2/2 061 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0104757

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PAPER DISCUSSES THE RESULTS OF EXPERIMENTS CONCERNED WITH A DETERMINATION OF THE SATURATION FACTOR AND LIFE TIME OF OSCILLATION OF GASEOUS VORON TRICHLORIDE (BCL SUB3) AND ALSO THE DISINTEGRATION OF THE BCL SUB3 PRIME3 MOLECULE BY THE RADIATION OF A CO SUB2 LASER. THE DEPENDENCE OF THE RESONANT ABSORPTION COEFFICIENT ON PRESSURE IS SHOWN. MEASUREMENTS WERE MADE AT ROOM TEMPERATURE IN A VESSEL 10 CM LONG AND 2.8 CM IN DIAMETER WITH THE AID OF A IKS 21 SPECTROMETER. IN THE REGION OF NONHOMOGENEOUS BROADENING EXTENING AT LEAST TO 5-7 TOR, THE VALUES OF THE ABSORPTION COEFFICIENT AMOUNTED TO ALPHA EQUALS 0.04 CM PRIME NEGATIVE1 TOR, WHICH CORRESPONDS TO THE ABSORPTION CROSS SECTION SIGMA EQUALS 1.1 TIMES 10 PRIME NEGATIVE18 CM PRIME2. THE SATURATION ABSORPTION HAS INVESTIGATED WITH THE AID OF A CO SUB2 LASER WITH AN OUTPUT POWER UP TO 100 WATT. THE TWO CHANNEL METHOD WAS USED FOR SIMULTANEOUS MEASUREMENT OF THE RADIATION POWER ENTERING THE VESSEL WITH THE BCL SUB3 AND LEAVING THE VESSEL. THE POWER LEVEL WAS CHANGED BY A GAS ATTENUATOR IN THE BCL SUB3. THE GAS ATTENUATOR MADE IT POSSIBLE TO CHANGE THE INTENSITY OF THE LASER BEAM, NOT CHANGING THE ENERGY DISTRIBUTION IN THE CROSS SECTION OF THE BEAM. CONTROL OF THE ATTENUATOR WAS ACCOMPLISHED BY A CHANGE OF THE GAS PRESSURE. THE AUTHORS THANK A. M. PROKHOROV FOR CONSTANT ATTENTION TO THE WORK AND FRUITFUL DISCUSSIONS, AND ALSO YU. B. KONEV FOR FREQUENT USEFUL DISCUSSIONS.

UNCLASSIFIED

APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002201220006-6"

1/2 039 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--FINE STRUCTURE OF THE GIANT PULSE IN A CO2 LASER WITH TRANSVERSE MODES -U-

AUTHOR-(03)-ARKELYAN, V.S., KARLOV, N.V., PROKHOROV, A.M.

COUNTRY OF INFO--USSR

SOURCE--RADIOTEKHNIKA I ELEKTRONIKA, VOL. 15, APR. 1970, P. 849-851

DATE PUBLISHED----APR70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--CARBON DIOXIDE LASER, LASER PULSE, LASER Q SWITCHING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/1672 STEP NO--UR/0109/70/015/000/0849/0851

CIRC ACCESSION NO--AP0118650

UNCLASSIFIED

2/2 039 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0118650

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DESCRIPTION OF EXPERIMENTS IN WHICH GIANT PULSES COMPOSED OF TRAINS OF MUCH SHORTER PULSES WERE OBTAINED IN A CARBON DIOXIDE LASER WITH MORE THAN ONE TRANSVERSE MODE. THE RESONATOR LENGTH WAS ONLY 160 CM WHICH PRECLUED THE SIMULTANEOUS EMISSION OF SEVERAL LONGITUDINAL MODES. IT IS SHOWN THAT THE COMPETITION OF TRANSVERSE MODES RESULTS IN SEQUENCES OF SHORT PULSES DURING PASSIVE, ACTIVE, AND COMBINED PASSIVE AND ACTIVE Q SWITCHING. THE CHARACTERISTICS OF THE PULSE TRAINS DIFFER FOR EACH TYPE OF Q SWITCHING. FACILTIY: AKADEMIIA NAUK SSSR, FIZICHESKII INSTITUT, MOSCOW, USSR.

UNCLASSIFIED

Superalloys

USSR UDC 669.14.018.45-13:621.771.0.14:539.374

GUN, G. YA., POLUKHIN, P. I., SKUGOREV, V. S., GALKIN, A. M., ZHUCHIN, V. N., ISAYEV, V. A., KARLOV, S. V., and ZAPOROZHTSEV, YU. V., Moscow Institute of Steel and Alloys

"Investigation of the Resistance to Deformation and the Indicators of Plasticity of Heat-Resistant Alloys on a Nickel Base"

Moscow, Izvestiya VUZ, Chernaya Metallurgiya, No 11, 1973, pp 92-97

Abstract: In this article the authors cite the results of an investigation on resistance to deformation of heat-resistant alloys EP199, EP220, and EI929 on a nickel base in wide temperature range and deformation rate. They have constructed curves for the change in the indicators of plasticity in a broad range of temperature-rate conditions of deformation.

USSR

GUN, G. YA., et al., Izvestiya VUZ, Chernaya Metallurgiya, No 11, 1973, pp 92-97

The research was carried out because of the reality at the present time for knowledge of the behavior of materials with respect to resistance to deformation and indicators of plasticity in a range that varies broadly for the temperature and rate of deformation.

The first three illustrations depict curves of deformation resistance of the above alloys as a function of the size and amount of deformation at various temperatures. The fourth figure shows change in values of ψ and δ of these heat-resistant alloys as a function of temperature and rate of deformation.

The article contains four illustrations and 3 bibliographic references.

2/2

1/2 026 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--THE PATHOGENETICAL TREATMENT OF AN EPILEPTIC STATUS IN THE SKLIFOSOVSKY FIRST AID INSITUTE -U-
AUTHOR--KARLOV, V.A.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL NEVROPATOLOGII I PSIKHIATRII IMENI S. S. KORSAKOVA, 1970, VOL 70, NR 6, PP 841-846
DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--EPILEPSY, ELECTROENCEPHALOGRAPHY, RESPIRATORY PHYSIOLOGY, CHEMOTHERAPY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/0234 STEP NO--UR/0246/70/070/006/0841/0846

CIRC ACCESSION NO--AP0126014
UNCLASSIFIED

2/2 026 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0126014

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PRESENTATION IS RELATED TO A CLINICAL STUDY OF 110 PATIENTS WHO HAD AN EPILEPTICAL STATUS. FOR PURPOSES OF PATHOGENETICAL STUDIES OF THESE STATES AND CONNECTED DISORDERS THE AUTHOR APPLIED EEG, PEG AND OTHER TECHNIQUES. ALONG WITH THAT EXPERIMENTAL STUDIES WERE CONDUCTED AS WELL. IT WAS POSSIBLE TO PERFORM HISTOLOGICAL BRAIN STUDIES IN 5 DECEASED PATIENTS. IT APPEARED THAT A TENDENCY TO AN OCCURRENCE OF AN EPILEPTICAL STATUS DURING THE COURSE OF THE DISEASE WAS RELATED TO SIGNIFICANT ATROPICAL CHANGES OCCURRING IN THE MEDIO BASAL AREA OF THE TEMPORAL LOBE AND CONSEQUENTLY TO AN INCREASE OF FOCI OF TEMPORAL EPILEPTOGENIC ACITIVITY. THE AUTHOR OUTLINES SOME MECHANISMS OF DEVELOPMENT AND STABILIZATION OF AN EPILEPTICAL STATUS. THIS CONCERNS DISTURBED RESPIRATION OF THE ASPHYXIA HYPERVENTILATION TYPE, AN APPEARANCE OF RESISTENCY OF THE EPILEPTOGENIC FOCI TO ANTICONVULSIVE DRUGS, AN IMPOSSIBILITY TO INTRODUCE ROUTINE ANTIEPLIETICAL DRUGS BECAUSE OF A COMATOSE STATE OF THE PATIENTS, ETC. THE MAIN PRINCIPLES OF A COMPREHENSIVE PATHOGENETICAL THERAPY WERE THE FOLLOWING: AN EARLY BEGINNING OF TREATMENT, AND EXTENSIVE USE OF RESPIRATIONAL REANIMATIVE METHODS, DOZED DURATIVE NARCOSIS, MYORELAXANTS AND ARTIFICIAL LUNG VENTILATION, BRAIN HYPOTHERMIA IN RESISTENT EPILEPTOGENIC FOCI, THE USE OF SURGICAL MEANS IN APPROPRIATE CASES. THE ABOVE MENTIGNED MEASURES OF TREATMENT PERMITTED TO DIMINISH THELETHALITY FROM AN EPILEPTICAL STATUS. FACILITY: MOSKOVSKOGO MEDITSINSKOGO STOMATOLOGICHESKOGO INSTITUTA. FACILITY: NAUCHNO-ISSLED. INSTITUT SKORDY POMOSHCHI IM. SKLIFOSOVSKOGO.

UNCLASSIFIED

USSR K UDC 612.53

MAYSTRAKH, YE. V., ZEARSKAYA, V. D., KARLOV, V. A., and SECHENOV, P. P., Chair of General Clinical Pathology, State Institute for Advanced Training of Physicians imeni S. M. Kirov

"The Participation of Nuclei of the Anterior Hypothalamus in Temperature Regulation During Cooling and Hypothermia in Nonanesthetized Rats"

Leningrad, Fiziologicheskiy Zhurnal SSSR imeni I. M. Sechenov, No 1, 1970, pp 32-37

Abstract: In control rats with implanted electrodes but an otherwise intact brain, no significant changes took place in body temperature, gas exchange, or nature of the thermoregulatory response to external chilling. After destruction of the preoptic hypothalamus, indices of gas exchange, skin temperature, and behavior remained unchanged, but the rectal temperature decreased markedly. During moderate hypothermia (25° rectal temperature), comparatively weak functional shifts took place in the neurons of the preoptic region (swelling of the cytoplasm and nucleus, vacuolation of the

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USSR

MAYSTRAKH, M. Y., et al., Leningrad, Fiziologicheskiy Zhurnal SSR imeni I. M. Sechenov, No 1, 1970, pp 32-37

cytoplasm, hyperchromatosis, etc.). The most significant changes were observed in these neurons (especially in the medial nuclei) after the rats were allowed to warm themselves up after hypothermia, an indication that the anterior hypothalamus plays a role in temperature homeostasis.

2/2

Acc. Nr: AP0044212 Ref. Code: UR 0239

PRIMARY SOURCE: Fiziologicheskiy Zhurnal, 1970, Vol 56, Nr 1, pp 32-37

ON THE ROLE OF ANTERIOR HYPOTHALAMUS NUCLEI IN THERMOREGULATION UNDER COOLING AND HYPOTHERMIA IN RATS

Maystrakh, Ye. V.; Zharskaya, V. D.; Karlov, V. A.; Semenov, P. P.

From the Departm. of Clinical Pathology S. M. Kirov Postgraduate Medical Institute, Leningrad

Experiments in rats applying the method of electrolytic lesions, histological and histo-chemical study of nuclei of the anterior hypothalamus revealed their participation in the thermoregulating reaction under cooling and hypothermia of un-anaesthetized animals. A comparatively weak regulating influence of this area upon the processes maintaining temperature homeostasis and participation of the medial nucleus of the preoptic region into this reaction during the period of hypothermal self-restoration have been established.

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REEL/FRAME
19770698

USSR

UDC 621.646.958

BERMAN, L. G., YEVLAMPIYEV, A. I., KARLOV, V. I.

"GTI-6 Halide Leak Detector"

Moscow, Kholodil'naya Tekhnika, No 6, 1971, pp 27-30

Abstract: The GTI-6 pressure-vacuum halogenated gas leak detector is described. The sensor of the leak detector comprises two platinum electrodes (a collector and an incandescent emitter) reacting to the partial pressure of the test gas. It operates on the principle of emission of positive ions by incandescent platinum and a sharp increase in this emission in the presence of halide compounds. The operation of the device is described, and schematics of its assemblies are presented. Curves for the leak detector signal as a function of the volumetric flow rate of the test gas through the sensor at various temperatures of the emitter show that longer presence of halides in the sensor caused by a decrease in the volumetric flow rate to V = 0.05-0.1 liters/minute increases the ionization efficiency and, consequently, the reading and sensitivity of the detector. Below 0.05 liters/minute contamination of the emitter takes place. A table is presented showing the comparative characteristics of various Soviet and the best foreign halideleak detectors. The GTI-6 will go into series production in 1971.

