Table 1

Characteristics of Highly Active Wastes from Fluoride Technology in the Processing of Nuclear Fuel

(a) Вид отходов	(b) Удельная активность	(c) Изотопный состав (d) Изотоп	T/2
(e) Отходы фторатора (труднолетучие фториды)	500–50000 (f) (кюри/л)	Cs[137] Sr[90] Ce[144]	(g) 29 лет (h) 13 года (i) 285 дней
(j) Редкие земли			
(k) Отработанные сорбенты (легколетучие фториды)	(l) до 30000 (кюри/л)	[illegible] [illegible] [illegible]	(m) 39 дней (n) 65 дней (o) 310 дней

[Best available copy]

Key: a) type of wastes; b) specific activity; c) isotope composition; d) isotope; e) fluorator wastes (slightly volatile fluoride); f) 500--50,000 curies per liter); g) 29 years; h) 13 years; i) 285 days; j) rare earths; k) treated sorbents (easily volatile fluorides); l) up to 30,000 (curies per liter); m) 39 days; n) 65 days; o) 310 days.

tanks (settling reservoirs) high temperatures may be developed because of the heat of radioactive decay [Table 2].

Table 2

Temperatures Developing in a Tank with a Diameter of 60 Centimeters for Wastes with Various Specific Activities [a]

Specific activity (curies per liter)	1250	2500	5000	12500
Temperatures at the center of a tank without forced heat removal (°C)	625	1250	(2500)	(6250)

a) The calculation was conducted for a single settling reservoir with heat transfer due to natural convection in an unlimited air volume.

1/2 020 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--DESINTOXICATION ACTION OF THE HOME MADE PREPARATION OF SL MOLECULAR POLYVINYL ALCOHOL IN INFECTIOUS HEPATITIS -U-

AUTHOR-(03)-KRYLOVA, O.M., SMIRNOVA, .A., KHLEBNIKOVA, I.M.

COUNTRY OF INFO--USSR

SOURCE--TERAPEVTICHESKIY ARKHIV, 1970, VOL 42, NR 5, PP 19-22

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HEPATITIS, POLYVINYL ALCOHOL, DETOXICATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1168 STEP NO--UR/0504/70/042/005/0019/0022

CIRC ACCESSION NO--AP0123145

UNCLASSIFIED

2/2 020 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0123145

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RESULTS ARE GIVEN OF THE USE OF THE SOLUTION OF LOWMOLECULAR POLYVINYL ALCOHOL IN 95 CHILDREN WITH INFECTIOUS HEPATITIS OF MODERATE AND SEVERE FORMS WI TH SHARPLY EXPRESSED INTOXICATION SYNDROME. THE RESULTS OBTAINED SHOWED THAT LOW MOLECULAR POLYVINYL ALCOHOL IN INTRAVENOUS ADMINISTRATION IN A DOSE OF ABOUT 1000 ML (3-5 DAY COURSE TREATMENT) MADE A RAPID AN D EADY DESINTOXICATION EFFECT: BY THE 4TH DAY FROM THE ONSET OF ITS USE SIGNS OF INTOXICATION FULLY DISAPPEARED IN 96PERCENT OF THE PATIENTS. IN MORE THAN A HALF OF THE CONTROL GROUP (55 OUT OF 100) THESE SI S STILL REMAINED BY THE 10TH DAY. THE CLINICAL OBSERVATIONS CONDUCTED MAKE IT POSSIBLE TO RECOMMEND THIS PREPARATION IN THE ACUTE STAGE OF INFECTIOJS HEPATITIS WITH A VIEW OF DESINTOXICATION. FACIL IT: KAFEDRA INFEOTSIONNYKH BOLEZNEY LENINGRAD. SANITARNO-GIGIYENICH. MEDITSINSKOGO INSTITUTA NA BAZE BOL'NITSY IM. S. P. BOTKINA AND LABORATORIYA POLIMEROV LENINGRAD. INST. GEMATOLOGII I PERELIVANIYA KROVI.

