENT IS PRESENTED OF THE TEMP. DEPENDENCES OF THE MOBILITIES IN N CDTE, TAKING INTO ACCOUNT THE EFFECT OF HETEROGENEITIES. AN ANAL. OF THE RESULTS SHOWS THAT IN A SUFFICIENTLY LOW OHMIC SAMPLE, THE FRACTION OF THE VOL. OCCUPIED BY HETEROGENEITIES IS SMALL, BUT THE DISTANCE BETWEEN THEM IS COMPARABLE TO THE ELECTRON MEAN FREE PATH. IN A MORE PRECISELY COMPENSATED SAMPLE, THE VOL. OCCUPIED BY THE HETEROGENEITIES IS GREATER, THE DISTANCE BETWEEN THEM IS GREAT AND THE SCATTERING ON THEM IS LESS SIGNIFICANT. THE MOBILITY IN THIS CASE INCREASES WITH AN INCREASE IN TEMP. IN SUCH A SAMPLE, A RECOMPENSATED AREA MAY EXIST IN WHICH THE FERMI LEVEL LIES SIMILAR TO 0.6 EV FROM THE CONDUCTION BAND. ON THE BOUNDARY OF THESE REGIONS, AN ELEC. FIELD BARRIER IS FORMED, TENS OF EV IN MAGNITUDE. AS THE DEGREE OF COMPENSATION INCREASES, THE PROBABILITY OF THE FORMATION OF SUCH OHMIC REGIONS INCREASES AND, AS A RULE, THE MOBILITY AT ROOM TEMP. IS LOW. FACILITY: FIZ. TEKH. INST. IM. IOFFE, LENINGRAD, USSR.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

Acc. Nr. AP0105538 Abstracting Service: CHEMICAL ABST. Ref. Code UR 0449

126931j Optical absorption in relation to lattice defects in cadmium telluride crystals. Agrinskaya, N. V.; Arkad'eva, E. N.; Matveev, O. A. (Fiz.-Tekh. Inst. im. Ioffe, Leningrad, USSR). *Fiz. Tekh. Poluprov.* 1970, 4(2), 330-2 (Russ). The transmittance of CdTe crystals was measured in the region 0.8-1.6 μ at 77 and 300°K. Four groups of crystals were studied. The 1st 3 groups had different position of Fermi level: (1) *p*-type, $E_f = E_v + (0.15\text{-}0.35)$ eV, (2) *p*-type, $E_f = E_v + (0.55\text{-}0.60)$ eV, and (3) *n*-type, $E_f = E_c - (0.6\text{-}0.7)$ eV. The 4th group included *n*-type crystals compensated by annealing in Te vapor with energy level $E_d \sim E_c - 0.01$ eV. The curves of the spectral dependence of absorption coeff. are analyzed in terms of energy levels assocd. with ustd. electron transitions, and the nature of relevant centers is discussed. The centers with $E_c - (0.6\text{-}0.7)$ eV level are assumed to be due to double-neg. charged Cd vacancies V_{Cd}''. The centers with $E_v + 0.55$ eV level may be connected with donor-type defects which are introduced simultaneously with acceptors and compensated them. The centers with $E_v + (0.15\text{-}0.16)$ eV level are ascribed to the V_{Cd}'' defects or $(V_{Cd}\text{-In})'$ complexes. L. Koudelka

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

USSR

UDC 621.315.592

KARPENKO, V.P., KASHERININOV, P.G., MATVEYEV, O.A.

"Surface-Barrier Cadmium Telluride Junction Photomemory"

Leningrad, Fizika i Tekhnika Poluprovodnikov, Vol 4, No 5, 1970, pp 937-940

Abstract: The mechanism of a surface-barrier junction photomemory using cadmium telluride is discussed from the theoretical point of view, and an experiment is described in which the surface-barrier junctions in n-CdTe with an initial electron concentration of $2.7 \cdot 10^{16}$ cm^{-3} were investigated. The volt-capacitance characteristics of the junction were measured. The volt-capacitance and volt-ampere characteristics of the investigated junctions in the dark were described by ordinary classical expressions for a sharp transition. Curves are presented for the variation of the capacitance of the junctions illuminated by extrinsic light $\lambda = 0.83$-1.5 microns with different illumination intensities.

It was discovered that the capacitance of the surface-barrier junctions created in low-resistance n-CdTe has photosensitivity in the range of extrin ic absorption. After switching off the illumination, the perturbation caused by the extrinsic light is retained for a long time when T = 300° K (photomemory). On illumination of the junction storing the perturbation by strongly absorbed

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USSR

KARPENKO, V.O., et al., Fizika i Tekhnika Poluprovodnikov, Vol 4, No 5, 1970, pp 937-940

short-wave light the magnitude of the capacitance decreases, and the photomemory disappears. A decrease in the capacitance of such a junction takes place also on illuminating it with light with $h\nu = 1.0-1.2$ electron volts. The observed phenomena are explained by the presence of two groups of impurity levels in the initial material. One group of deep levels is responsible for the photomemory effect of the junctions, and their concentration is equal to $0.96 \cdot 10^{16}$ cm^{-3}, $\gamma = 1.3 \cdot 10^{-17}$ cm^2. The second group of shallow levels located at the edge of the valence zone is responsible for the capacitive relaxations on switching off the illumination and the photocurrent when illuminating the junction by light with $h\nu < E_g$.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

Coatings

USSR

UDC 669.14.018.85

DEGTEV, G. F., SOLOV'YEV, B. M., VASHKEVICH, F. F., MATVEYEV, O. R.