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1/2 012 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--NICKEL NITRATE PRODUCTION -U-

AUTHOR-(05)-PETRACHKOV, F.A., KARLOV, V.P., SHERSHNEV, N.G., SERGUNKIN, V.N., CHERNYAVSKAYA, L.A.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 264,380

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI NR 1970

DATE PUBLISHED--03MAR70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL PATENT, NICKEL COMPOUND, NITRATE, CRYSTALLIZATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/1450 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0126981

UNCLASSIFIED

2/2 012 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AA0126981

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. NI NITRATE IS PREPD. WITHOUT THE FORMATION OF AN NH SUB4 NO SUB3 BYPRODUCT BY DISSOLVING METALLIC NI IN HNO SUB3 CONTG. 700-1000 G-L. NI(NO SUB3) SUB2. 6H SUB2 O IN THE PRESENCE OF 20-70 G-L. NH SUB4 NO SUB3 IN THE FORM OF A MOTHER LIQUOR OBTAINED AFTER EVAPN. AND CRYSTN. OF NI NITRATE.

UNCLASSIFIED

KARLOVA A.L.

Acc. Nr: AP0052454 Ref. Code: UR0475

PRIMARY SOURCE: Vrachebnoye Delo, 1970, Nr 2 , pp58-61

CHEMOTHERAPY OF PATIENTS WITH CHRONIC DESTRUCTIVE PULMONARY TUBERCULOSIS IN OUT- AND IN-PATIENT CONDITIONS

G. S. Fedoseyev , M. S. Dvoyrin, and A. L. Karlova (Kiev)

The problem is discussed of improving chemotherapy of patients with chronic destructive pulmonary tuberculosis in out-patient and in-patient conditions of treatment.

1/ 2

1/2 007 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--RELAXATION OSCILLATIONS ARISING DURING A STUDY OF GRADIENT INSTABILITY IN NEARLY INTRINSIC GERMANIUM -U-

AUTHOR-(03)-ZAVYALOV, A.V., KARLOVA, G.F., LYUZE, L.L.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TVERD. TELA 1970, 12(3), 915-17

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--GERMANIUM, VOLT AMPERE CHRACTERISTIC, OSCILLTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/0990 STEP NO--UR/0181/70/012/003/0915/0917

CIRC ACCESSION NO--AP0115011

UNCLASSIFIED

2/2 007 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0115011

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. N TYPE GE WAS INVESTIGATED WITH A SP. RESISTANCE OF 43 OHM CM OF THE STRUCTURE N PRIME POSITIVE MINUS N MINUS N PRIME POSITIVE, WITH A TRANSVERSE N PRIME POSITIVE MINUS N CONTACT AND WITHOUT IT. MEASUREMENTS WERE CARRIED OUT UNDER PULSED CONDITIONS AT TAU EQUALS 50-100 MU SEC AND A FREQUENCY OF REPETITION OF 50 HZ. V A CHARACTERISTICS AND THE POTENTIAL DISTRIBUTION ALONG THE LENGTH OF THE SPECIMENS WERE RECORDED. ON V-1 CHARACTERISTICS, A SECTION WAS OBSD. OF SWITCHOVER FROM A HIGH RESISTANCE STATE TO A HIGH COND. STATE. THE POTENTIAL DISTRIBUTION OVER THE LENGTH OF THE SPECIMEN BEFORE SWITCHING AND AFTER IS DIFFERENT. REDISTRIBUTION OF THE POTENTIAL LEADS TO A RECHARGING OF THE CAPACITANCE CONNECTED TO IT. THE DEPENDENCE IS ALSO GIVEN OF THE PERIOD OF CURRENT OSCILLATIONS IN THE EXTERNAL CIRCUIT ON THE MAGNITUDE OF THE CONNNECTED CAPACITANCE. STARTING WITH A VALUE OF C SUBO, THE PERIOD IS PRACTICALLY INDEPENDENT OF THE CAPACITANCE. THE EFFECT OF A MAGNETIC FIELD ON THE PERIOD IS DETD. BY THE EFFECT OF THE HALL EMF. ON THE CAPACITANCE.

UNCLASSIFIED

USSR

UDC 615.387.07

KARLOVA, N. G., SMIRNOV, V. I., and LEBEDEVA, N. I., Central Laboratory for Quality Control and Study of Blood Preparations and Blood Substitutes, Central Institute of Hematology and Blood Transfusion, Ministry of Health USSR

"Use of the VSh-0.035 Vacuum Desiccator to Determine Residual Moisture in Lyophilized Protein Preparations"

Moscow, Laboratornoye Delo, No 7, 1970, pp 438-439

Abstract: The Soviet medical industry has recently put on the market a vacuum desiccator designated the BSh-0.035, for use in drying and heating various materials to temperatures ranging from 80 to 200°C. These temperatures are unsuitable for protein preparations, however. The authors therefore redesigned the automatic temperature control in the working chamber of the desiccator to permit maintenance of temperatures at 60 to 70°C. When air is withdrawn from the VSh-0.035 with a vacuum pump, the hygroscopic lyophilized material may become volatilized. The vacuum system of the VSh-0.035 was slightly modified to prevent this. Certain other changes that were made, as well as the mode of operation of the apparatus, are described in detail.

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USSR

UDC: 621.373.826

KARLOVA, Ye. K., KARLOV, N. V., KUZ'MIN, G. P.

"Self-Modulation of the Emission of a High-Power CO_2 Pulse Laser With Switching of Nonlinear Absorption"

Kratkiye soobshch. po fiz. (Brief Reports on Physics), 1972, No 6, pp 18-23 (from RZh-Radiotekhnika, No 12, Dec 72, abstract No 12D147 by A. K.)

Translation: When power of the order of 1 MW was reached in the cavity of a CO_2 laser, the effect of self-modulation of stimulated emission was observed. By using NaCl or KRS-5 crystals which are fairly transparent in the infrared region with transverse excitation of the cavity, pulses of 10 μs duration were converted to a series of short regular spikes. The resultant effect is attributed to thermal self-focusing in the crystals. The presence of a train of pulses separated by 10-20 μs is determined by thermal relaxation of the medium. To achieve the spike mode of emission, the relaxation time of the absorber must be longer than the time constant of the active medium of the laser.

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USSR UDC 613-003.96:613.166+615.75.6:614.779

SULTANOV, F. F., SADIKOV, G. N., and KARLYYEV, K. M., Institute of Physiology and Experimental Pathology in the Arid Zone, Academy of Sciences Turkmen SSR

"Heat Adaptation and Nucleic Acid and Protein Synthesis in Animal Organs" Report II. The effect of multiple exposure to high external temperature on RNA and protein synthesis in the organs of white rats.

Ashgabat, Izvestiya Akademii Nauk Turkmenskoy SSR: Seriya Biologicheskikh Nauk, No 4, 1971, pp 3-7

Abstract: To study adaptation to heat, the rate of RNA and protein synthesis was determined in the liver, kidneys, heart, and brain of white rats divided into three groups: Trained rats were kept each day for 6 hours in a thermochamber where the initial temperature of 26°C was increased by 1° each day for 10 days and then maintained at 36-37°C for the next 20 days. Untrained rats were exposed to a temperature of 36-37°C during one 6-hour session only. Control rats were kept at room temperature. The animals were decapitated on the 10th, 20th, and 30th days; protein synthesis was determined by the S^{35} method, and RNA synthesis by the P^{32} method. The results revealed that the rate of protein and RNA synthesis in myocardium and brain tissue was essentially the same in all three groups on all three days. After 10 days

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USSR

SULTANOV, F. F., et al., Izvestiya Akademii Nauk Turkmenskoy SSR: Seriya Biologicheskikh Nauk, No 4, 1971, pp 3-7

of training, protein and RNA synthesis in liver and kidney tissues in trained rats was reduced by approximately the same degree as in untrained rats, that is, 12-24% below the control level. On the 20th and 30th days of training, these parameters returned to the control level. It is concluded that heart and brain tissues are immune to hyperthermia as far as protein and RNA synthesis is concerned, while liver and kidney tissues can adapt to heat through repeated training.

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USSR UDC 8.74

IOFFE, P. D., TOPORISHCHEVA, S. A., KARMAKOV, T. N., KHERUVIMOVA, L. P.

"Programming System Based on the LS Language"

Tr. N.-i. i proyekt. in-ta mekhaniz. i avtomatiz. upr. proiz-vom v avtomob. promsti (Works of the Scientific Research and Planning and Design Institute of Mechanization and Automation of Production Control in the Motor Vehicle Industry), 1971, vyp. 2, 139-143 (from RZh-Kibernetika, No 7, Jul 72, Abstract No 7V596)

Translation: A programming system is described which was created on the basis of the LS algorithmic language. The basic succession of development of the system is discussed. A brief description is presented of the composition and structure of the system, the types of operations performed by it, and the sequence in which the operations are performed during its operating process.

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USSR UDC: 621.372.822

KRAVCHENKO, V. F., KARETNIKOV, S. N., USTIMENKO, V. V., KARMAKULOV, V. S.

"Experimental Investigation of Scattering and Transmission of Electromagnetic Waves by Spherical Nonhomogeneities in a Rectangular Waveguide"

Radiotekhnika. Resp. mezhved. temat. nauch.-tekhn. sb. (Radio Engineering. Republic Thematic Interdepartmental Scientific and Technical Collection), 1971, vyp. 17, pp 39-44 (from RZh-Radiotekhnika, No 3, Mar 72, Abstract No 3B110)

Translation: In connection with the proposed method of calculation, which is used in solving internal problems of electrodynamics on scattering and transmission of electromagnetic waves by a rectangular waveguide with nonhomogeneities of regular shape, experimental studies which showed the singularities in measurement of the reflection factor were done. Ways are indicated for using the discovered experimental effects in the development of specific microwave devices. Six illustrations, bibliography of six titles. Resumé.

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AM0037535 NUCLEAR SCI. ABST. 1/70 UR 0000

3405 (NP-tr-1856) BREAKUP OF MAGNETIC SURFACE IN THE S-1 STELLARATOR. Kurmanov, F. V.; Chirenovkh, P. A. (Gosudarstvennyi Komitet po Ispol'zovaniyu Atomnoi Energii SSSR, Moscow. Institut Atomnoi Energii). Translated for Culham Lab., Abingdon, Eng., from report IAE-1260. 4p. (CTO-626). Dep. CFSTI (U. S. Sales Only).

While investigating the magnetic field in the S-1 stellarator, considerable deformations of the magnetic surfaces were observed. The deformations take the form of projections reaching out from the separatrix toward the chamber wall. They increase with an increasing h_3/H_0 ratio. (auth)

1/1 19

19730505

USSR

UDC: 621.372.061

MUKHIN, V. P., KARMANOV, V. G.

"Investigating the Characteristics of the Electricity-Heat Contour"

V sb. Poluprovodn. pribory i ikh primenenive (Semiconductor Instruments and Their Applications--collection of works) No. 24, Moscow, "Sov. radio" 1970, pp 214-225 (from RZh-Radiotekhnika, No. 3, March 71, Abstract No. 3A138)

Translation: The characteristics of the electricity-heat contour are analyzed with a thermistor on the basis of the linear method. Five illustrations, bibliography of nine. Resume

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USSR

UDC 669.293:621.793.6

SOSUL'NIKOVA, M. A., L'VOV, V. S., KARMANOVA, A. V., and KULIKOVA, L. N., Siberian Metallurgical Institute

"Mechanism of Low-Temperature Deterioration of Protective Coatings on Metals"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy -- Chernaya Metallurgiya, No 2, 1970, pp 118-120

Abstract: An investigation was made of the mechanism of low-temperature oxidation of niobium disilicide produced by the thermodiffusion of specimens of technically pure niobium (98.5% Nb; 1.11% Ta) in a powdered mixture of Si, Al_2O_3, and NH_4Cl in a temperature interval 500-1000° C. The mechanism of low-temperature deterioration of the coating is presented and a temperature is found at which the process at the fastest rate.

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USSR

UDC 532.526

KARMANOVSKIY V. V.