USSR

UDC 576.858.07

SHEVTSOVA, Z. V., and KRYLOVA, R. I., Institute of Experimental Pathology and Therapy, Academy of Medical Sciences USSR, Sukhumi

"Some Data on a Comparative Study of Two Virus Strains of Hemorrhagic Fever of Monkeys"

Moscow, Voprosy Virusologii, No 6, Nov/Dec 71, pp 686-688

Abstract: Two virus strains -- the NIH and the Sukhumi -- producing hemorrhagic fever in monkeys were investigated by means of the complement fixation test and the neutralization test, and the clinical and morphological lesions induced by them in M. rhesus monkeys were compared. The two strains were indistinguishable in the complement fixation test. However, in neutralization tests in M. rhesus monkeys, either strain was neutralized only by the homologous serum. The clinical picture revealed that the strains are of a different virulence for monkeys, and furthermore the Sukhumi strain is able to produce severe diffuse encephalomyelitis. The findings indicate that the Sukhumi and NIH strains are not identical.

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1/2 018 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--USE OF A CHROMIUM CONTAINING CONCENTRATE TO IMPROVE THE SURFACE OF STEEL CASTINGS -U-

AUTHOR-(03)-MAYOROVA, L.I., KRYLOVA, S.SH., KHRAPACH, I.P.

COUNTRY OF INFO--USSR

SOURCE--LITEINOE PROIZVOD, 1970, 2, 38

DATE PUBLISHED--------70

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

TOPIC TAGS--CAST STEEL, CHROMIUM CONTAINING ALLOY, FOUNDRY TECHNOLOGY, PROTECTIVE COATING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/1739 STEP NO--UR/0128/70/002/000/0038/0038

CIRC ACCESSION NO--AP0118717

UNCLASSIFIED

2/2 018 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0118717

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A NEW MIXT. WAS PRODUCED WHICH WAS USED AS A COATING FOR THE PROTECTION OF STEEL CASTINGS FROM PITTING. THE MIXT. CONSISTS OF A 100PERCENT CR CONCENTRATE, 15PERCENT CLAYEY PASTE (4PERCENT MOISTURE), AND A 5PERCENT SULFITE ALC. WASTE LIQUOR. ITS CHEM. COMPN. IS CR SUB2 O SUB3 62.48, SIO SUB2 1.6, CAO 0.2, FE SUB2 O SUB3 13.58PERCENT, OTHER COMPDS. 1.5PERCENT, MOISTURE CONTENT 0.04PERCENT. THE MOLDS ARE COATED WITH THE MIXT. TO A THICKNESS OF 20-30 MM AND THEN DRIED AT 350-400DEGREES.

UNCLASSIFIED

USSR

UDC 678.049:66.018.86

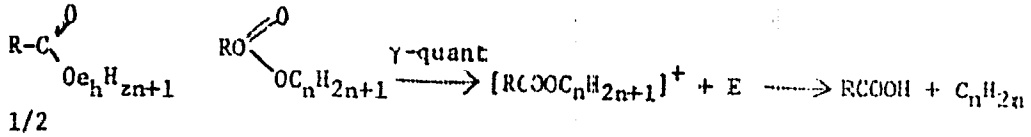
KRYLOVA, S. V., KULIKOVA, A. Ye., OBCHINNIKOV, Yu. V., BERLYANT, S. M.

"Effect of γ-Irradiation on the Stability of Polyvinyl Chloride Plasticizers"

Moscow, Plasticheskiye Massy, No 1, 1973, pp 16-18

Abstract: A study was made of the effect of γ-radiation on the chemical stability of phthalic esters, sebacic acid and adipic acid and the effect of the nature of the acid and alcohol radicals of plasticizers on their behavior during γ-radiation. γ-Irradiation of plasticizers leads to a sharp increase in their acidity; therefore, variation of this index was taken as one of the criteria for evaluating the degree of decomposition of the plasticizers. The degree of composition depends, significantly on the length of the alcohol radical. With an increase in length of this radical the acidity of the plasticizer and ΔN increase (N is the number of carboxyl groups in the plasticizer).