"Study of Some Oxidation-Resistant Coatings Obtained by the Plasma Deposition Method"

Dnepropetrovsk, Metallurgicheskaya i gornorudnaya promyshlennost', No 2 (74), 1972, p 37

Abstract: A study was made of the possibility of using plentiful and inexpensive materials to protect the steel elements of industrial heat exchangers. Oxidation-resistant coatings of aluminum oxide, magnesium oxide, zirconium dioxide, silicon carbide, and tungsten carbide were applied to specimens made of St. 3 carbon steel and Kh18N9T oxidation-resistant steel. The coatings were tested independently and in combination with each other. Various conditions of plasma deposition of the coatings were tested. The best results were obtained on applying aluminum oxide, aluminum-magnesia spinel, and silicon carbide to carbon steel with a sublayer of iron.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

USSR UDC 621.372.8.09

VAGANOV, ROAL'D BORISOVICH; MATVEYEV, ROSTISLAV FEDOROVICH; MERIAKRI, VYACHESLAV VYACHESLAVOVICH

"Mutliwave Waveguides With Random Irregularities"

Mnogovolnovyye vonovody so sluchaynymi neregulyarnostyami (cf. English above), Moscow, Izd. "Sovetskoye radio," 1972. 252 pp, 7 tab. 53 fig. 52 ref. 77 kop.

Abstract: A theoretical analysis is presented and methods are described of experimental study of multiwave waveguide channels, on the basis of which it is possible to construct ultrawide band communication lines and feeder lines with small losses. The effect of random irregularities on the properties of multilines is considered in detail. Theoretical conclusions are confirmed by the results of experimental studies. The book is intended for specialists in waveguide technicques, high-frequency electrodynamics, communication theory, measurements in the millimeter band, and statistics of random media, and also for students of advanced courses and graduate students of corresponding specialities.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

USSR

VAGANOV, ROAL'D BORISOVICH, et al., Mnogovolnovyye vonovody so sluchaynymi neregulyarnostyami, Moscow, Izd. "Sovetskoye radio," 1972. 232 pp., 7 tab. 58 fig. 52 ref. 77 kop.

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CHAPTER I
Regular Multiwave Waveguides And Waveguide Elements

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2. Some regular multiwave waveguides 18
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USSR

VAGANOV, ROAL'D BORISOVICH, et al., Mnogovolnovyye vonovody so sluchaynymi neregulyarnostyami, Moscow, Izd. "Sovetskoye radio," 1972, 232 pp, 7 tab. 58 fig. 77 kop.

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VAGANOV, ROAL'D BORISOVICH, et al., Mnogovolnovyye vonovody so sluchaynymi neregulyarnostyami, Moscow, Izd. "Sovetskoye radio," 1972. 232 pp, 7 tab. 58 fig. 77 kop.

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VAGANOV, ROAL'D BORISOVICH, et al., Mnogovolnovyye vonovody so sluchaynymi neregulyarnostyami, Moscow, Izd. "Sovetskoye radio," 1972. 232 pp, 7 tab. 58 fig. 77 kop.

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VAGANOV, ROAL'D BORISOVICH, et al., Mnogovolnovyye vonovody so sluchaynymi neregulyarnostyami, Moscow, Izd. "Sovetskoye radio," 1972. 232 pp, 7 tab, 58 fig. 77 kop.

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VAGANOV, ROAL'D BORISOVICH, et al., Mnogovolnovyye vonovody so sluchaynymi neregulyarnostyami, Moscow, Izd. "Sovetskoye radio," 1972. 232 pp, 7 tab. 58 fig. 77 kop.

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USSR

VAGANOV, ROAL'D BORISOVICH, et al., Mnogovolnovyye vonovody so slucheynymi neregulyarnostyami, Moscow, Izd. "Sovetskoye radio," 1972. 232 pp, 7 tab. 58 fig. 77 kop.

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VAGANOV, ROAL'D BORISOVICH, et al., Mnogovolnovyye vonovody so sluchaynymi neregulyarnostyami, Moscow, Izd. "Sovetskoye radio," 1972. 232 pp, 7 tab. 58 fig. 77 kop.

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USSR

UDC 669.822:621.039.5

KAZACHKOVSKIY, O. D., LEBEDEV, I. G., SYCH, A. P., MATVEYEV, P. P.

"Formation of the Structure of the Core of Fuel Elements Made of Metallic Uranium During the Irradiation Process"

Radiatsion. fiz. tverd. tela i reaktornove materialoved. -- V sb. (Radiation Solid State Physics and Reactor Material Science -- collection of works), Moscow, Atomizdat Press, 1970, pp 203-208 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4I827)

Translation: Metallic uranium (0.21% content of admixtures) was irradiated to 2% burn-up in OKh16N15M3B steel cans 4-5 mm in diameter with walls 0.35-0.4 mm thick. The volume compensating for the swelling was 15-30% (filling with He). The mean temperature of the cans was 450-600°, and the initial fuel temperature was 650-900°. On irradiation, the fuel completely filled the free volumes. The can diameter did not change in any case. There are 2 illustrations and a 3-entry bibliography.

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USSR

UDC 535.8:666.189.2

MATVEYEV, R.F.

"Air Turbulence Influence On The Beam Swing In Lightguide Lines"

Radiotekhnika i elektronika, Vol XVII, No 5, May 72, pp 1075-1076

Abstract: In a lightguide line consisting of a sequence of phase correctors located in a screening tube, the beam trajectory is distorted because of fluctuations of the refractive index of the air in the screenning tube. The present paper is devoted to a theoretical analysis of these distortions. Only the component of the fluctuations which rapidly changes in time is considered. The paper does not discuss distortions of the beam trajectory because of the vertical gradient of the refractive index which is almost constant in time, and distortions because of instability of position in the space of the phase connectors. In the first place such distortions can be compensated for by a system of automatic adjustment of the beam in view of its weak dependence on time, and in the second place with multibeam transmission the difference in the distortion of the trajectory of different beams going on a line is due only to the variable component of the fluctuations of the refractive index, provided that the characteristic extent of the turbulence causing these functions is less than the distance between beams so that the distortions of the trajectories of the various beams are uncorrelated. 1 fig. 4 ref. Received by editors, 26 March 1971.

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USSR

GINZBURG, I. P., KOCHERYZHENKOV, G. V., MATVEYEV, S. K.