"Artificial Laminarization of the Boundary Layer on a Surface With Nonuniform Slit Evacuation"

Tr. Leningr. korablestroit. in-ta (Works of Leningrad Shipbuilding Institute), 1970, No. 69, pp 43-49 (from RZh-Mekhanika, No 9, Sep 71, Abstract No 9B629)

Translation: The results of an experimental study of the effect of the evacuation of air from the boundary layer of a model made in the form of a wedge with a half angle of opening of 10° at the transition Reynolds number are presented. The penetrated part of the model was made from a unit-cast sheet 1200 × 855 × 10 mm. Slits of width 0.5 mm were cut to a depth of 6 mm on the other side of the sheet along the span. The step of the slits was 105 mm. The first slit was placed at a distance of 125 mm from the nose of the model. The pumping was accomplished through openings of diameter 5 mm drilled with a step of 10 mm from the inner side of the sheet to a depth of 4 mm. Nonuniformity of the pumping rate along the slit was determined under static conditions to be 5%. Measurements of the transition Reynolds number were made with the aid of a thermoanemo-

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USSR

KARMANOVSKIY, V. V., Tr. Leningr. korablestroit. in-ta, 1970, No. 69, pp 43-49

meter moved along the model for a fixed flow rate of 30 m/sec. It is shown that for a flow coefficient of $1.24 \cdot 10^{-3}$ there is achieved total laminarization of the surface of the wedge caused by pumping, which corresponds to an increase in the transition Reynolds number from 10^6 (minus pumping) to $2.4 \cdot 10^6$. I. D. Zheltukhin.

2/2

AA0040739

KARMATSKIY, Yu. I.
UR 0482

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

242372 TYRE MANUFACTURE This invention relates to equipment for rolling the folded layers of a tyre carcasse, and consists of a centre shaft (1) with longitudinal grooves in which the diaphragm (2) is mounted in conjunction with the ring-and-bearing assemblies (3). Each of these rings is fitted with a spring-loaded support (4). The centre ring (5) is fastened rigidly on the centre shaft so that the centre section of the article being made can be rolled under pressure. The friction roller (6) is the power drive. This design is an improvement on previous rolling equipment, in that the friction between the rolling rings and the surface of the article being rolled is almost eliminated, and permits articles having different profiles to be treated.

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5

19750403

AA0040739

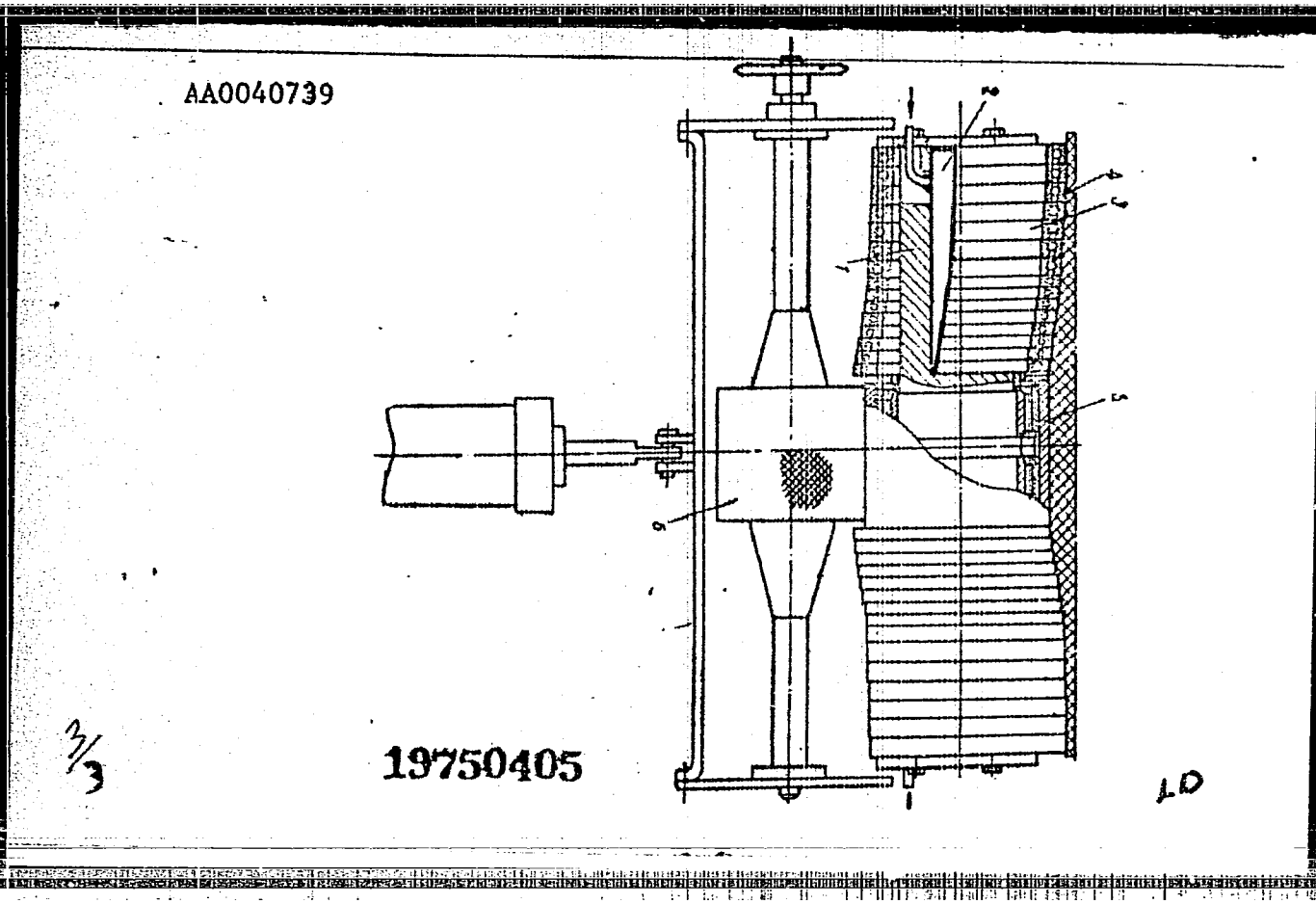
4.2.63, as 818235/23-26 PINOVSKII, M.L. and others
Tyre Ind. Res. Inst. (8.9.59) Bul. 15/25.4.63.
Class 39a^6 Int. Cl. B 29h.

AUTHORS: Pinovskiy, M. L.; Rozov, K. V.; Vil'k, V. S.; and Karmatskiy, Yu. I.

Nauchno - Issledovatel'skiy Konstruktorsko - Tekhnologicheskiy Institut Shinnoy Promyshlennosti

2/3

19750404



Aluminum and Its Alloys

USSR

UDC 539.67

PINES, B. Ya. (deceased) and KARMAZIN, A. A.

"Internal Friction in Aluminum with Various Iron Contents"

Sb. "Vnutrenneye treniye v metallicheskikh materialakh" (Internal Friction in Metallic Materials), Moscow, Izd-vo "Nauka," 1970, pp 129-131

Abstract: The effect of small iron impurities on the internal friction of aluminum is investigated. The effect of grain size and impurity content on the magnitude of observed internal friction peaks is considered. The relaxation along the grain boundaries is responsible for a low-temperature maximum. The high-temperature maximum is related to isolation of the $FeAl_3$ phase along the aluminum grain boundaries. 1 figure, 7 references.

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1/2 021 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--WIDTH OF (GD SUB2 O SUB3) SUBX (GD CRO SUB3) SUB1 MINUS X EPR LINES
-U-
AUTHOR--GLINCHUK, M.D., KARMAZIN, A.A., KOSTYRYA, A.A., LOPATO, L.M.,
SHEVCHENKO, A.V.
COUNTRY OF INFO--USSR

SOURCE--UKR. FIZ. ZH. (RUSS. ED.) 1970, 15(1) 59-62

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--EPR SPECTRUM, LINE WIDTH, LINE BROADENING, CHROMIUM OXIDE, GADOLINIUM COMPOUND, METAL OXIDE, CHEMICAL COMPOSITION, TEMPERATURE DEPENDENCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1989/1345 STEP NO--UR/0185/70/015/001/0059/0062

CIRC ACCESSION NO--AP0107818
UNCLASSIFIED

2/2 021 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION.NO--AP0107818

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE SYSTEM GD SUB2 O SUB3-CR SUB2 O SUB3 THE GD SUB2 O SUB3 CONTENT WAS VARIED BETWEEN 50 AND 100PERCENT. THE OBSD. INCREASE IN THE WIDTH OF THE EPR LINE WITH INCREASING GD SUB2 O SUB3 CONTENT AROSE FROM DIPOLE DIPOLE AND EXCHANGE INTERACTION. AT LOWER TEMP. THE INTENSITY OF THE EPR SIGNAL OF GDCRO SUB3 DECREASED; THE DISAPPEARANCE OF THE LINE AT 170DEGREESK WAS ASSIGNED TO A MAGNETIC ORDERING OF THE CR ION SUBLATTICE.

UNCLASSIFIED

1/2 028 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--TEMPERATURE DEPENDENCE OF THE INTERNAL FRICTION OF ALUMINUM CONTAINING AN IRON IMPURITY -U-

AUTHOR-(02)-PINES, B.YA., KARMAZIN, A.A.

COUNTRY OF INFO--USSR

SOURCE--FIZ. METAL METALLOVED. 1970, 29(1) 197-9

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--METAL INTERNAL FRICTION, ALUMINUM ALLOY, IRON CONTAINING ALLOY, METAL IMPURITY, TORSION STRESS, GRAIN BOUNDARY, THERMAL EFFECT, ALLOY DESIGNATION/(U)A00 ALUMINUM ALLOY, (U)AB1 ALUMINUM ALLOY, (U)A2 ALUMINUM ALLOY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0698 STEP NO--UR/0126/70/029/001/0197/0199

CIRC ACCESSION NO--AP0105674

UNCLASSIFIED

2/2 028 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0105674

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TEMP. DEPENDENCE WAS STUDIED OF INTERNAL FRICTION OF AL (OF TRADEMARKS AB1, A00, AND A2) WITH FE IMPURITY CONTENT OF 0.06, 0.16, AND 0.5 WT. PERCENT. THE INTERNAL FRICTION WAS MEASURED BY A LOW FREQUENCY VACUUM TORSIONAL PENDULUM. ONE PEAK AT 270-90DEGREES WAS OBSD. ON THE CURVES FOR THE AB1 SAMPLES, AND 2 PEAKS AT 310-60DEGREES AND 440-80DEGREES WERE OBSD. FOR SAMPLES OF TRADEMARKS A00 AND A2. THE LOW TEMP. INTERNAL FRICTION PEAK OBSD. IN THE PRESENT WORK ON AL SAMPLES OF VARYING PURITY AT 270-360DEGREES IS A GRAIN BOUNDARY PEAK, SUCH AS HAS BEEN PREVIOUSLY OBSD. AND REPORTED. WITH INCREASING GRAIN SIZE THE HEIGHT OF THIS PEAK DECREASES AND THE PEAK SHIFTS TOWARDS THE HIGHER TEMPS. REGION. WITH INCREASING IMPURITY CONTENT (BUT EQUAL GRAIN SIZES) THE HEIGHT OF THE PEAK DECREASES AND THE PEAK SHIFTS TOWARDS THE HIGHER TEMP. REGION. THE ACTIVATION ENERGY OF THE GRAIN BOUNDARY PEAK, AS CALCD. FROM THE FREQUENCY DISPLACEMENT, WAS 33-6 KCAL-MOLD. THE 2ND, HIGH TEMP., PEAK IS OBSD. ONLY IN CASE OF SAMPLES CONTG. GREATER THAN 0.06PERCENT FE. THE HEIGHT OF THE 2ND PEAK INCREASES WITH INCREASING AMT. OF IMPURITY. THE APPEARANCE OF THE 2ND RELAXATION PEAK IS ASSOCD. WITH THE RELAXATION OF THE STRESSES AT THE AL GRAIN BOUNDARIES.

UNCLASSIFIED

USSR

UDC 669.71:539

PINES, B. YA., and KARYAZIN, A. A., Khar'kov State University imeni A. M. Gor'kiy

"Amplitude-Dependent Internal Friction of Aluminum Containing Iron Impurities"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 29, No 6, Jun 70, pp 1231-1234

Abstract: Results are presented of an investigation of the amplitude dependence of internal friction in A99, A85, A7, and A0 aluminum with iron contents ranging from 0.003 to 0.5%. The internal friction was measured by means of a low-frequency torsion pedulum. The amplitude of deformation varied from $8 \cdot 10^{-6}$ to $5 \cdot 10^{-4}$. The specimens were cylinders 100 mm long and 1 mm in diameter. The annealing was done at high temperatures, after which the average linear size of the aluminum grains was 2-3 mm. The method of internal friction is used to estimate the parameters of the dislocation structure, condensation temperatures, bonding energy of dislocations with impurity atoms, and the concentration of impurity atoms in the solid solution and along the boundaries of grains for the aluminum-iron system. The authors thank V. N. Startsev for his interest in the work and useful discussion.