The decomposition of the esters was described as follows:



USSR

KRYLOVA, S. V., et al., Plasticheskiye Massy, No 1, 1973, pp 16-18

The results of the effect of the nature of the alkyl radical of esters of phthalic acid on their resistance to γ-radiation and the effect of the nature of the acid radical on the resistance of polyvinyl chloride plasticizers to γ-radiation are tabulated. After subjecting dioctyl phthalate and dioctyl adipate to γ-radiation with different initial acidity it was found that the greater the initial acidity of these compounds, the less the relative increase in acidity after irradiation. The increase in acidity for dioctyl phthalate after irradiation was always less than for dioctyl adipate. Thus, dioctyl phthalate has self-defensive properties with respect to γ-radiation. The high stability of "acid" plasticizers can be explained by the fact that the high content of free carboxylic acid in the initial esters prevents their decomposition under the effect of γ-radiation. The stabilization of the esters by carboxylic acid probably arises from the absorption or dissipation of some portion of the γ-radiation energy.

2/2

USSR UDC 577.391:612.419

BARKALAYA, A. I., and KRYLOVA, T. G., Institute of Biophysics, Ministry of Health USSR, Moscow

"The Stimulating Effect of Insulin on the Hemopoietic Process in Bone Marrow in Cases of Acute Radiation Sickness"

Moscow, Radiobiologiya, Vol 12, No 1, Jan/Feb 72, pp 103-107

Abstract: In order to study the effect of insulin on hemopoiesis in bone marrow, 197 white rats were exposed to 750 r gamma-irradiation and injected with 0.1-0.2 units/kg of insulin. The results showed that insulin regulates glycemia and prevents persistent hyperglycemia, hypoglycemia, and repeated hyperglycemic reaction. Regulating glycemic and glycocorticidal homeostasis with insulin facilitates the restoration of all types of bone marrow hemopoiesis, which is probably determined by predominance of hemocytoblasts, early generation of bone marrow cells at the beginning of the experiment, and more intense mitotic activity. The stimulating effect of insulin may be due to its ability to supply cells with glucose and amino acids and to participate in their energetic and plastic processes.

1/1

USSR

UDC 547.26'118

MEL'NIKOV, N. N., KRYLOVA, T. P., and VLADIMIROVA, I. L., All Union Scientific Research Institute of Chemical Plant Protective Agents

"Amidohydrazides of Thiophosphoric Acid"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 7, Jul 73, p 1646

Abstract: A series of amidohydrazides of the thiophosphoric acid was synthesized by the reaction of nonsymmetric dimethylhydrazine with O-alkyl-N-amidochlorothiophosphates in refluxing benzene and in the presence of triethylamine. The products exhibit weak acaricidal and fungicidal properties.

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USSR

UDC 632.95

MEL'NIKOV, N. N., KRYLOVA, T. P., and VLADIMIROVA, I. L.

"Method of Preparation of Substituted Amidoesters of Thiophosphoric Acid"

USSR Author's Certificate No 300471, filed 20/02/70, published 23/06/71. (Translated from Referativnyy Zhurnal Khimiya, No 8, Moscow, 1972, Abstract No 8 N583 P.)

Translation: Compounds of the general formula (RO)P(S)X(NHOOCH=CHPh) (I) (X = OR', NR', NR'_2, R and R' = alkyl) are produced in the reaction of (RO)P(S)X(NH_2) (II) with PhCH=CHOOR" (III, R" = alkyl) in the presence of an alkaline catalyst. 1.2 gm Na is added to a solution of 10 gm of (II) (R = Et, X = NMe_2) in ethyl alcohol, and heated until the sodium is dissolved. 10.4 gm III (R" = Et) (IIIa) are then added at 20°. The mixture is heated for 6 hours on an aqueous bath, C_6H_6 is added, the resulting solution is filtered, the filtrate washed with water, dried and the solvent distilled off. The yield was 9.5 gm (I) (R = Et, X = NMe_2), mp 150-1° (ethanol). (I) was prepared analogously (R, X, yield, in %, mp in °C are listed): Et, EtO, 21, 68; Bu, BuO, --, 83. To 10 gm (II) (R = Et, X = NPr_2) EtONa (from 0.6 gm Na) is added, heated for 2 hours on a water bath and then 9 gm IIIa are added and heated 4 hours on a water bath. The

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USSR

MEL'NIKOV, N. N., USSR Author's Certificate No 300471, Filed 20/02/70, published 23/06/71. (Translated from Referativnyy Zhurnal Khimiya, No 8, Moscow, 1972, Abstract No 8 N583 P.)

solution is then diluted with water, the C_6H_6 is extracted and the solvent is distilled off. The yield is 1 gm of (I) (R = Et, X = NPr_2), mp 186°. (I) was prepared analogously (R, X, yield in %, mp in °C are listed): Et, NHPr, -- 90-1; Et, NHMe, 27, 86; Et, NEt_2, -- 163-4. (I) can be used as a pesticide.