"Semi-empirical Methods of Calculating Turbulent Boundary Layers"

Teplo. i Massoperenos. T. 1. [Heat and Mass Transfer, Vol 1 -- Collection of Works], Minsk, 1972, pp 65-74, (Translated from Referativnyy Zhurnal, Mekhanika, No 10, 1972, Abstract No 10 B730, by P. P. Vorotnikov).

Translation: Results are analyzed of numerical calculations of a turbulent boundary layer, in which various rules of change of path length of displacement across the boundary layer were tested. According to these calculations, the velocity profiles in the boundary layer constructed in coordinates u/u_*, yv/γ_* are independent of the Reynolds number near the wall and in the buffer area. In the outer portion of the boundary layer, the velocity profiles do not depend on the Reynolds number if constructed in coordinates y/δ, $(u - u_e)/v_*$. In the last case, the form of the theoretical curve is determined to a great extent by the hypothesis used for the length of the displacement path. A curve calculated using the following formula for displacement path length agrees best with experimental results:

$$\frac{l}{\delta} = \begin{cases} k\frac{y}{\delta}, & \text{if } y_* < y < \frac{\lambda\delta}{k} \\ \lambda, & \text{if } \frac{\lambda\delta}{k} < y < \delta \end{cases}$$

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

USSR

GINZBURG, I. P., KOCHERYZHENKOV, G. V., MATVEYEV, S. K., Teplo. i Massoperenos. T. 1., Minsk, 1972, pp 65-74.

where $\lambda = 0.10$ is an empirical constant. The distribution of friction stress over the cross section of the boundary layer on an impermeable plate is found to be little sensitive to Reynolds number.

As analysis of numerical solutions shows, when there is a moderate longitudinal pressure gradient or injection, when the last expression is used for displacement path length, the dependence of u/v_* on yv_*/ν near the wall remains near universal. Nevertheless, the pressure gradient is found to have a strong influence on the dependence of $c_f/2$ on $R^{**} = u_e\delta^{**}/\nu$, which is related to the influence of pressure gradient or injection on the velocity profile and on the friction stress profile in the external portion of the boundary layer. To provide a single-parameter representation of the friction stress profile in the boundary layer when there is a pressure gradient and injection, it is suggested that the new parameter

$$A = \frac{\delta}{\tau_w}\frac{dp}{dx} + \frac{\delta}{v_*}\frac{dv_*}{dx}\zeta^2\beta^2 + \frac{v_*\delta}{\nu}\frac{1}{k_1}e^{(k_1-\lambda\zeta\beta)}$$

be used, which provides a universal representation for $\tau/\tau_w = \tau/\tau_w(y/\delta)$ with various condition of friction in the boundary layer. 16 Biblio. Refs. 2/2

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USSR

UDC: 681.327

IL'YASHENKO, Ye. I., MATVEYEV, S. N.

"Results of Investigation of an Associative Memory with Compensation of Interference Signals"

Moscow, Magnit. elementy avtomatiki i vychisl. tekhn. XIV Vses. soveshch., 1972. Ref. dokl. (Magnetic Elements in Automation and Computer Technology. Fourteenth All-Union Conference, 1972. Abstracts of Papers), 1972, pp 100--104 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 1, Jan 73, abstract No 1B384 by B. K.)

Translation: The paper deals with problems of construction of an associative memory using a compensation digit in the accumulator to appreciably increase the number of digits which can be interrogated in parallel. An investigation is made of the effectiveness of introducing such compensation into a memory model with a capacity of 64 twelve-digit words. Oscillograms are presented for useful signals and interference, as well as the results of a study of their statistical characteristics plotted for compensated and uncompensated accumulators. It is noted that with an increase in the accumulator capacity (to more than 128 words), there is a gradual reduction

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USSR

IL'YASHENKO, Ye. I., MATVEYEV, S. N., Magnit. elementy avtomatiki i vychisl. tekhn. XIV Vses. soveshch., 1972, Ref. dokl., 1972, pp 100-104

in the effectiveness of introducing a compensation digit. Two illustrations, bibliography of four titles.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

USSR

KULESHOV, S. P., MATVEYEV, V. A., SISAKYAN, A. N., and SMONDYREV, M. A.

"Operator Method for Solving Quasi-Potential Equations, and the Concept of Rectilinear Paths at High Energies"

Moscow, Teoreticheskaya i Matematicheskaya Fizika, No 3, 1973, pp 325-331

Abstract: An operator method is proposed for finding approximate solutions for quasi-potential equations. The formula for the latter is given. It is noted that this method is sufficiently general and can be applied to other equations in quantum field theory. The approximate solution thus obtained can be used for finding the asymptotic behavior of dispersion amplitudes in the limit of high energies and fixed impulse transfer; it can also be used for developing a regular procedure for finding corrections for the chief asymptotic term. The final section of the article indicates the connection between the operator method and functional integration methods in quantum field theory. It is stressed that, at high energies, the method is the realization of the rectilinear path concept and can be applied to the investigation of various elastic and inelastic dispersion processes. The authors express their

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USSR

KULESHOV, S. P., et al, Teoreticheskaya i Matematicheskaya Fizika, No 3, 1973, pp 325-331

gratitude to N. N. Bogolyubov, M. K. Polivanov, and A. N. Tavkhelidze for their advice and comments.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

1/2 016 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--EIKONAL APPROXIMATION IN QUANTUM FIELD THEORY -U-

AUTHOR-(04)-BARBASHOV, B.M., KULESHOV, S.P., MATVEEV, V.A., SISAKYAN, A.N.