1/1

UDC 62-523.8.535.8:681.2

Commutatable Functional Devices of "Scanistor" Type in Systems for the Optoelectronic Processing of Information. Moskovskaya, K.F. and Podlaskin, B.G. In the Collection Mikroelektronika, edited by V.V. Lukin, No 5, p 66, Sovetskoye Radio Publishing House, 1972.

At the present time the most promising class of optoelectronic devices apparently is the class of multichannel matrix optrons, in which optical and electrical contacts are used not only inside the unit cells "irradiator-photoreceiver" but also inside the irradiator and photoreceiver matrices. The replacement of "pictures", synthesized on the irradiating matrix in the form of irradiation configurations and on the photoreceiver matrix in the form of configurations of photosensitive elements permits the processing of information simultaneously along numerous channels and to a theoretical increase in speed of response of the computers.

As the semiconductor structure, convenient for synthesis of the above "pictures" both on the irradiating and on the photoreceiver matrices or panels with distributed parameters, the article suggests a scanistor.

Assuming the final optical converter in the form of a sequence of shaped electrical impulses permits elimination of one of the most substantial disadvantages in analog computers, i.e., their low accuracy. The accuracy of conversion on the scanistors is determined by the number of unit optrons in the commutatable matrices.

Examples are given for carrying out the operations of addition, division, expansion into a series, raising to a power, and filtration on models of discrete scanistors.

The theoretical possibilities of such devices are evaluated.

The article contains 7 figures and 29 bibliographic references.

UDC 621.382.32

Influence of Radiation Emission on the Components of HDP Integrated Circuits. Bachmanskiy, A.N., Gasman, A.S., and Baykov, V.D. In the Collection Mikroelektronika, edited by V.V. Lukin, No 5, p 66, Sovetskoye Radio Publishing House, 1972.

This article examines the basic physical effects generated in MDP transistors during irradiation. The influence of these effects are described on the degradation of the parameters of the MDP transistors. Formulas are given for computation of the volt-ampere characteristics during irradiation. The radiational resistance of the integrated circuits on bipolar and MDP transistors is discussed.

The article contains 5 figures, 1 table, and 15 bibliographic references.

UDC 621.396.6-181.5
681.128.14-518.5

A Method of Computing Major Integrated Circuits on MDP Trans- istors With Supplementing Types of Conductivity. [illegible] and Gordeyev, B.K. In the Collection Mikroelektronika, edited by F.V. Lukin, No 5, p 79, Sovetskoye Radio Publishing House, 1972.

The article concerns the computation and optimization of major integrated circuits on supplementing MDP transistors. Optimization criteria for major integrated circuits are suggested.

It is shown that the problem of computing major integrated circuits can be reduced to determining the minimum of the linear function of regulable (determined) parameters of the major integrated circuit in the region of the determination, whose boundaries are nonlinear and have a statistical scatter. The algorithms developed for solving this problem by computation on a computer are cited.

The article contains 11 figures and 11 bibliographic references.

UDC 621.382.8

The Influence of Geometric Dimensions of Active Components on Speed of Response of Micropower Transistor-Transistor Logic of Integrated Circuits. Belyakov, Yu.N., [illegible], [illegible], and Lubashevskiy, A.V. In the Collection Mikroelektronika, ~~edited by F.V. Lukin~~, No 5, p 98, Sovetskoye Radio Publishing House, 1972.

On the basis of experimental data and from the geometric dimensions of transistor structures a computation is given of the capacitances per unit of area of the end and side surfaces of three transistor contacts. It is shown that the speed of response of the micropower TTL of the integrated circuits to a significant degree is determined by

USSR

UDC None

KARMAZINSKIY, A. N., KOROLEV, M. A., KOSTYCHEV, G. I., and SEL'KOV, Ye. S.

"Reliability Research on MOS Transistors"

Moscow, Mikroelektronika, No. 1, 1971, pp 141-154

Abstract: The reliability of integrated circuits using MOS transistors is discussed. Experimental investigation has shown that the practical reliability of such integrated circuits is much less than predicted, and is inferior to that of circuits using bipolar transistors. The purpose of this paper is to find the types of breakdown in these circuits and to determine the qualitative indices of MOS transistor reliability, for transistors made by the planar technique with charge stabilization in the oxide through the use of P_2O_5. A description of the preparation of the transistors under test is given. The types of test performed were: in the switching state, at an ambient temperature of 100° C; for thermal "fatigue," in which the specimens were tested in the switching state with cyclical electrical loading at an ambient temperature of 20° C; with inverse bias applied to the p-n junctions between the diffusion regions of the drain, the source, and the substrate, and for a grounded gate, with a temperature of 100° C. The results of the tests are given fairly exhaustive statistical

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USSR

KARMAZINSKIY, A. N., et al, Mikroelektronika, No. 1, 1971, pp 141-154

treatment, and photographs of transistor breakdowns are shown. The authors concluded that the following must be done to increase the reliability of the transistors: a visual quality check of transistors with oxide and metallization defects; check of transistors whose leakage currents amount to tenths or units of a microampere; preliminary aging. It was also found that the most widespread type of catastrophic breakdown is puncture of the oxide under the gate at the boundary of the drain region.

2/2

USSR

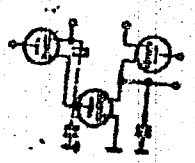
UDC: 581.325.65

KARMAZINSKIY, A. N., NOZDRIN, G. V., SHAGURIN, V. I., Moscow Engineering Physics Institute

"A Dynamic Element Based on MDS Transistors"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 6, Feb 71, Author's Certificate No 294253, Division H, filed 12 Feb 70, published 26 Jan 71, p 176

Translation: This Author's Certificate introduces a dynamic element based on MDS transistors. The element contains a storage capacitor and circuits for charging and discharging it, and also an auxiliary transistor. As a distinguishing feature of the patent, speed is increased and the area of the semiconductor plate which is used is reduced by basing the discharge circuit of the storage capacitor on one transistor with the sink of the auxiliary transistor connected to its gate.



1/1

1/2 007 UNCLASSIFIED PROCESSING DATE--11DEC70

TITLE--MUTUAL SOLUBILITY IN 5,METHYLFURFURAL WATER SYSTEM -U-

AUTHOR-(02)-KARMILCHIK, A.YA., YEFIMOVA, L.S.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(3), 717-19

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--SOLUBILITY, FURFURAL, WATER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1113 STEP NO--UR/0080/70/043/003/0717/0719

CIRC ACCESSION NO--AP0126540

UNCLASSIFIED

2/2 007 UNCLASSIFIED PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AP0126540

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CONSOLUTE TEMP. OF MEXTS. OF 5,METHYLFURFURAL (I) WITH H SUB2 O, AS DETD. AT GREATER THAN 70DEGREES BY TURBIDIMETRY AND AT LESS THAN 70DEGREES BY CHEM. ANAL. OF THE AQ. LAYER, IS A MAX. AT APPROX. 160DEGREES AT APPROX. 44 WT. PERCENT I.

FACILITY: INST. ORG. SIN., RIGA, USSR.

UNCLASSIFIED

1/2 014 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--CHROMATOGRAPHIC DETERMINATION OF GAMMA BUTYROLACTONE IN AQUEOUS SOLUTIONS -U-

AUTHOR-(02)-KARMILCHIK, A.YA., STONKUS, V.

COUNTRY OF INFO--USSR

SOURCE--LATV. PSR ZINAT. AKAD. VESTIS, KIM. SER. 1970, (1), 73-5

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHROMATOGRAPHY, LACTONE, AQUEOUS SOLUTION, GLYCEROL, SILICONE RESIN, ETHYLENE GLYCOL, TEFLON/(U)E301 SILICONE RESIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0683 STEP NO--UR/0464/70/000/001/0073/0075

CIRC ACCESSION NO--AP0119591

UNCLASSIFIED

2/2 014 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119591

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A COLUMN, A M BY 6 MM, FILLED WITH 10PERCENT POLYETHYLENE GLYCOL 400 ON POWD. TEFLON WAS USED AT 160DEGREES, WITH HE CARRIER GAS (100 ML-MIN), SAMPLE SIZE 3 MU L, AND A KATHAROMETER DETECTOR. OTHER STATIONARY PHASES TRIED WERE SILICONE 3-301, GLYCEROL, DIGLYCEROL, TRIETHYLENE GLYCOL AND POLYETHYLENE GLYCOL 1500. FACILITY: INST. ORG. SIN., RIGA, USSR.

UNCLASSIFIED

Acc. Nr: AP0041736 Abstracting Service: CHEMICAL ABST. 70 Ref. Code: UR 0459

79605u Features of thermal and chemical (acidic) degradation of poly-1,3-dioxolane. Kumpanenko, E. N.; Kostun, T. S.; Varshavskaya, A. I.; Karpilova, I. K.; Enikolopyan, N. S. (Inst. Khim. Fiz., Moscow, USSR). *Vysokomol. Soedin., Ser. A* 1970, 12(11), 229–42 (Russ). The kinetics and compn. of the products of the acid and thermal degradation of poly-1,3-dioxolane (I) at 140–310° were studied. I was prepd. by bulk polymn. of 1,3-dioxolane and had mol. wt. 16–18 × 10^3. Acid degradation was carried out in the presence of H_3PO_4 or picric acid. Initiation of degradation proceeded via "random" homo- or heterolytic cleavage of the chain at the acetal group. The major product of acid degradation was the cyclic monomer, while thermal degradation yielded a wide variety of volatile products including AcH, ethylene oxide, MeOH, and EtOH. Oligomeric fragments with d.p. 5–8 were formed in both cases; those formed by a thermal degradation were linear, but those formed during acidolysis were apparently cyclic. The fraction of monomer in the products decreased with increasing temp. and extent of decompn. Mechanisms for the formation of the major decompn. products are discussed. The activation energy and kinetic chain length for depolymn. (ν) were 17 ± 2 kcal/mole and 13–20, resp., for acidolysis, and 31 ± 2 kcal/mole and 5–8 × 10^{-3}, resp., for thermal cleavage. ν for acidolysis was independent of temp., but ν for thermal cleavage decreased sharply with increasing temp. Depolymn. was not the primary mechanism for thermal cleavage. DBJR

REEL/FRAME
19751613

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1/2 012 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--COMPARISON OF THE PROPERTIES OF VARIOUS TYPES OF BUTADIENE STYRENE RUBBERS -U-

AUTHOR-(02)-LYALIN, A.A., KARMIN, B.K.

COUNTRY OF INFO--USSR

SOURCE--KAUCH. REZINA 1970, 29(5), 3-5

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--BUTADIENE STYRENE RESIN, POLYMER PHYSICAL PROPERTY, RUBBER, STYRENE/(U)SKMS30ARK STYRENE RUBBER, (U)SKMS27ARKM STYRENE RUBBER, (U)SKMS30ARKM15 STYRENE RUBBER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/0976 STEP NO--UR/0138/70/029/005/0003/0005

CIRC ACCESSION NO--AP0138004

UNCLASSIFIED

2/2 012 UNCLASSIFIED

CIRC ACCESSION NO--AP0138004 PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A MIXT. OF BUTADIENE STYRENE SKMS-30 ARK RUBBER, CONTG. NO OIL EXTENDER, AND SKMS-30 ARKM-27 RUBBER, CONTG. 27PERCENT OIL, WAS PREPD. TO GIVE 15PERCENT OIL CONTENT, I.E., THE SAME AS IN THE COM. SKMS-30 ARKM-15 RUBBER (I). THE POLYDISPERSITIES OF THE MIXT. AND OF I WERE DIFFERENT. THE MIXT. WAS MORE VISCOUS, HAD GREATER RIGIDITY, GREATER HEAT RESISTANCE, AND BETTER HYSTERESIS CHARACTERISTICS THAN I. FACILITY: NAUCH-ISSLED. INST. SHINNOI PROM., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 535.378:534-8

KAMINSKIY, YU. A., KONDRAT'YEV, YU.A., TUKKAYEV, A.A.