2/2

USSR

UDC 547.26'118

MEL'NIKOV, N. N., KRYLOVA, T. P., and VLADIMIROVA, I. L.

"Reaction of Aminothiophosphate Esters With Acrylate Esters"

Leningrad, Zhurnal Obshchey Khimii, Sep 71, Vol 41, No 9, pp 1984-1987

Abstract: Previous research indicates that aminothiophosphate esters react with acrylonitrile to form addition products at the double bond. The reaction of aminothiophosphates with cinnamate esters yields acylated compounds. This work deals with the reaction of amino thiophosphates with acrylate esters. Monoamino-dithiophosphate esters when treated with methyl acrylate and methyl methacrylate yield addition products at the double bond, contrary to Markovnikov's rule. The course of the above reaction depends on the structure of both the ester and the amine radical.

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USSR

UDC 621.395.6-181.[illegible]

BZHOZOVSKIY, M. C., RUKAVISHNIKOV, V. V., KRYLOVA, V. Ye., BRAL'NOV, B. ..

"A Device for Welding Bulk Conductors to the Contact Areas of Solid Circuits"

USSR Author's Certificate No 252208, Filed 26 Jun 68, Published 28 Apr 70 (From RZh-Radiotekhnika, No 10, Oct 70, Abstract No 10V166 P)

Translation: A device is proposed for welding bulk conductors to the contact areas of microcircuits. To simplify the operation, increase productivity and improve welding quality, the holder fork and welding electrode are fastened to two levers which are interconnected and move simultaneously, the travel of these levers being varied by means of a regulating screw.

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USSR

UDC 621.771:621.783

USTIMENKO, V. A., KOLOGRIVOV, N. P., KRYLOVSKIY, A. P., SKREBNTOV, V. M., TKACHEV, A. V., and CHERVYAKOV, V. V.

"Rolling of Sheets Plated With OKh23N28M3D3T Steel"

Dnepropetrovsk, Metallurgicheskaya i Gornorudnaya Promyshlennost', No 5, Sep-Oct 70, pp 81-82

Abstract: A description is given of new technological process of rolling corrosion-resistant sandwich sheets plated with OKh23N28M3D3T (EI943) complex alloy steel. The sheets are used for manufacturing containers for stocking and transporting highpurity acids. The chemical compositions of the basic metal (2CK steel) and the plating metal are given. Data on the strength properties of the two steels are also given. The shearing strength along the welding plane substantially exceeds the minimum GOST 10885-64 value (15 kg/mm^2). The high adhesion strength of the layers was confirmed by bending tests. The results show the feasibility of using this technology for the mass production of large-size sheets with a plating layer which completely satisfy the requirements of GOST 10885-64.

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1/2 016 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--DECALCIFICATION OF POLYOLEFINS -U-

AUTHOR-(05)-IVANYUKOV, D.V., KRYMOV, P.V., KUDRYAVTSEV, V.B., LYAKUMOVICH, A.G., BOBUK, N.S.

COUNTRY OF INFO--USSR

SOURCE--USSR 263,141

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

DATE PUBLISHED--04FEB70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--DECALCIFICATION, ALKENE, CATALYTIC POLYMERIZATION, CHEMICAL PATENT, SURFACE ACTIVE AGENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1474 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0128873

UNCLASSIFIED

CIRC ACCESSION NO--AA0128873 PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. POLYOLEFINS PREPD. ON ZIEGLER NATTA CATALYSTS WERE DECALCIFIED BY BEING WASHED WITH HOT SOFT WATER CONTG. DISSOLVED SURFACTANTS, SUCH AS K OR NA SALTS OF STIROMAL. A SOLN. OF THESE SALTS WAS PASSED THROUGH AN A. C. OR D. C. ELECTROMAGNETIC FIELD BEFORE IT WAS USED IN THE WASHING PROCESS.

1/2 019 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--TRANS STERNAL PHLEBOGRAPHY AS AN INDEX OF REGRESSION OF METASTASES INTO PARASTERNAL LYMPH NODES IN RADIOM THERAPY OF MILK DUCT CARCINOMA

AUTHOR-(02)-KRYMOVA, K.P., CATSENKO, V.S.