COUNTRY OF INFO--USSR

SOURCE--TEORETICHESKAYA I MATEMATICHESKAYA FIZIKA, 1970, VOL 3, NR 3, PP 342-352

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--QUANTUM FIELD THEORY, QUANTUM MECHANICS, SCATTERING AMPLITUDE, FUNCTIONAL EQUATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1315 STEP NO--UR/0646/70/003/003/0342/0352

CIRC ACCESSION NO--AP0124966

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

2/2 018 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0124966

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ASYMPTOTIC BEHAVIOR OF THE SCATTERING AMPLITUDE AT HIGH ENERGIES AND FIXED MOMENTUM TRANSFERS IS INVESTIGATED IN THE (FORMULA SHOWN ON MICROFICHE): MODEL BY MEANS OF THE FUNCTIONAL INTEGRATION METHOD IN QUANTUM FIELD THEORY.

FACILITY: OB'YEDINENNYY INSTITUT. FACILITY: YADERNYKH ISSLEDOVANIY.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

1/2 016 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--ACCOUNT OF RADIATION CORRECTIONS FOR THE EIKONAL SCATTERING AMPLITUDE IN QUANTUM FIELD THEORY MODEL -U-

AUTHOR-(04)-BARBASHOV, B.M., KULESHOV, S.P., MATVEYEV, V.A., SISAKYAN, A.N.

COUNTRY OF INFO--USSR

SOURCE--(JINR E2-4983)

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--QUANTUM FIELD THEORY, SCATTERING AMPLITUDE, APPROXIMATION METHOD, ERROR CORRECTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/2180 STEP NO--UR/0000/70/000/000/0007/0007

CIRC ACCESSION NO--AT0127544

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

2/2 016 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AT0127544

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EIKONAL REPRESENTATION FOR THE SCATTERING AMPLITUDE TAKING INTO ACCOUNT THE RADIATION CORRECTIONS IS OBTAINED BY MEANS OF THE FUNCTIONAL INTEGRATION METHOD. IN THE APPROXIMATION USED THE SUMMATION OF THE RADIATION CORRECTIONS LEADS TO THE APPEARANCE IN THE EXPRESSION FOR THE SCATTERING AMPLITUDE OF THE MULTIPLICATIVE FACTOR DEPENDING ONLY ON THE MOMENTUM TRANSFER.

FACILITY: JOINT INST. FOR NUCLEAR RESEARCH, DUBNA (USSR).

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

Acc. Nr: AP0046165 Ref. Code: UR 0646

PRIMARY SOURCE: Teoreticheskaya i Matematicheskaya Fizika, 1970, Vol 2, Nr 1, pp 73-79

THE GLAUBER-TYPE REPRESENTATION FOR THE AMPLITUDE OF THE SCATTERING OF HIGH-ENERGY DIRAC PARTICLES ON SMOOTH POTENTIALS

Kuleshov, S. P.; Matveyev, V. A.; Sisakyan, A. M.

The Glauber-type representation is deduced for the amplitude of the scattering of spin 1/2 particles on smooth potentials in the region of high energy of incident particles. The consideration is carried out in the two-component formalism and also with the aid of Dirac equation.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

AA0043459 M UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent, 1/70

241726 ELECTROMAGNETIC FLOWMETER consists of a tube (1) on which are mounted two induction coils (2) connected electrically as opposing coils and enveloped by armature (3). Between the coils are electrodes (4) inserted into the tube, mounted as adjacent parallels isolated from the tube and from the liquid for most of their lengths. They contact the liquid only by the tips. Between the electrodes there is an insulating partition (5) with a window to exclude breaking the inner electric circuit.

When the coils are energized, eddy currents are induced in the flowing liquid in planes perpendicular to the tube axis. The difference of potentials which appears on the electrodes is proportional to the speed of the liquid.

25.12.67 as 1205338/18-10.V.A.MATVEEV & O.S.VAVILOV. (25.8.69) Bul 14/18.4.69. Class 42k. Int.Cl.G 01 f.

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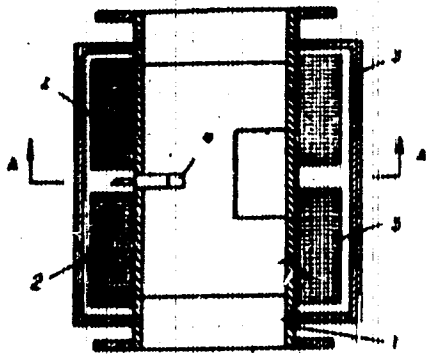
AA0043459



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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

USSR

UDC 551.46.087.08

YAMKOVOY, V. A., OVANESOV, O. G., LATYSHEVA, G. I., STRUTSINSKIY, A. V., and MATVEYEV, V. A.

"A Marine Water Temperature Meter"

Kiev, Vestn. Kiev. politekhn. in-ta. Ser. priboroctr. (Journal of the Kiev Polytechnic Institute-Instrument Engineering Series) No 3, 1972, pp 34-35 (from Referativnyy Zhurnal -- Metrologiya i Izmeritel'naya Tekhnika, No 1, 1973, Abstract No 1.32.723 by V. S. Krasnova)

Translation: A short description of an instrument for measuring the temperature of marine water is presented, whose function is based on the transformation of temperature into an electrical signal. The average temperature is measured by the unbalance current of a bridge using a microammeter M=1690+A, first class, with current limits 0-100 microamp, as an indicator. The range of temperature from -2°C to +35°C is broken down into four subranges of 10°C each. The voltage of the feeding measurement circuit is 9.86 volts constant current. The instrument assures the measurement of temperature in each range with an accuracy of ± 0.1°C. The maximum endurance time of the monitor for a fixed level and a discrete measurement is 4-5 seconds. (1 illustration, English resume)

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

1/2 018 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--WAVE OPERATORS FOR THE SCHRODINGER EQUATION WITH SLOWLY DECREASING POTENTIAL -U-

AUTHOR-(02)-BUSLAYEV, V.S., MATVEYEV, V.B.