"Transfer Constant Of Electroacoustic Transducer"

V sb. Introskopiya (Introscopia--Collection Of Works), Moscow, 1970, pp 104-110 (from RZh--Elektronika i yeye primeneniye, No 2, February 1971, Abstract No 2A431)

Translation: An expression is derived for the ratio of the amplitude of the input signal which is supplied to the target of an electroacoustic transducer, and the output which is removed from the collector. It is shown that this ratio cannot be larger than one and at high-frequency it decreases inversely proportional to the frequency. 2 ill. 4 ref. N.S.

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USSR

UDC 538.378:534-8

KARMINSKIY, YU. A., KONDRAT'YEV, YU. A., TUKKAYEV, A.A.

"Signal-To-Noise Ratio At Output Of Electroacoustic Transducer"

V sb. Introskopiya (Introscopia--Collection Of Works), Moscow, 1970, pp 87-93 (from RZh--Elektronika i yeye primeneniye, No 2, February 1971, Abstract No 2A433)

Translation: A desired signal-to-noise ratio is determined for two forms of load (aperiodic load and oscillatory circuit). The band of the electrical channel in both cases is identical; rectangularity of the characteristics is assured in the amplifying channel. The conditions are derived in which the signal-to-noise ratio at the output of the transducer does not depend in practice on the form of the load. With use of an oscillatory circuit as a load, a Q times (Q is the figure of merit of the circuit) smaller amplification is required; however, at the same time specific limitations are imposed on Q. 1 ill. 3 ref. N.S.

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USSR UDC 576.858(Kemerovo).097.2

KARMYSHEVA, V. YA., SEMASHKO, I. V., and CHUMAKOV, M. P., Institute of Poliomyelitis and Viral Encephalitides, Academy of Medical Sciences USSR, Moscow

"A Quantitative Study of Antigen Accumulation and the Interaction of Kemerovo Group Viruses by Cytofluorimetry"

Moscow, Voprosy Virusologii, No 4, Jul/Aug 72, pp 397-401

Abstract: Accumulation of Kemerovo, Tribech, Chenuda, and EgAn 1169-61 virus antigens in Syrian hamster kidney cells and the reactions of these viruses to homologous and heterologous antisera were studied by cytofluorimetry. The dynamics of antigen accumulation detected through fluorescein isothiocyanate staining were similar for all viruses. Cellular fluorescence was detected after 6 hours, peaked at 30 hours, and then decreased by 48 hours. Extracellular virus was detected after 18 hours and peaked at 48 hours. Reactions of these viruses to antisera were quantified by the degree of fading of fluorescence in response to the antisera. Assuming fading to be 100% in the reaction of Tribech virus to Tribech antiserum, responses to this antiserum were 83.4-84% for Kemerovo and EgAn 1169-61 viruses and 78% for Chenuda virus. Response of the latter was probably weaker due to ineffectiveness of the antiserum against cells with maximum antigen concentration. These results indicate that

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USSR

KARMYSHEVA, V. YA., et al., Voprosy Virusologii, No 4, Jul/Aug 72, pp 397-401

Kemerovo and EgAn viruses are closely allied antigenically to each other and to Tribech virus. Various virological tests confirmed the findings of cytofluorimetry. Thus the methods described are useful in identifying Kemerovo group viruses and quantifying their accumulation and interaction with antisera.

USSR

UDC 66.099.2:661.635.213

KARMYSHOV, V. F., BURYAK, K. A., ZAYKOVSKIY, A. V., (DECEASED), BAYEV, A. YA., SAVCHENKO, V. A., and PERMINOVA, L. YA.

"Granulation of Ammophos by the Pressing Method"

Moscow, Khimicheskaya Promyshlennost', Vol 48, No 6, Jun 72, pp 434-436

Abstract: A method for the granulation of multipurpose fertilizers by the pressing method was developed at the Scientific Research Institute of Fertilizers and Insectofungicides imeni Ya. V. Samoylov. This method is being applied for the production of granulated ammophos/ammonium phosphate fertilizer/ at the Dzhambulsk Superphosphate Plant. Ammophos pulp with a 50% water content is subjected to spray drying. The dry powder is classified and then compressed to form plates. In the pressing stage 6.56 t/hr of powder (fresh + recycled material) yielded 4.08 t/hr plates and 2.48 t/hr of fine material that had the same granulometric composition as the initial ammophos and was fully recycled. Crushing of the plates resulted in a commerical granulated product with a grain size of 1-3 mm (2.27 t/hr from 4.08 t/hr plates), fine powder with a grain size < 1 mm, that was recycled, and an oversize grain fraction that was reground. One of the principal problems in connection with the process is formation of a large amount of fine material that has to be recycled. Formation of fine material in the amount of 37.8%

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USSR

KARMYSHOV, V. F., et al., Khimicheskaya Promyshlennost', Vol 48, No 6, Jun 72, pp 434-436

in the pressing stage is due principally to the porous structure of the powder being compressed, which contains only 30% of solids, and its high air content. The air contained in the powder interferes with feeding of the powder into the space between the rollers, producing spraying of the powder. It also reduces the adhesion between powder particles. To obtain a lower ratio of fine material that has to be recycled, methods must be developed for reducing the amount of air in the powder.

1/2 024 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--TWO REGGEON CUTS IN SCATTERING PROCESSES AT HIGH ENERGIES -U-

AUTHOR-(02)-KAYDALOV, A.B., KARNAKOV, B.M.

COUNTRY OF INFO--USSR

SOURCE--YAD. FIZ. 1970, 11(1), 216-31

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--PARTICLE INTERACTION, REGGE POLE, SCATTERING AMPLITUDE, SCATTERING CROSS SECTION, PION, PHOTONUCLEAR REACTION, CHARGE EXCHANGE, NEUTRON SCATTERING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1980/0356 STEP NO--UR/0367/70/011/001/0216/0231

CIRC ACCESSION NO--AP0048629

UNCLASSIFIED

2/2 024 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0048629

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. GRIBOV'S DIAGRAM METHOD (1967) ENABLES ONE TO INVESTIGATE THE ESSENTIAL PROPERTIES OF MOVING CUTS AND TO EST. THEIR CONTRIBUTIONS TO THE ASYMPTOTIC BEHAVIOR OF THE SCATTERING AMPLITUDES. THIS METHOD IS APPLIED TO ESTNS. OF THE CONTRIBUTIONS FROM MOVING CUTS TO THE AMPLITUDES OF VARIOUS 2 PARTICLE PROCESSES, WHERE SPIN OF THESE PARTICLES IS TAKEN INTO ACCOUNT. CONDITIONS FOR THE REGGEIZED ABSORPTIVE MODEL TO THE APPLICABLE ARE DISCUSSED. A FORMULA IS DERIVED WHICH MAKES IT POSSIBLE TO EST. THE CROSS SECTIONS OF SUCH PROCESSES WHICH HAVE NO CONTRIBUTION FROM THE REGGE POLES (E.G. THE DOUBLE CHARGE EXCHANGE). THERE ARE CONSIDERED IN DETAIL THE CONTRIBUTIONS FROM MOVING CUTS WITHOUT A DEFINITE PARITY TO THE AMPLITUDES OF SUCH PROCESSES WHICH ENABLE MAKING A COMPARISON WITH EXPT.: N-P CHARGE EXCHANGE, PSEUDOSCALAR MESON PHOTOPRODUCTION, ANDPRODUCTION OF VECTOR MESONS IN PI N COLLISIONS AT SMALL MOMENTUM TRANSFER. THESE CONTRIBUTIONS ARE LARGE IN THE REGION OF SMALL VALUES OF Q PRIME2. RESULTS OF CALCNS. WITHOUT ANY ADJUSTABLE PARAMETERS GIVE FOR THE N-P CHARGE EXCHANGE AND GAMMA P YIELDS PI PRIME POSITIVE N PROCESS AT Q PRIME2 EQUALS 0 VALUES VERY CLOSE TO THE EXPTL. ONES. THE FEATURES OF THESE PROCESSES IN THE REGION OF SMALL Q PRIME2 CAN BE OBTAINED WITHOUT ANY ASSUMPTION ON THE CONSPIRACY OF THE PI POLE. ALSO THE SUPERCONVERGENT SUM RULES FOR THE REGGEON PRODUCTION AMPLITUDES ARE CONSIDERED. FACILITY: INST. TEOR. EKSP. FIZ., MOSCOW, USSR.

UNCLASSIFIED

AN0033566

UR9003

AUTHORS-- KARMISHIN, A., DOCTOR OF TECHNICAL SCIENCES, PROFESSOR, AND BYKOV, D., CANDIDATE OF PHYSICAL-MATHEMATICAL SCIENCES

TITLE-- THE LAWS OF STRENGTH

NEWSPAPER-- IZVESTIYA, MARCH 22, 1970, P 3, COLS 1-4

ABSTRACT-- BYKOV AND KARMISHIN SUPPORT THE NOMINATION OF A. A. IL,YUSHIN, CORRESPONDING MEMBER OF THE ACADEMY OF SCIENCES, FOR THE LENIN PRIZE FOR HIS WORK IN THE FIELD OF PLASTICITY, STRENGTH, AND VISCOELASTICITY. IL,YUSHIN,S WORK HAS MADE IT POSSIBLE TO SOLVE SOME PROBLEMS IN DESIGNING ATOMIC REACTORS, SPACE VEHICLES, AND AIRCRAFT.

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19710083

USSR

UDC 621.372.413

VENEVTSEV, Yu. N., KARNAUKH, A. I., SHVORNEVA, L. I.

"Tuning a Hollow Resonator by a Nonlinear Dielectric"

Elektron. tekhnika. Nauchno-tekhn. sb. Elektron. SVCh (Electronic Engineering. Scientific and Technical Collection. Superhigh-Frequency Electronics), 1970, vyp. 5, pp 49-58 (from RZh-Radiotekhnika, No 8, Aug 70, Abstract No 8B161)

Translation: This article contains an investigation of toroidal and rectangular resonators with a nonlinear dielectric in the paraelectric phase filling the capacitive gap of the resonator. On the basis of replacing the resonator by an equivalent circuit in the form of two long lines, one of which is loaded with a nonlinear capacitance, the resonance wavelength of the resonator and the range of its application under the effect of a controlling field on the dielectric are calculated. The results of the calculations agree well with the experimental results. There are ten illustrations and a ten-entry bibliography.

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UDC 331.761:616.43-008.6

USSR

KARNAUKH, N. G., and GOLOVINA, L. YA., Krivorog Scientific Research Institute of Industrial Hygiene and Occupational Diseases

"Endocrine Function in Hot Shop Workers"

Kiev, Vrachebnoye Delo, No 2, 1971, pp 123-126

Abstract: Examination of 60 apparently healthy workers 9 years or more on the job in hot shops (blast furnace, open hearth, converter) showed their levels of excretion of 17-hydroxycorticosteroids and aldosterone with urine to be significantly higher than those of the control group (17 repair men and mechanics). The results of the Thorn test of functional reserves of the adrenal cortex revealed that the original number of eosinophils in the peripheral blood of the hot shop workers was lower than in the control, an indication of increased adrenocortical function. The amount of insulin in the blood was found to be much higher in the hot shop workers. All these changes in endocrine function were fairly persistant since they were detected after a week's rest.

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1/2 016 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--INVERSE POLAROGRAPHIC METHOD FOR DETERMINING THE SOLUBILITY PRODUCT OF SLIGHTLY SOLUBLE SALTS -U-

AUTHOR-(03)-SKOBETS, YE.M., TUROVA, D.S., KARNAUKHOV, A.I.

COUNTRY OF INFO--USSR

SOURCE--UKR. KHIM. ZH. 1970, 36(1) 33-5

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--SOLUBILITY, POLAROGRAPHIC ANALYSIS, ELECTRODEPOSITION, SODIUM NITRATE, POTASSIUM NITRATE, LEAD CHROMATE, MOLYBDENUM COMPOUND, PHOSPHATE, OXALATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/1326 STEP NO--UR/0073/70/036/001/0033/0035

CIRC ACCESSION NO--AP0107799

UNCLASSIFIED

CIRC ACCESSION NO--AP0107799

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SOLY. OF PBC SUB2 O SUB4, PBMOO SUB4, PBCRO SUB4, AND PB SUB3 (PO SUB4) SUB2 WAS DETD. BY MEASURING THE CURRENT PRODUCED ON SOLN. OF A SMALL AMT. PF PB PREVIOUSLY DEPOSITED FROM SOLN. BY ELECTRODEPOSITION. THE SOLY. PRODUCTS CALCD. WERE 3 TIMES 10 PRIME NEGATIVE11, 3.3 TIMES 10 PRIME NEGATIVE12, 6.4 TIMES 10 PRIME NEGATIVE13, AND 1.8 TIMES 10 PRIME NEGATIVE29, RESP. GRAPHS ARE ALSO GIVEN FOR THE SOLY. OF PBC SUB2 O SUB4 IN SOLNS. OF VANO SUB3 AND OF KNO SUB3 OF VARYING IONIC STRENGTHS.

APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002201220006-6"

KARNAUKHOV A.S.

Acc. Nr. AP0055929 Abstracting Service: CHEMICAL ABST. Ref. Code 6-70 UR0078

1152S5a $Co(NO_3)_2$-CH_3CONH_2-H_2O and $Ni(NO_3)_2$-CH_3CO-NH_2-H_2O systems. Dzhunusov, A. D.; Imanakunov, B. I.; Kydynov, M. K.; Druzhinin, I. G.; Karnaukhov, A. S. (USSR). *Zh. Neorg. Khim.* 1970, 15(2), 532-8 (Russ). Heterogeneous equil. were studied in the title systems at 25° and soly. diagrams of the systems are constructed. Four new compds. sep. in the systems: $Co(NO_3)_2.4AcNH_2.2H_2O$, $Co(NO_3)_2.6AcNH_2.2H_2O$ and analogous Ni compds. Thermographs, x-ray powder diffraction patterns, and ir absorption frequencies of these compds. are given. HMJR

C.K.

REEL/FRAME 19841258

Acc. Nr.: AP0029332 Ref. Code: UR 0297

PRIMARY SOURCE: Antibiotiki, 1970, Vol 15, Nr 1, pp5-9

GENIMYCIN, A MEMBER OF A NEW GROUP OF ANTIFUNGAL PENTAENIC ANTIBIOTICS

Severinets, L.Ya.; Yefimova, V.M.; Bol'shakova, L.O.; Karnaushkina, A.I.; Solov'yev, S.N.; Yegorenkova, A.N.;

Leningrad Institute for Antibiotics

A soil culture LIA-0174 was isolated and classified as belonging to the genus of Actinosporangium. An antibiotic named genimycin was recovered from the fermentation materials of this culture. By a number of physico-chemical properties the antibiotic was beleved to belong to a new group of pentaenic antibiotics. Genimycin possesses antifungal activity, which is 10—100 times higher than that of pentaens from other groups.

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REEL/FRAME

19680904

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1/2 020 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--LITHIUM NITRATE,AMMONIUM NITRATE,WATER SYSTEM AT 25DEGREES -U-

AUTHOR-(03)-GANINA, G.I., KARNAUKHOV, A.S., LEPESHKOV, I.N.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(4), 1105-8

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--LITHIUM COMPOUND, NITRATE, AMMONIUM NITRATE, CHEMICAL RESEARCH FACILITY, ISOTHERM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1109 STEP NO--UR/0078/70/015/004/1105/1108

CIRC ACCESSION NO--AP0123101

UNCLASSIFIED

2/2 020 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0123101

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SOLY. ISOTHERM (25DEGREES) OF THE LINO SUB3-NH SUB4 NO SUB3-H SUB2 O SYSTEN IS PRESENTED; IT HAS 3 BRANCHES CORRESPONDING TO LINO SUB3 .3H SUB2 O, LINO SUB3, AND NH SUB4 NO SUB3. THE ELEC. COND., VIXCOSITY, AND D. OF SATD. SOLNS. OF THE SYSTEM WERE DETD. THE ISOTHERMS OF THESE PROPERTIES ARE IN AGREEMENT WITH THE SOLY. ISOTHERMS OF THIS SYSTEM. FACILITY: INST. OBSHCH. NEORG. KHIM. IM. KURNAKOVA, MOSCOW, USSR.

UNCLASSIFIED

1/2 013 UNCLASSIFIED PROCESSING DATE--13NOV70

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

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

COUNTRY OF INFO--USSR

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

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

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

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/2042 STEP NO--UR/0078/70/015/003/0785/0788

CIRC ACCESSION NO--AP0132299

UNCLASSIFIED

2/2 013 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0132299

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SOLY. OF THE CO(NH SUB2) SUB2,CR(NO SUB3) SUB3,H SUB2 O SYSTEM WAS DETD. AT 25DEGREES. THE SOLY. ISOTHERM OF THE SYSTEM AND ISOTHERMS OF D., VISCOSITY, AND ELEC. COND. OF THE LIQ. PHASES ARE CONSTRUCTED. CR(NO SUB3) SUB3.6CO(NH SUB2) SUB2.3H SUB2 O (HAVING N SUBALPHA, N SUBBETA, AND N SUBGAMMA EQUAL 1.463, 1.573, AND 1.639, RESP.) FORMS IN THE SYSTEM.

UNCLASSIFIED

USSR UDC 539.125.4

BOGDANOV, D. D., KARNAUKHOV, V. A., PETROV, L. A.

"Telescope for Recording Low-Energy Protons Against an Intense Beta Background"

Moscow, Pribory i Tekhnika Eksperimenta, No 5, 1972, pp 28-30

Abstract: A study was made of the problem of lowering the sensitivity of a telescope system to electrons in order to make it possible to record protons with E less than 1.0 megaelectron volts. A telescope is described which comprises 2 planar proportional counters and a semiconductor detector designed for spectrometric analysis of low-energy protons (0.5-6.0 megaelectron volts) in the presence of intense β and γ radiation backgrounds. Utilization of comparisons of the proportional counters in the control channel essentially reduces the β-background of the semiconductor detector by comparison with the case where only one counter is used for the control. With variation of the threshold in the control channel the intensity of the spectrum varies uniformly in accordance with the hypothesis of independent formation of the spectra in the two counters. The introduction of a 3.0 kiloelectron volt threshold in the control channel leads to a twenty-fold reduction in intensity of the count with respect to the entire spectrum of the first counter.

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USSR Aug 69

SOLOV'YEV, V. G., and
PYATOV, N. I., are co-authors of an article on the International Conference on the Properties of Nuclear States held in Montreal, Canada.in August 1969.
KARNAUKHOV, V. A., presented the report of
FLEROV, G. N.

Atomnaya Energiya, Vol 28, Vyp 2, Feb 70, pp 186-187 (4)

USSR

31 Aug - 4 Sep 70

KARAMYAN, S. A., is the author of an article on the International Conference on the Properties of Nuclei Distant From the Region of Beta-Stability held in Lausanne, 31 Aug to 4 Sep 1970. The following presented reports:

VOLKOVA, V. V., Dubna Joint Institute of Nuclear Research,
KARNAUKHOV, V. A., Dubna Joint Institute of Nuclear Research,
GROMOVA, K. YA., Dubna Joint Institute of Nuclear Research,
FENESH, T., Dubna Joint Institute of Nuclear Research,
FLEROV, G. N., Dubna Joint Institute of Nuclear Reasearch.

Atomnaya Energiya, Vol 30, No 3, 1971, pp 324-325 (6)

USSR

Rpt Mar 71

In the article "International Conference on Properties of Nuclei Far From Region of Beta-Stability" it is noted that this conference was held in the city of Leysin (Switzerland) in the period 31 Aug - 4 Sep 70 and was organized by the Izol'do Group (CERN). Participants included 150 specialists from the United States, FRG, Sweden, France, Denmark, and other countries and also delegations of CERN (Geneva) and OIYaI [Joint Institute of Nuclear Research] (Dubna). Over 50 reports were presented. Great interest and a high evaluation were merited by the results of the group of

VOLKOV, V. V., Associate, Joint Institute of Nuclear Research (OIYaI), on the nucleonic stability of a large number of new neutron-rich isotopes of light elements, such as C^{18}, N^{21}, O^{24}, F^{25}, Ne^{26}, and others, which are synthesized in reactions with heavy ions.

KARNAUKHOV, V. A., Associate, Joint Inst of Nuclear Research, presented information on experimental attempts to observe protonic decay from the basic state for radiators from Z>50. In the brief reports of

GROMOV, K. Ya., Associate, Joint Inst of Nuclear Research, and

PENESH, T., Associate, Joint Inst of Nuclear Research,

there was information on the program of study of short-lived isotopes, which is being developed at Dubna on the basis of a proton-beam with an energy of 680 Mev. A special session of the conference was devoted to the problem of superheavy elements. There were five theoretical and three experimental reports.

Atomnaya Energiya, Vol 30, No 3, Mar 71, p 324 (4)

USSR

UDC: 539.374

KOVALENKO, A. D., KARNAUKHOV, V. G., Institute of Mechanics, Academy of Sciences of the UkrSSR, Kiev

"Concerning Nonstationary Oscillations of Orthotropic Viscoelastic Plates and Shells"

Kiev, Problemy Prochnosti, No 4, Apr 73, pp 3-7

Abstract: It is shown that investigation of the dynamic behavior of orthotropic viscoelastic plates and shells in the case of arbitrary boundary conditions can be reduced to solving eigenvalue problems and quasistatic problems of the theory of elastic plates and shells, and to an infinite system of integrodifferential equations and a finite system of Volterra's integral equations relative to time functions. Simple solutions of these systems of equations can be found by using the Krylov-Bogolyubov-Mitropol'skiy averaging method. It is pointed out that the proposed approach can be applied to solving three-dimensional dynamic problems of elasticity theory.

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USSR

KOVALENKO, Academician Ukrainian Academy of Sciences A. D.; KARNAUKHOV, V. G. (Institute of Mechanics, Ukrainian Academy of Sciences)

"Propagation of Surface Waves in an Inhomogeneous Viscoelastic Semispace"

Kiev, Dopovidi Akademii Nauk Ukrains'koi RSR: Seriya A - Fizyko-Tekhnichni ta Matematichni Nauky; February, 1971; pp 145-9

ABSTRACT: The propagation of harmonic Love and Rayleigh surface waves in an inhomogeneous viscoelastic semispace filled with a medium having properties which are continuously dependent on two coordinates is studied. The inhomogeneity can have a diverse physical nature: in particular, it can be caused by the dependence of the mechanical characteristics of the material on the temperature, in keeping with the principle of a time-temperature analogue.

The phase velocities and attenuation of the above-mentioned waves are found, and the conditions for their existence are established.

The study is carried out by an asymptotic method of standard equations, with the assumption that the frequency is a large quantity.

The article includes 21 equations. There are 5 references.

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USSR

UDC 539.3

KARNAUKHOV, V. G., KIRICHOK, I. F., Institute of Mechanics, Academy of Sciences, Ukrainian SSR (Kiev)

"Concerning the Theory of Plates Subjected to Finite Initial Deformations"

Kiev, Prikladnaya Mekhanika, Vol 6, No 12, Dec 70, pp 82-91

Abstract: On the basis of equations of the three-dimensional theory of small elastic deformations, superposed upon finite elastic deformations, refined equations of plates undergoing finite initial deformations are obtained. It is assumed that the tangential stresses with respect to plate thickness change according to an arbitrary given law. With account taken of the derived equations, the problem of the stability of a rectangular plate compressed in its plane in two mutually perpendicular directions is solved. A comparison is made with the results of solving the problem with shifts not taken into account. An estimate is given of the accuracy of the proposed theory. Results are obtained for materials of the neo-Hook type. 3 figures, 5 bibliographic entries.
1/1

USSR

UDC 632.95

KARNAUKHOV, V. V., YERMAKOV, V. V.