COUNTRY OF INFO--USSR

SOURCE--MEDITSINSKAYA RADIOLOGIYA, 1970, VOL 15, NR 6, PP 29-34

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--REPRODUCTIVE SYSTEM, CARCINOMA, METASTASIS, LYMPHOID TISSUE, RADIOTHERAPY, RADIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/1021 STEP NO--UR/0241/70/015/006/0029/0034

CIRC ACCESSION NO--AP0133056

UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0140056

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DATA OF TRANS STERNAL PHLEBOGRAPHY WERE STUDIED IN 151 PATIENTS SUFFERING FROM MILK DUCT CARCINOMA. IN 51 PATIENTS THE METHOD WAS EMPLOYED BEFORE AND AFTER IRRADIATION OF THE PARASTERNAL SPACE. TRANS STERNAL PHLEBOGRAPHY IS THE MOST EFFECTIVE METHOD WHICH MAKES IT POSSIBLE TO DIAGNOZE METASTASES INTO PARASTERNAL LYMPH NODES. THE AUTHORS OBSERVED A RELATION BETWEEN THE INCIDENCE OF METASTASES AND STAGE AND LOCALIZATION CARCINOMA INTO PARASTERNAL LYMPH NODES ARE DEFECTS OF FILLING ON THE CONTOUR OF THE VEIN, BLOCK OR "STUMP" OF THE VEIN, REDUCTION OF THE CALIBER AND CONVOLUTION OF VEINS, AS WELL AS THE DEVELOPMENT OF COLLATERALS. PHLEBOGRAPHY PERFORMED BEFORE AND AFTER IRRADIATION OF METASTASES INTO PARASTERNAL LYMPH NODES ENABLES TO EVALUATE THE EFFECTIVENESS OF RADIUM TREATMENT.

FACILITY: KAFEDRA KLINICHESKOY RADIOLOGII TSENTRAL'NOGO INSTITUTA USOVERSHENSTVOVANIYA VRACHEY MZ SSSR, MOSKVA.

UNCLASSIFIED

Acc. Nr: AP0049041 Ref. Code: UR0357

PRIMARY SOURCE: Vestnik Oftal'mologii, 1970, Nr / , PP 19-23

SOME PROBLEMS OF PATHOGENESIS AND TREATMENT OF OCULAR HYPERTENSION IN CLIMACTERIUM

Suprun, A.V.; Krymskaya, M.L.; Zmanovskiy, Yu.F.; Bove, M.V.

Summary

Results consecutive to dynamic examination of 40 women with climacteric syndrome and deranged regulation of the intraocular tension are reported. The follow-up time ranged from 2 to 7 years. Clinical and electrophysiological (EEG and REG) investigations furnished evidence that in 35 patients subcortical brain structures were involved in the pathological process with attendant changes in the cerebral circulation, commonly of functional nature. Pathogenetic treatment (sedative and hormonal therapy) contributed to the improvement of the general condition of patients and to the normalization of intraocular pressure in them. In 12 women symptoms of the climacteric

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AP0049041

syndrome vanished, intraocular tension returned back to normal with no objective changes visible on the level of the eyes. Twenty women exhibited upset regulation of the intraocular pressure without any other signs of glaucoma, while in 8 others initial primary glaucoma was diagnosed. The authors conclude that, alongside manifestations of primary glaucome, women with pathological climacterium may present specific disturbances of the intraocular pressure regulation without any other symptoms of glaucoma, these disturbances having a tendency towards involution. This condition is considered by them as ocular hypertension, appearing as a symptom of cilmacteric syndrome.