COUNTRY OF INFO--USSR

SOURCE--TEORETICHESKAYA I MATEMATICHESKAYA FIZIKA, 1970, VOL 2, NR 3, PP 367-376

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, MATHEMATICAL SCIENCES

TOPIC TAGS--SCHROEDINGER EQUATION, WAVE FUNCTION, MATHEMATIC OPERATOR

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1985/2025 STEP NO--UR/0646/70/002/003/0367/0376

CIRC ACCESSION NO--AP0102054

UNCLASSIFIED

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2/2 018 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0102054

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE SPACE L SUB2 (R PRIMEN) THE ENERGY OPERATOR IS CONSIDERED, WHICH HAS THE FORM H SUBQ EQUALS MINUS 1 OVER 2M DELTA PLUS Q (X) WITH THE FUNCTION Q (X) DECREASING AS MAGNITUDE OF X PRIME NEGATIVEA, A IS GREATER THAN 0 FOR MAGNITUDE OF X YIELDS INFINITY. THE EXISTENCE OF GENERALIZED WAVE OPERATORS W SUB PLUS OR MINUS (H SUBQ, H SUB0) EQUALS B-LIM EXP (ITH SUBQ) EXP (ITH SUB0) U SUBQ (T) IS PROVED BY MEANS OF INTRODUCING A "REGULARIZING" OPERATOR U SUBQ (T).

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USSR UDC 615.214.015.43

MATVEYEV, V. F. and CHUDINA, E. Kh., Institute of Psychiatry, RSFSR Ministry of Health and Institute of Human Morphology, USSR Academy of Sciences, Moscow

"Histochemical Study of the Brain and Viscera After Prolonged Administration of LSD"

Moscow, Zhurnal Nevropatologii i Psikhiatrii, No 7, 1973, pp 1,064-1,070

Abstract: Rats were given 0.04 mg/kg of LSD_{25} daily for 4 weeks. Histochemical study revealed distinct changes, especially after the fourth week, in the activity of various enzymes in the brain, liver, kidneys, and heart. Glutamic acid and succinic dehydrogenase activity decreased in all the structures under study. Mitochondrial α-glycerophosphate dehydrogenase activity was normal in brain tissues but decreased in the viscera. These changes show that prolonged administration of LSD_{25} impairs the metabolic processes not only in the brain but in the viscera as well. The effects were correlated with alterations in the animals' behavior.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

USSR

MATVEYEV, V. F.

"A Multistage Queueing System"

Sb. Rabot. Vychisl. Tsentra Mosk. Un-ta [Collected Works of Moscow University Computer Center], 1972, Vol 18, pp 55-79 (Translated from Referativnyy Zhurnal, Kibernetika, No 1, 1973, Abstract No 1 V91 by I. Kovalenko).

Translation: A one-line queueing system with simple input flow of requests and the following peculiarities of servicing is studied. With probability q_i, a request belongs to type i ($1 \leq i \leq N$); in this case, its servicing time consists of r_i independent phases with distribution functions $B_{(i,p)}(t)$ (p is the phase number). Requests of type i, serviced in the i-th phase or those about to be serviced in the i-th phase are called type (i, p) requests. Ordering is introduced for types (i, p), according to which they form priority classes. The author studies both absolute (with restoration of servicing) and relative priorities, where in both cases the role of servicing time of a request is played by the corresponding phase of servicing.

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Psychiatry

MATVEYEV, V.F.

JPRS 57716

8 December 1972

UDC 616.831.3-091-02:615.214.7

THE DYNAMICS OF PATHOMORPHOLOGICAL CHANGES IN THE CEREBROCORTICAL MOTOR REGION IN RESPONSE TO A SINGLE LYSERGAMIDE (LSD) ADMINISTRATION (AN ELECTRON MICROSCOPIC INVESTIGATION)

[Article by V.F. Matveyev and V.S. Vorob'yev, Department of Psychiatry, Moscow ~~Medical~~ Stomatological Institute; Moscow. Zhurnal Nevropatologii i Psikhiatrii, Russian, No 7, 1972, pp 1071-1076]

Ultrastructural changes in various cellular components of the cerebral cortex in rats after injection of 40 micrograms/kg LSD are described. Observations were made 1, 4, 8, 12, and 24 hours after the drug was injected. Swelling of neurons and astrocytes, sharp changes in the condition of the granular reticulum and ribosomes (their quantity was reduced), and in mitochondrial structure, swelling of vascular walls, and changes in synapse structure were typical responses to LSD. These changes were most highly pronounced after 4-8 hours. A return to normal conditions was noted after 12-24 hours.

Investigation of the way psychomimetic drugs affect the brain in experiments on animals is of great importance to the study of the pathogenesis of psychiatric disturbances in humans. When psychoses, particularly those generated by LSD, are modeled in animals, physiological, neurophysiological, and morphological investigation methods are employed. However, the action of lysergic acid and its derivatives on the brain has not been studied adequately yet with morphological methods. Such studies are relatively few in number.[1-5] Some of them deal with relatively narrow problems, for example just changes in the cell body or synaptic changes. Moreover, as a rule the studies were limited to the one-time action of large LSD doses that cause severe toxicosis in experimental animals. In these

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USSR

UDC 519.217

MATVEYEV, V. F.

"Single-Line Queueing System with Priority"

Mat. Vopr. Upr. Proiz-vom. Vyp. 2, [Mathematical Problems of Production Control, No 2--Collection of Works], Moscow, Moscow University Press, 1970, pp 199-230, (Translated from Referativnyy Zhurnal Kibernetika, No. 5, 1971, Abstract No. 5V66 by I. Kovalenko).

Translation: A single-line queueing system is studied with several priorities, absolute or relative, "warmup" of the servicing device and possibility of breakdown of the device. Using the method of G. P. Klimov (RZhMat. 1968, 6V47K), the author studies the basic characteristics of this system in the general case and in more detail in certain particular cases.