"Analysis of Microamounts of Polychlorocamphene in the Eggs, Organs and Tissues of Hens and in Clover"

Tr. 2-go Vses. soveshch. po issled. ostatkov pestitsidov profilakt. zagryaz-neniya ini produktov pitaniya, kormov i vnesh. sredy (Works of the Second All-Union Conference on the Investigation of Pesticide Residues and Preventive Contamination of Food Products, Fodder and Environment), Tallin, 1971, pp 74-76 (from RZh-Khimiya, No 12, Jun 72, Abstract No 12N440)

Translation: The gas chromatographic method of analyzing polychlorocampnene (I) using an electron capture detector is proposed. The radioactive source was tritim (130 mcuries), the cell voltage was 2-17 volt, the detector temperature was 200°, and the sensitivity was $2 \cdot 10^{-10}$ a/unit scale. The gas carrier was He (142 mℓ/min) with an evaporator temperature of 250°. A stainless steel column was filled with Me-silicone SE-30 (15%) in silanized celite 545 (80-100 mesh). The retention time was 1-6 minutes. The carefully ground weighed sample

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USSR

KARNAUKHOV, V. V., et al., Tr. 2-go Vses. soveshch. po issled. ostatkov pestitsidov profilakt. zagryazneniya imi produktov pitaniya, kormov i vnesh. sredy, Tallin, 1971, pp 74-76

of the organ or tissue (10 grams) was mixed with 50-60 ml of hexane and held for 60 minutes at 20°. After filtration the extract was evaporated to dryness, and the dry residue was dissolved in 2 ml of hexane. Thirty ml of basic reagent was added (a mixture of 13 ml of distilled water, 50 kg of KOH and 17 ml of alcohol). The mixture was heated for 15 minutes in a water bath at 80° and the upper layer was separated. For analysis of the I in the fatty tissue, the extract was purified with concentrated H_2SO_4. For analysis of I in hen eggs, a weighed sample of 5.0 grams was ground, 50 ml of acetone or MeCN was added, and the mixture was homogenized for 5 minutes. The weighed sample of clover plants (10.0 grams) was ground, mixed with 70-80 ml of octane or hexane and left for 12 hours at ~20°. The sensitivity of the method was 0.1 mg/kg, and 0.2 nanograms of I were detected.

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Nuclear Sciences and Technology

USSR UDC 621.039.573

SAKHAROV, YE. S., CHUCHALIN, I. P., SKORIKOV, A. G., AKIMOVA, R. I., and KARNAUKHOV, V. V.

"Radiation Loop of the IRT Reactor at Tomsk Polytechnical Institute"

Moscow, Atomnaya Energiya, Vol 29, No 1, Jul 70, pp 43-45

Abstract: A description is given of the characteristic features and technical specifications of the radiation loop of the IRT reactor at Tomsk Polytechnical Institute and the results of efforts made to optimize its operating conditions as a function of the position of the activity generator layers with respect to each other and the generator as a whole with respect to the core. The effect of the loop on the criticality of the reacotr is also estimated.

It has been established that increasing the gamma-carrier flow rate above 4 cm^3/sec does not increase the power of the irradiator since the parameters τ, ν, and ϵ decrease sharply. Graphs are presented showing the results of experiments in optimizing the operating conditions of the loop. From the figure it is obvious that there is an optimium distance between the

USSR

SAKHAROV, YE. S., et al., Atomnaya Energiya, Vol 29, No 1, Jul 70, pp 43-45

activity generator layers. However, the dependence of the irradiator power on the position of the activity generator with respect to the core has a monotonic nature. A difference between single-layer and multiple-layer generators is noted. In the position of the single-layer activity generator with respect to the core there is a clear optimum coinciding with the bump zone of the thermal neutron flux in the reflector. For the multiple layer generator the power of the irradiator increases montonically on approaching the core. The nature of the increase in the power curve coincides with the spatial distribution of the total neutron flux in the reactor. This means that not only thermal neutrons, but also more rigid neutrons which decellerate in the interstitial layer of water between the γ-carrier layers, participate in activation. Thus, more complete utilization of neutrons leaking out of the core is achieved in the multiple layer generators. In addition, more complete participation of the γ-carrier nuclei in absorption of neutrons is also achieved as a result of a partial decrease in self-shielding as a result of thinning-down of the layers and decreasing the depression of

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USSR

SAKHAROV, YE. S., et al., Atomnaya Energiya, Vol. 29, No 1, Jul 70, pp 43-45

the neutron flux in adjacent layers of moderating material.

The participation of neutrons of all energies in activation was confirmed by an experiment in which the adjacent row of fuel assemblies was replaced by graphite and the activity generator was shifted away from the core. As a result, the activity of the loop dropped by 10 percent. The graph of the experimental results also shows that the decrease in the reactivity margin of the reactor even with the generator at the closest point to the core does not exceed 0.25 percent, and in the presence of graphite fuel elements it is still less (0.17 percent). These data do not differ in practice from those obtained on other devices. Application of a movable irradiator permitted significant expansion of the experimental possibilities of the loop since it permitted entrance into the operating chamber almost immediately after shutting down the loop even if the alloy residues had not been blown out. In addition, the presence of the irradiator permitted not only feeding samples to the source but also the source to the samples.

USSR

SAKHAROV, YE. S., et al., Atomnaya Energiya, Vol 29, No 1, Jul 70, pp 43-45

It is concluded that the experience in operating the radiation loop cinfirms the reliability and simplicity of servicing such devices. The capacity of the loop should be increased in the future by increasing the number of layers in the generator and also by using a more efficient γ-carrier -- pure indium.

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USSR

UDC 669.713.7

KARNAUKHOV, YE. N., GUL'DIN, I. T., SOBOL', I. I., and USHAKOV, D. I.

"On the Selection of Optimum Electrolyte Composition for Aluminum Production"

Moscow, Tsvetnaya Metally, No 1, Jan 74, pp 35-38

Abstract: The most effective way of intensifying the production of aluminum is to change the electrolyte composition by introducing different salt additions. The electrolyte guaranteeing the lowest temperature of the process is considered optimum, as its temperature in the final analysis determines the current efficiency as well as the yield of energy and the efficiency of the electrolyzer. Factors which determine the overheating of the electrolyte and, therefore, the temperature of the process, are discussed and ways to decrease the ohmic resistance on the anode-metal section are indicated. A readily fusible electrolyte with raised electroconductivity and fluidity must be used to decrease the temperature of the process. The most effective addition is LiF; all other additions affect the properties of the cryolite-alumina melt in very different ways. The selection of optimum compositions of the multicomponent electrolyte for aluminum production must be based on experimental studies of the physico-chemical properties of melts and their industrial tests. 1/2

USSR

MARKAUKHOV, YE. N., et al., Tsvetnyye Metally, No 1, Jan 74, pp 35-38

Chlorides of alkaline earth metals have the greatest effect on electroconductivity, viscosity, and fusibility of the melt. The quantity of additions of the multicomponent electrolyte must not exceed 8-10%. Eight bibliographic references.

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USSR

UDC 547.739.3'362'385.1

NAKHMANOVICH, A. S., YELOKHINA, V. N., and KARNAUKHOVA, R. V., Institute of Organic Chemistry, Siberian Branch, Acad. Sc., USSR, Irkutsk

"Acetylene Derivatives of Selenophene. I. Synthesis and Some Reactions of Selenienylacetylene Alcohols and Ketones"

Riga, Khimiya Geterotsiklicheskikh Soyedineniy, No 7, Jul 71, pp 920-923

Abstract: 2-Selenophenealdehydes react with alkylacetylene and acetylenemagnesium bromide under the Iotsich reaction conditions and with sodium acetylenide in liquid ammonia yields new selenienylacetylene alcohols which can be easily converted to respective ketones by oxidation with MnO_2 in ether. Selenienylacetylene ketones upon reaction with hydrazine and hydroxylamine in aqueous ethanol undergo intramolecular cyclization forming respective selenienyl substituted pyrazoles and isoxazoles.

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KARNETSKIY, V.G.

SO: JPRS 59623
26 July 1973

(3)

UDC 669.295:537.32

THERMAL CONDUCTIVITY AND ELECTRICAL PROPERTIES OF TITANIUM ALLOYED WITH VANADIUM AT 100-350°K

[Article by V. G. Karnetskiy, S. N. L'vov, and V. A. Kashchuk, Khimiya, Tomsk: Tomskiy Universitet/a Akademii Nauk SSSR-Metally, Russian, No 1, 1973, submitted 13 September 1971, pp 80-84]

Titanium possesses a successful combination of physical, chemical and mechanical properties. A high specific strength and corrosion resistance open vast possibilities for the use of titanium and its alloys as a reliable structural material. In connection with this there is much interest in studying the effect of alloying with different transition metals on the electrophysical and other properties of titanium over a wide temperature interval. Special interest exists for investigation in the region of low temperatures at which the effect of alloying is most noticeable. We note that there is a large number of works on the electrical resistance of the alloys of ordinary metals. However the effect of small additives on the electrical properties of transition metals has not been adequately investigated /1/. This is all the more related to the thermal conductivity and thermal emf of these metals.

The effect of alloying titanium with vanadium on the electrical resistance, thermal conductivity, and thermal emf of titanium in the 100-350 K region was investigated in this work. As initial materials for making the alloys we used

(3)

grade TG-100 titanium sponge with a hardness of 95-103 Bhn having the following chemical composition, weight %: Ti-99.5, Fe--0.04, Cr-0.03, Al-0.2, N-0.011, Mn, Mo, and Ni-traces; and grade VEL-3 electrolytic vanadium (HTSU-1217-64) with the following chemical composition, weight %: V>99.5, Fe-0.048, Al-0.01, Si<0.01, Ni<0.01, S<0.005, and O<0.01.

Ingots of the alloys were melted in a laboratory vacuum furnace with a consumable electrode. The 50-mm diameter electrode was produced by pressing a mixture of components which had been previously ground to a 10-micron fraction. The ingots were remelted twice to obtain a more uniform composition. Residual pressure at the time of melting amounted to 3×10^{-3}-5×10^{-3} mm Hg. The quantity of input element was determined by chemical analysis. Hydrogen content of the ingots was 0.0040-0.0047%. Vanadium was introduced into the titanium in form of a ligature in concentrations of 0.02-1.43 wt %. Compositions of the produced alloys are presented in the table.

Chemical composition of Ti-V alloys

(a)	(b) (c)	(b) (d) (e)	(b) (d) (f)	(a)	(b) (c)	(b) (d) (e)	(b) (d) (f)
1	0.04	0.02	0.019	7	0.70	0.88	0.848
2	0.1	0.07	0.067	8	0.80	0.76	0.723
3	0.25	0.21	0.219	9	1.10	1.02	0.972
4	0.35	0.33	0.331	10	1.30	1.22	1.16
5	0.54	0.41	0.391	11	1.50	1.43	1.368
6	0.65	0.63	0.61				

Key: a--Sample number
b--Vanadium content in the alloy
c--Calculated, wt %
d--By chemical analysis
e--Weight %
f--Atomic %

Cylindrical samples 4-6 mm in diameter and 15-20 mm long were turned on a lathe for the purpose of investigating the temperature relationship of specific electrical resistance (ρ), coefficients of thermal conductivity (λ), and thermal emf (α). These samples were annealed in a vacuum of $\sim 5\times10^{-7}$ mm Hg for 15-20 hours at 970-1030 K for the purpose of removing internal stresses and homogenization of the alloys. The effect of annealing was checked by measuring the electrical resistance of the samples at room temperature and at the temperature of liquid nitrogen. Annealing was conducted up to stabilization of

1/2 030 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--DETERMINATION OF THE CRITICAL LOADS AND FORMS OF STABILITY LOSS ELASTIC SHELLS OF REVOLUTION -U-

AUTHOR--KARNEV, V.M.

COUNTRY OF INFO--USSR

SOURCE--ADAEMIIIA NAUK SSSR, IZVESTIIA, MEKHANIKA TVERDOGO TELA, MAR.-APR. 1970, P. 62-66. 10 REFS. IN

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--SHELL OF REVOLUTION, CONIC SHELL STRUCTURE, SHELL STURCTURE STABILITY, BIBLIOGRAPHY, METAL STRESS, ELASTICITY, HYDROSTATIC PRESSURE, CLAMPING DEVICE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0346 STEP NO--UR/0484/70/000/000/0062/0066

CIRC ACCESSION NO--AP0124103

UNCLASSIFIED

2/2 030 UNCLASSIFIED PROCESSING DATE--13NOV70

CIPC ACCESSION NO--AP0124103

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DEMONSTRATION THAT THE SOLUTION TO THE EQUATIONS DESCRIBING THE LOCAL STABILITY OF ELASTIC SHELLS OF REVOLUTION MAY BE DIVIDED INTO TWO PARTS, IF A SIMPLE EDGE EFFECT IS PRESENT IN THE STABILITY. THE FIRST VIBRATING (PRINCIPAL) PART OF THE SOLUTION COMPRISES THE ENTIRE SHELL, WHILE THE SECOND PART INCLUDES AN EDGE EFFECT WHICH IS NONZERO IN A NARROW STRIP ADJACENT TO THE END FACES. THE CONSTRUCTION OF THE SOLUTION IS VERY SIMILAR TO THE PROCEDURE FOR DETERMINING THE TOTAL MOMENT STRESS STATE OF AN ARBITRARY SHELL OF REVOLUTION, WHEN A LOCAL STRESS STATE DUE TO AN ORDINARY EDGE EFFECT IS SUPERIMPOSED ON THE MOMENT FREE STRESS STATE. THE DEPENDENCE OF THE CRITICAL LOAD PARAMETER OF A TRUNCATED CONICAL SHELL LOADED BY A HYDROSTATIC PRESSURE ON THE END FACE CLAMPING CONDITIONS IS DETERMINED. A COMPARISON IS MADE WITH AN ANALOGOUS PARAMETER FOR A HINGED CONICAL SHELL.