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19800826

Acc. Nr. AP0105546 Abstracting Service: CHEMICAL ABST. Ref. Code UR 0363

125074r **Coprecipitation of germanium with indium hydroxide.** Sarkisov, E. S.; Lidin, R. A.; Kryuchkova, E. B. (Mosk. Inst. Tonkoi Khim. Tekhnol. im. Lomonosova, Moscow, USSR). *Izv. Akad. Nauk SSSR, Neorg. Mater.* 1970, 6(2), 281–3 (Russ). The coppttn. of Ge, in the form of an aq. soln. of GeO_2, with $In(OH)_3$ was studied. The coppttn. takes place as a result of the formation of In germanates. Indium germanates of the compn. $2In_2O_3.GeO_2.xH_2O$ and $In_2O_3.2GeO_2.yH_2O$ were pptd. The $In(OH)_3$ is a suitable collector for the rather complete concn. of Ge in the soln. The formation of In germanates starts during the coppttn. process. S. A. Mersol

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gation. Under certain conditions the toxical substances produced by such bacteria can penetrate into tissues and organs of animals from which vaccines are prepared and further into vaccine which may be used for prophylaxis of some infectious diseases of people and animals.

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AP7050893 KRYMOVSKAYA UR 0438 SSR

PRIMARY SOURCE: Mikrobiologi[illegible], Vol 31, Nr 1, PP 69-72

NEUROTOXIC EFFECT OF METABOLISM PRODUCTS OF SOME SAPROPHITIC BACTERIA ON ANIMALS

S. R. Reznik, D. G. Zatula, Yu. A. Barshtein, A. T. Slabospitskaya, E. A. Kolesova and S. S. Krymovskaya

Summary

Study of different strains of saprophitic bacteria gave possibility to detect the ability in some of them to produce toxic substances provoking the diseases similar by their cli-[illegible]

USSR

UDC 620.1:621.315.61.01:537.226

PETROV, V. M., KRYNETSKAYA, S. A., BUKSHTAM, B. M. (Moscow Institute of Steel and Alloys)

"Measurement of SHF Permittivity of (Ba, Sr)RiO$_3$ Paraelectrics in Transverse Bias Fields"

Tomsk, Izvestiya VUZ Fizika (News of the Higher Educational Institutions, Physics), No 9(112), 1971, pp 20-25

Abstract: An instrument is described that has been developed for measuring the SHF permittivity by the dielectric resonance method. A cylindrical sample is placed within the concentrated portion of a magnetic field in a waveguide. Resonance is detected by a probe placed at the trough of the standing waves. The dielectric resonance points are crossed by changing the temperature and dielectric permittivity of the samples. A diagram of the experimental equipment is shown.

The tangent of the loss angle and permittivity of the ceramic $BaTiO_3$ and of solid, paraelectric phase solutions of $BaTiO_3$ and $SrTiO_3$ were measured in the 10-cm range at temperatures above the Curie point, both with and without the transverse bias field.

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USSR

PETROV, V. M. et al, Izvestiya VUZ Fizika, No 9(112), 1971, pp 20-25

It was found that a transverse field decreases the permittivity of the samples, but to a lesser degree than a longitudinal field. It is suggested that the dielectric nonlinearity mechanism in paraelectrics is due principally to the saturation of the electron-ion polarization and not to the field orientation of the domains remaining above the Curie point.

Orig. art. has 4 figs. and 15 refs.

2/2

Instruments and Measurements

USSR UDC: 621.3.038.8:621.317.1

DUSHKOV, I. I., KARLOV, N. V., [redacted], MISHIN, V. A., and PETROV, R. P.

"Heterodyne Method for Measuring the Diffusion Component of Laser Mirrors"

Kratkiye soobshch. po fiz. (Short Communications in Physics) No 10, 1971, pp 10-15 (from RZh--Radiotekhnika, No 4, 1972, Abstract No 4A511)

Translation: The description is given of a heterodyne method for determining the diffusion component; its advantages, narrow reception diagram and high sensitivity, make it an effective measurement method. A single-mode CO_2 laser with a 5-W output power is used. The radiation receiver is a CdHg photoresistor operating at the temperature of solid nitrogen. The results are given of measurements of the diffusion component losses for gold mirrors made by various methods with a coating thickness of 1500 Å, and an estimate is made of the contribution of the diffusion component and of the dimensions of the microscopic inequalities in the mirror surfaces. A. K.

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USSR

UDC 621.396.62.029.7

DUSHKOV, I. I., KARLOV, N. V., KRYNETSKIY, B. B., MISHIN, V. A., PETROV, R. P.

"Application of the Duality Theorem to Investigate the Antenna Characteristics of Superheterodyne Photoreceivers [Infrared Heterodyne Detection]"

Moscow, Radiotekhnika i elektronika, Vol XVII, No 2, 1972, pp 345-350

Abstract: Results are presented from measuring the radiation directivity pattern of a heterodyne receiver of CO_2-laser emission. Application of the heterodyne receiver constricts the directivity pattern to 0.007-0.01 rads.