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Pharmacology and Toxicology

USSR UDC 616.831-099:615.214.232-091.092.9

MATVEYEV, V. F., Psychiatry Course, Moscow Institute of Medical Stomatology and Institute of Human Morphology, Academy of Medical Sciences USSR

"Reversibility of Shifts in Rat Brain Induced by Prolonged Administration of LSD"

Moscow, Byulleten' Eksperimental'noy Biologii i Meditsiny, No 1, 1971, pp 45-48

Translation: The first signs of reversibility of pathomorphological shifts in the brain of rats given LSD for 4 weeks appeared 2 weeks after the injections were halted. Most of the changes were reversible. On the other hand, the presence of foci of rarefaction in three to five layers of the cortex should be regarded as a residual manifestation of the brain lesions resulting from prolonged LSD intoxication.

A single injection of even insignificantly small doses of LSD and its derivatives (1 to 2 μg/kg) produces marked psychotic symptoms in man resembling an exogenous psychosis

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MATVEYEV, V. F., Byulleten' Eksperimental'noy Biologii i Meditsiny, No 1, 1971, pp 45-48

[7, 9, 11]. The psychic disturbances usually persist for 6 to 7 hours after injection of the drug, i.e., as long as traces of it remain in the body [8].

Of definite interest, therefore, are the shifts that may take place in the brain after prolonged injection of LSD and their possible reversibility. We found no references to the subject in the Soviet or foreign literature.

In earlier studies we investigated shifts in the brain of rats given LSD for 4 weeks. Marked degenerative changes were observed in the neurons in the form of acute edemas that enlarged with increasing length of intoxication. The changes were most pronounced in the ganglion cells of the cortex, thalamus, and hypothalamus. There were also changes in the content of RNA and DNA and an inhibition of the interneuronal connections and glial reactions.

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USSR

MATVEYEV, V. F., Byulleten' Eksperimental'noy Biologii i Meditsiny, No 1, 1971, pp 45-48

The purpose of this investigation was to determine whether the shifts in rat brain are reversible when prolonged LSD intoxication is halted.

Procedure. A total of 100 3-month-old male rats served as the experimental animals. The rats received daily intramuscular injections of the Czech manufactured LSD (40μg/kg) for 4 weeks. Groups of 25 animals were sacrificed 1, 2, 3, and 4 weeks after the end of intoxication. Frontal sections of the brain were taken for histological analysis at the level of the optic chiasma, tuber cinereum, cerebral peduncle, fundus of the fourth ventricle, and inferior olives of the medulla oblongata.

Results. Histological analysis showed that the initial signs of readaptation did not appear until the seventh day after the cessation of the effect. These included the gradual restoration of the tinctorial properties of the neurons, which were sharply altered by chronic intoxication. Many neurons of the cortex, thalamus, hypothalamus, caudate and lenticular nuclei contained homogeneous cytoplasm and fine-grained Nissl bodies,

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MATVEYEV, V. F., Byulleten' Eksperimental'noy Biologii i Meditsiny, No 1, 1971, pp 45-48

chiefly in the apical portions and on the membrane. The nucleoli were enlarged, stained dark, and contained chromatin granules. In some of the neurons there were compact crystalloid structures.

The test for RNA was quite pronounced. RNA granules appeared in the form of tiny grains or in clearly stained homogeneous thin bands on the membrane. The nucleoli stained brightly. Interneuronal connections of different shapes began to appear. At the same time only a few synaptic terminals could be seen, especially in the ganglion cells of the cortex.

Binuclear cells appeared at the end of the second week, mostly in the deep layers of the cortex. Around them signs of satellitosis could be seen. The most distinct indications of readaption were found at the end of the third week and especially the fourth week. The tinctorial properties of the neurons were noteworthy. Tigroid was clearly evident in the cytoplasm and it stained rather intensely. The signs of central acidophilia observed during the first two weeks disappeared. Both the apical

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MATVEYEV, V. F., Byulleten' Eksperimental'noy Biologii i Meditsiny, No 1, 1971, pp 45-48

and the basal dendrites could be easily distinguished. The number of spinae on them increased substantially, especially on the apical dendrites. The spinae seemed to be coarsened.

The intensification of interneuronal activity could be judged from the increased number of interneuronal connections and synaptic terminals. The keen reactivity of all forms of glial elements, the oligodendroglia in particular, was noteworthy. Impairment of the cytoarchitecture in the form of small areas of emptiness or rarefaction in three to five cortical layers was evident in all the stages of restoration. These represented traces of the neurotoxicosis that led to the death of individual neurons and groups of neurons.

The reaction of the blood vessels and pia mater is of interest. At the end of the fourth week the vascular walls were thickened with signs of plasma saturation while the pia mater was edematous and frayed. The readaptation process was slow. These changes were still evident, though less pronounced,

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MATVEYEV, V. F., Byulleten' Eksperimental'noy Biologii i Meditsiny, No 1, 1971, pp 45-48

at the end of the first and second weeks of the restoration period. The pia mater and vascular walls were somewhat thickened during the third and fourth weeks and there was an increase in the number of cellular elements, an indication of incipient fibrosis.

Thus, the changes induced by chronic LSD administration were fairly persistent and restoration did not really begin until three weeks after the intoxication was halted. The reaction of the nucleoli, appearance of lumps of Nissl substance in the cytoplasm and intensification of their tinctorial properties represented the start of restoration. This is in agreement with the views of some Soviet investigators [3, 4, 5, 6, 7] who regard such phenomena as a compensatory reaction of the neurons. The reaction of the nucleoli in the restoration period after the cessation of LSD poisoning was characterized by the appearance of basophilic granules and crystalloids,

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MATVEYEV, V. F., Byulleten' Eksperimental'noy Biologii i Meditsiny, No 1, 1971, pp 45-48

especially in those portions of the brain where the neurons were most affected by the drug (cortex, thalamus, hypothalamus).

The appearance of binuclear cells at the end of the third week of the restoration period in some regions of the cortex and thalamus was significant. Some investigators [1, 2] view the presence of binuclear and multinuclear cells in the nervous system as a sign of regeneration of nervous tissue. Characteristically, the binuclear cells were found precisely during the phase of active readaptation when all forms of neuronal activity were intensified. It should be emphasized that at this time there was an increase in the number of astro-, oligo- and microgliocytes whose reactivity had been depressed by LSD. We interpreted the increased reactivity of the glia as a sign of readaptation.