UNCLASSIFIED

1/2 007 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--GLYCOSIDES OF URSOLIC ACID FROM EMPETRUM SIBIRICUM -U-

AUTHOR-(02)-BUKHAROV, V.G., KARNEYEVA, L.N.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (1), 171-2

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PROCESSED PLANT PRODUCT, SOLVENT EXTRACTION, CHROMATOGRAPHIC SEPARATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/0123 STEP NO--UR/0062/70/000/001/0171/0172

CIRC ACCESSION NO--AP0119119

UNCLASSIFIED

2/2 007 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119119

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE PLANT GAVE, ON CHROMATOG. OF THE CHCL SUB3 EXT. ON SILICA GEL, URSOLIC ACID, M. 273-4DEGREES; ME ESTER M. 164-6DEGREES, (ALPHA) SUBD 68DEGREES. THE SUBSEQUENT EXTN. OF THE PLANT MATTER WITH ETOAC AND CHROMATOG. ON AL SUB2 O SUB3 GAVE THE GLYCOSIDES: EMPETROSIDE A, C SUB36 H SUB58 O SUB8, M. 209-11DEGREES, (ALPHA) SUBD 20DEGREES; EMPETROSIDE B, (CONTG. 71.86PERCENT, C 10PERCENT H), M. 293-5DEGREES, (ALPHA)SUBD ODEGREES; AND EMPETROSIDE C, C SUB41 H SUB66 O SUB12, M. 185-8DEGREES, (ALPHA)SUBD 10DEGREES. HYDROLYSIS OF THE A FRACTION WITH MEOH-AQ. HCL GAVE D GLUCOSE AND URSOLIC ACID; C FRACTION FAVE URSOLIC ACID, D GLUCOSE AND L ARABINOSE; B FRACTION GAVE D GLUCOSE AND URSOLIC ACID. TREATING THE GLYCOSIDES WITH MEI IN THE PRESENCE OF BAO IN ME SUB2 NCHO 12 HR AT 100DEGREES GAVE A ME ETHER WHICH, HYROLYZED BY AQ. HCL, GAVE 2,3,4,6,TETRA,O,METHYL,D,GLUCOSE; SIMILAR TREATMENT OF FRACTION B GAVE THE SAME PRODUCT; FRACTION C GAVE ME URSOLATE AND 2,3,6, AND 2,3,4,TRIO,METHYL,D,GLUCOSE. FACILITY: INST. ORG. FIZ. KHIM. IM. ARBUZOVA, MOSCOW, USSR.

UNCLASSIFIED

UDC 621.382.3

USSR

GROMOV, V.S., KARNEYEVA, R.T.

"Investigation Of The Thermal Processes Within The Structure Of A Silicon Planar Transistor"

Elektron. tekhnika. Nauchno-tekhn. sb. Poluprovodn. pribory (Electronic Technology. Scientific-Technical Collection. Semiconductor Devices), 1970, No 1(51), pp 45-54 (from RZh--Elektronika i yeye primeneniye, No 12, December 1970, Abstract No 12B221)

Translation: The experimental results are described of an investigation of the thermal properties of silicon planar transistors. It is shown that the geometry of the transistor structure substantially affects the thermal processes in the semiconductor crystal. It is established that in planar transistors the nonlinear change of temperature with an increase of the electrical power is determined only by the forward current flowing through the transistor. Author's Summary.

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USSR

UDC: None

SVIRINA, Ye. P., NEMCHINOV, Yu. V., and KARNEYEVA, S. S.

"Tensor Nature of the Hall Effect in Metallic Ferromagnetics"

Leningrad, Fizika Tverdogo Tela, No 6, 1973, pp 1665-1667

Abstract: The experiments described in this paper were performed to help resolve the contradictions in the literature regarding the anisotropy of the ferromagnetic Hall coefficient. The experiments consisted in measuring the Hall emf in iron silicide single crystals with 3% Si and in 50/50 iron-nickel alloys -- FeNi -- of the hypernic type. The iron single crystal was in the form of a rectangular plate measuring 20X3.5X0.4 mm, and the hypernic single crystal took the form of a parallelepiped of 15X3X2 mm. The results of the experiments are given in the form of two curves, the first showing the magnetization and the Hall emf coefficient as functions of the magnetic field intensity for the iron silicide single crystal at 20° C, the second giving the magnetization and the coefficient E_α for the spontaneous Hall field as functions of the magnetic field intensity of the hypernic crystal at the same temperature. The factor E_α appears in the tensor for the anisotropy of odd galvanomagnetic effects and is given here in matrix form. The authors

USSR UDC: None

SVIRINA, Ye. P., et al, Fizika tverdogo tela, No 6, 1973, pp 1665-1667

Find that all inversion pairs of the Hall field components differ from zero in both materials under the condition of technical saturation. They thank K. P. Belov and M. I. Kaganov for their comments on the work.

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Acc. Nr: AP0045018 Abstracting Service: 5/70 Ref. Code: INTERNAT. AEROSPACE ABST. UR0109

A70-22402 # A method of investigating the scattering of electromagnetic waves in the resonance range (Ob odnom metode issledovaniia rasseianiia elektromagnitnykh voln v rezonansnoi oblasti). V. V. Karnishin, V. V. Akindinov, and V. V. Vishin. *Radiotekhnika i Elektronika*, vol. 15, Jan. 1970, p. 14-20. 7 refs. In Russian.

Application of the method of characteristic waves for solving the problem of electromagnetic wave diffraction by bodies of simple geometrical shape in the resonance range of frequencies where the incident wavelength is comparable to the body's dimensions. The fields of the characteristic waves are determined by expansion in terms of multipoles with subsequent fulfillment of the boundary conditions in individual surface points of the body (collocation method). A computer is used to solve the system of algebraic equations obtained in the process. The scattered field is represented in terms of characteristic wave series. Results are given for a sphere and a spheroid.

T.M.

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USSR

UDC 621.396.662.5(088.8)

KARNITIS, E. K.

"Device for Automatic Tuning of Oscillatory Circuits"

USSR Author's Certificate No 275180, Filed 2 Aug 68, Published 26 Oct 70 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4A262P)

Translation: The proposed device contains a measuring oscillator with commutable control units, a marker unit, a minimum indicator, a comparison unit and an electric tuning motor. The device is distinguished by the fact that in order to eliminate residual detuning and to simplify the coupling of the tunable circuit, the measuring generator and comparison unit are connected to the measuring circuit inductively coupled to the tunable circuit.

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USSR UDC: 616.981.553-036.22

PAK, S. G., ANDRONNIKOV, V. A., NEKHAEVA, N. D., SHEVTSOVA, V. S., KARNOVA, S. K., and SEMENOVA, D. V., First Moscow Medical Institute imeni I. M. Sechenov and Chuvash Republic Sanitary-Epidemiological Station

"Observation of Group Infection With Type E Botulism"

Moscow, Zhurnal Mikrobiologii Epidemiologii i Immunobiologii, Vol 48, No 1, Jan 71, pp 59-63

Abstract: A trend toward increased occurrence of type E botulism has been observed all over the world. In the fall of 1967, 5 of 24 persons in the Chuvash ASSR who this type of botulism from salted fish (carp) died. Fourteen of the afflicted persons were seriously ill, seven had maderately severe cases, and only three had mild cases. The incubation period was short: in 22 cases, it varied from 4 to 12 hr, in one case it was 18 hr, and in another case it lasted 7 days (a mild case). In the five fatal cases, the incubation period did not exceed 4 hr. Vaccination with antitoxin is the first therapeutic measure. Four patients of the above group were not treated with the serum and died, since botulism had not been diagnosed. Although introduction of the serum in the early stages of the disease has

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PAK, S. G., et al, Zhurnal Mikrobiologii Epidemiologii i Immunobiologii, Vol 48, No. 1, Jan 71, pp 59-63

the most beneficial effects, the serum can be administered at any stage in which botulism has been recognized and intoxication phenomena are observed. Comprehensive treatment must cover all fundamental pathogenetic factors, including suppression of growth of the pathogen, detoxification, and changes in the biochemistry of the neuromuscular system. To this end, the remaining 19 patients of the above group were treated by gastric lavage, parenteral introduction of salt solutions, glucose, and blood substitutes; one person received blood plasma and four were treated with polyvinylpyrrolidone. Botulism must be regarded as a toxicoinfectious process; hence levomycin was administered to all 19 patients to cut down further growth of the pathogen. Adenosine triphosphoric acid and cocarboxylase were administered also.

KARNOVICH, V.N.

Hydraulic Engineering

Hydraulic Engineering Sound: JPRS #59580 23 Oct '73

(2)

UDC 556.535.5(282.247.22)

ICE JAMS ON THE DNESTR AND SOME PROPOSALS TO PREVENT FLOODING CAUSED BY THEM

[Article by V. N. Karnovich, Candidate of Technical Sciences, V. I. Sinotin, All-Union Scientific Research Institute of Hydraulic Engineering; Moscow, Meteorologiya i Gidrologiya, Russian, No 5, 1973, submitted 18 May 1972, pp 75-85]

Some information about ice jams and the characteristic features of the ice jam process in the Dnestr and the Dubossary Reservoir are discussed. Procedures are recommended for improving the efficiency of applying explosives and regulating the water level of the headrace of the Dubossary Hydroelectric Power Plant to control the jams. A study was made of the possible effect of the planned Mogilev-Podol'skiy Hydroelectric Power Plant on changing the ice conditions of the Dnestr. It is proposed that a number of permanent engineering structures be erected in defined sections of the Dnestr to hold back the ice and discharge the water into bypasses around the jams in order to prevent disastrous floods.

The results of studying ice jams on the Dnestr were published in references [1-10, 12], and they are discussed in the corresponding scientific and engineering reports of a number of institutes, including the All-Union Scientific Research Institute of Hydraulic Engineering, the State Hydrologic Institute, the Gidrometvest [All-Union Planning, Surveying and Scientific Research Institute], the Hydrometeorological Service Research Center of the USSR, the Moldavian Administration of the Hydrometeorological Service, and so on. Let us present only some information about jams and the peculiarities of jam formation.

On the Dnestr and the channel section of the Dubossary Reservoir the jams are usually formed in the spring and winter during the winter openings of the river occurring as a result of warm spells and the falling of rain in the winter in the Carpathian part of the basin. On the Dnestr there are two types of jams: jams in the river channel and jams in the tapering out of the backwater of the reservoir of the Dubossary Hydroelectric Power Plant which differ qualitatively from each other [5].

USSR

UDC: 534.322.3+534.83

GALANENKO, V. B., KARNOVSKIY, M. I., and KRASNYY, L. G.

"Statistical Analysis of Random Acoustical Fields"

Moscow, V sb. Tezisy dokl. 3-y Vses. shkoly--seminara po stat. gidroakustike, 1971 (Theses of Reports, Third All-Union School--Seminar on Statistical Hydroacoustics, 1971--collection of works) 1972, pp 136-145 (from RZh--Fizika, No 4, 1973, Abstract No 4Zh591)

Translation: In the investigation of stationary (uniform and non-uniform) acoustical fields in problems of measuring the probability characteristics of these fields, the time average is used as an estimate. In this case, the estimate is unbiased, whereas the statistical error can be arbitrarily reduced at the expense of an increase in the averaged interval. In the measurement of the probability characteristics of nonstationary fields, difficulties arise that are connected with the appearance of a biasing error which increases with an increase in the averaging interval. This error can be minimized, but under unfavorable conditions (a rapid transient mode, for example) even a minimized error may be too large. Hence, to reduce the error in measuring nonstationary fields, the

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