In summary, most of the shifts induced in the brain of experimental animals by prolonged administration of LSD seem to be reversible in nature. On the other hand, the presence of

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MATVEYEV, V. F., Byulleten' Eksperimental'noy Biologii i Meditsiny, No 1, 1971, pp 45-48

residual phenomena in the form of foci of destruction or rarefaction in some layers of the cortex, thalamus, and hypothalamus and the tendency of the vascular walls and pia mater to undergo fibroid degeneration should be regarded as indications of changes likely to result in definite impairment of normal brain activity.

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USSR

UDC: 629.1.054.6

VASHURKIN, Yu. V., SHUIN, V. V., MATVEYEV, V. G.

"A Device for Correcting a Gyroscopic Angle-Data Transmitter"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 10, Apr 72, Author's Certificate No 332323, Division G, filed 25 Sep 68, published 14 Mar 72, p 157

Translation: This Author's Certificate introduces a device for correcting a gyroscopic angle-data transmitter. The device contains a gyroscope in a Cardan suspension, a contact pickup of the angle of misalignment of the suspension frames, a relay, and a torque pickup. As a distinguishing feature of the patent, the accuracy and reliability of the device are improved by adding a delay unit for the relay release time, and by making the contact pickup of the angle of misalignment in the form of two brush contacts which are fixed to the outer frame and spaced by a gap in which a contact connected to the inner frame of the Cardan suspension of the gyroscope slides freely.

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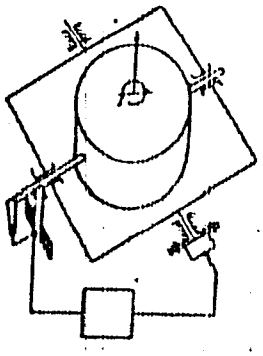
VASHURKIN, Yu. V. et al., USSR Author's Certificate No 332323



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USSR UDC: 621.373.07(088.8)

MATVEYEV, V. I.

"A Device for Phase AFC of an SHF Oscillator With Frequency Modulation"

USSR Author's Certificate No 263686, filed 3 Oct 67, published 4 Jun 70 (from RZh-Radiotekhnika, No 11, Nov 70, Abstract No 11D493 P)

[No abstract]

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MATVEYEV, V. F.

BASIC PROBLEMS IN THE DESIGNING OF ABSORBING RODS OF FAST POWER REACTORS

[Article by V. I. Matveyev, R. M. Vozhesenskiy, N. Ye. Gorbatov, V. P. Smirnov, Physics-Energy Institute, Obninsk; Dimitrovgrad, Pogloshchayushchiye materialy i sterzhni regulirovaniya bystrokh reaktorov (Absorbing Material and Control Rods for Fast Reactors), International Working Group for Fast Reactors Specialists Meeting, Dimitrovgrad, 4-8 June, 1973]

In this work the basic principles of the selection and development of regulation units for fast power reactors are considered. The results of measurements of the efficiency of various materials in BFS assemblies are given. The operating conditions of the regulation units are considered. Various problems of the designing of absorbing rods are discussed. The results of pre-reactor tests with respect to investigations of the compatibility of boron carbide, boron, and europium oxide with steel OKh16N15M3B are given.

1. Physical Principles of the Selection of Regulation Units for Fast Power Reactors

Selection of the method of regulation of a reactor is determined by various factors, the most important ones of which are the provision of the necessary reserve of reactivity. The fast region of energies is characterized by relatively small magnitudes of neutron cross-sections, especially absorption cross-sections, for practically all elements. Nevertheless, the most effective method of regulating fast power reactors is the method of regulation by absorbing material, although the selection of such materials is very limited [1]. Calculation and experimental investigations demonstrate that the most effective materials which are of practical interest are materials based on boron-10, europium, rhenium and tantalum. The comparative efficiency of various materials, measured on a model of the BN-350 reactor (assembly BFS-16) [2] is presented in Table 1.

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MATVEYEV, V. I.

(5)

JPRS 59863
22 Aug 73

TESTS OF SAMPLES OF ABSORBING ELEMENTS OF FAST POWER REACTORS IN THE BR-5 REACTOR

[Paper by Y. D. Klimov, V. I. Matveyev, M. G. Arabey, R. M. Vozhesenskiy and N. Ye. Gorbatov, Physics-Energy Institute, Obninsk; Dimitrovgrad, Pogloschchayushchiye materialyi sterzhni regulirovaniya bystrykh reaktorov (Absorbing materials and control rods for fast reactors), International Working Group for Fast Reactors Specialists Meeting, Russian, Dimitrovgrad, 4-8 June, 1973]

In this work the results of radiation investigations of experimental specimens of PEL (absorbing elements) irradiated in the BR-5 fast reactor are given. Absorbing materials based on boron were investigated, and also metallic tantalum and various structures of PEL, hermetically sealed and non-hermetically sealed. Irradiation was conducted in a special cassette, located at the edge of the reactor core, and the general integral flux of irradiation by fast neutrons amounted to 3 x 10^{11} n/cm^2, which corresponds to burn-up in boron-containing materials of ~2 atomic percent of boron. In the work the basic results are given with respect to gas liberation, swelling and the structure of the irradiated materials, and also data on the physical and thermophysical radiation regimes.

Introduction

Control units are one of the most important elements of the design of a reactor. Their development is associated with the performance of various experimental investigations, including radiation tests giving the most complete information concerning the efficiency of one design or material or other.

In spite of our great experience in the designing of control units for thermal reactors, and the large quantity of

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Acc. Nr: AP0052508 Abstracting Service: CHEMICAL ABST. 5-70 Ref. Code: UR0460

101309z Dielectric properties of poly(tetrafluoroethylene) during irradiation with cobalt-60 γ-rays and with fast electrons. Matyuk, V. K.; Vaisberg, S. E.; Karpov, V. L. (Fiz.-Khim. Inst. im. Karpova, Moscow, USSR). Vysokomol. Soedin., Ser. B 1970, 12(1), 31-5 (Russ). The increase of tan (dielec. loss angle) (tan δ) during the irradn. of poly(tetrafluoroethylene) (I) in air or in vacuo without previous degasification is due to the formation of peroxy radicals in the middle or at the ends of the I chain, i.e., $-CF_2CF(OO\bullet)CF_2-$ (II) or $-CF_2CF_2OO\bullet$ (III) groups. Heating the irradiated I to ≤ 130° destroys III; II decomp. only at 250°. The rate of tan δ increase is not limited by the diffusion rate of O into I when the radiation rate is 250 rads/sec. However, at 7.3×10^4 rads/sec, O diffusion controls the rate of tan δ increase.
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1/2 013 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--APPROXIMATE REPRESENTATIONS OF THE ABSORPTION FUNCTIONS OF ELSASSER AND STATISTICAL BAND MODELS -U-

AUTHOR--MATVEYEV, V.S.

M

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL PRIKLADNOI SPEKTROSKOPII, VOL. 12, MAR. 1970, P. 486-490

DATE PUBLISHED----MAR 70

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TOPIC TAGS--ABSORPTION SPECTRUM, APPROXIMATION METHOD, SPECTRAL LINE, STATISTIC ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

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CIRC ACCESSION NO--AP0107532

UNCLASSIFIED

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2/2 013 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0107532

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DEMONSTRATION THAT THE MEAN ABSORPTION IN A GIVEN SPECTRAL RANGE CAN BE REPRESENTED IN THE STATISTICAL AND ELSASSER BAND MODELS IN THE FORM OF FUNCTIONS OF A SINGLE PARAMETER. IN THIS CASE THE NATURE OF THESE FUNCTIONS IS DETERMINED BY STATISTICAL PATTERNS NOTED IN THE LINE ARRANGEMENT. IN THE GENERAL CASE DISCREPANCIES ARE NOTED IN THE ABSORPTION ACCORDING TO GENERAL MODELS EVEN AT FIXED VALUES OF THE PARAMETERS CHARACTERIZING THE SPECTRAL LINES.

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AA0040703 M Matveyev, V.S. UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent, 1-70

240681 OBSERVATION OF HIGH-TEMPERATURE PROCESSES, e.g. in equipment for growing single crystals of semi-conductor compounds containing a volatile component, is improved by eliminating the effect of convective gas flows on the observations. In the case of hermetically-sealed vessels made of opaque material, with an optical quartz window in a branch pipe, a heated tube is installed in the branch pipe and sealed at the ends with sheets of optically-transparent material. Heating of materials to above 500°C in the vessel is possible without interference to observation.
2.8.67 as 1177543/22-1. L.YA.KROL' et all. STATE SCIENTIFIC RES. & DES. INST. OF THE RARE-METALS IND. (11.9.69) Bul 13/1.4.69. Class 12g. Int.Cl.B 01j.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

AA0040703

AUTHORS: Krol', L. Ya.; Matyevev, V. S.; Nashel'skiy, A. Ya.; Kuz'min, V. N.; and Dmitriyev, G. D.

Gosudarstvennyy Nauchno - Issledovatel'skiy i Proyektnyy Institut Redkometallicheskoy Promyshlennosti

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

USSR

UDC: 534.282;539.67

MATVEYEV, V. V., TOKAR', I. G., Kiev

"Influence of Field of Centrifugal Forces on Damping of Transverse Oscillations of Rods"

Kiev, Problemy Prochnosti, No 10, Oct 73, pp 12-16

Abstract: The peculiarities of the influence of a field of centrifugal forces on damping of bending oscillations of cantilever prismatic rods are studied. It is shown that the change in damping characteristics of the oscillations of the rods results from a change in potential tensile energy, resulting from bending of the rod, and dissipation of energy in the material. When a field of centrifugal forces is applied, the oscillation decrement of the specimens, both those of ferromagnetic materials and those of paramagnetic materials, decreases. The level of dissipation of energy in a material with clearly expressed magnetomechanical hysteresis (such EI961 steel tempered at t=730° C) decreases, while it increases in a nonmagnetic material (such as MTSI magnesium alloy).

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

USSR UDC:534.282

MATVEYEV, V. V., CHAYKOVSKIY, B. S., KOVALEV, M. S., RZHAVIN, L. N., Kiev

"Influence of Design Peculiarities and Loading Conditions on the Damping Ability of a Herringbone Lock Joint of a Turbine Blade"

Kiev, Problemy Prochnosti, No 10, Oct 73, pp 66-70

Abstract: Results are presented from an experimental and theoretical study of design damping in the herringbone lock joints of turbine blades. The influence of a number of design and technological factors is studied, as well as the influence of loading parameters on the damping ability of lock joints.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202010006-8

USSR

UDC: 539.67:620.178

MATVEYEV, V. V., CHAYKOVSKIY, B. S., BOCHAROVA, L. A., Institute of Strength Problems, Academy of Sciences of the UkrSSR

"Damping Properties of Turbine Blade Materials at Working Temperatures"

Kiev, Problemy Prochnosti, No 4, Apr 73, pp 8-14

Abstract: The paper analyzes the results of a systematic examination of the damping properties of twenty kinds of turbine blade materials heat treated in different ways (41 states in all were investigated). The studies were done by a standard procedure under normal and high-temperature conditions on specimens with working sections of 4 x 15 x 150 and 2 x 4 x 100 mm subjected to pure bending oscillations on the D-5 and D-7 testing machines. The frequency of oscillations ranged from 10 to 50 Hz. The damping properties of all materials were found to depend to some extent on the amplitude of cyclic damping and temperature. Titanium, aluminum and nickel alloys characteristically show a very slight increase in logarithmic decrement with increasing stress. The logarithmic decrement was found to be most highly dependent on amplitude for steels of the martensite-ferrite class. The logarithmic decrement generally increased

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