Figures are presented showing the results of measuring the directivity patterns of the heterodyne receiver in the 10.6 micron range. For comparison of the directivity pattern of direct and heterodyne reception, the directivity was measured for Ge-Au and Ge-Zn-Sb receivers operating as videodetectors. The application of the heterodyne method of reception narrows the directivity pattern by 15 times and provides significant (20 decibels) gain in the signal.

The application of the duality theorem when measuring the directivity pattern of a heterodyne receiver in the infrared range permits quite exact and simple estimation of the antenna characteristics of the optical heterodyne

USSR

DUSHKOV, I. I. et al, Radiotekhnika i Elektronika, Vol XVII, No 2, 1972, pp 345-350

receiver. Use of the method of direct measurement of the directivity pattern permits more exact measurement of the antenna characteristics of the heterodyne receiver of infrared radiation and estimation of the quality of different optical elements.

2/2

USSR

UDC: 621.385:530.145.6:623

DUSHKOV, I. I., KARLOV, N. V., KRYNETSKIY, B. B., MISHIN, V. A., PETROV, R. P.

"Antenna Characteristics of a Heterodyne Receiver of CO_2 Laser Emission"

Kratkiye soobshch. po fiz. (Brief Reports on Physics), 1971, No 1, pp 40-44 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5D487)

Translation: The directivity of a heterodyne receiver of CO_2 laser emission was studied directly and by means of the generalized reciprocity theorem. The gain in the output signal with the use of heterodyne reception is 20 DB. The radiation pattern is narrowed by a factor of 15 to 0.007 radian. A. K.

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USSR

UDC: [illegible]

MARKOV, M. V. and [illegible], B. E., Physics Institute [name] P. N. Lebedev of the USSR Academy of Sciences

"A Two-Resonator Maser for Observing Interstellar Hydroxyl"

Moscow, Radiotekhnika i Elektronika, Vol. 15, No 8, 1970, pp 1771-1775

Abstract: The authors present the design and test results for a two-resonator maser which can be easily adjusted in the 1612, 1665, 1667, and 1720 Mc range. The amplifier resonator system at signal frequency is represented by two series connected strip resonators with lumped capacitance. The strip are located in the plane of the wide wall of the waveguide segment with a 14x6 mm cross section. The cavity clearance was filled with mica in order to decrease the [illegible] effect associated with the bubbling of boiling helium. The normal quality of each of the resonators at liquid helium temperature is 850. Ruby crystals were formed into Π shaped plates 12x6x6 mm and were placed in a high-frequency magnetic field. Each of the resonators can be retuned in the 120 Mc range. This type of maser can operate in conjunction with a cooled circulator. The design of the signal resonator makes it possible to test in it paramagnetic crystals with various dielectric constants. In testing a ruby crystal, the maser has a resonator at a pumping frequency operating at a mode of H_{103}. The maser uses an electromagnet with superconductivity windings. This maser has been used and tested in the modu-

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USSR

KARLOV, N. V. and KRYNETSKIY, B. B., Radiotekhnika i Elektronika, Vol. 15, No 8, 1970, pp 1771-1772

lation radiometer system of the Great Pulkovo Radio-Telescope at the Main Astronomical Observatory under the USSR Academy of Sciences. Up to the installation of the maser the radiometer had an equivalent input noise temperature of 200°K. After installation of the quantum amplifier the noise temperature of the receiver fell to 126°K. The use of a cooled circulator with the maser made it possible to reduce the total noise temperature of the radiometer to 90°K. The results show the preference of ruby masers for use in radio-astronomical receivers because of the great degree of stability of this type of maser. Original article: two figures, one table, and two bibliographic entries.

2/2

UNCLASSIFIED

TITLE--DETERMINATION OF THE COORDINATES OF SOME GALACTIC SOURCES OF ANOMALOUSLY EXCITED HYDROXYL -U-

AUTHOR-(05)-BYSTROVA, N.V., GOSACHINSKIY, I.V., YEGOROVA, T.M., KARLOV, N.V., KRYNETSKIY, B.B.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(4), 791-4

DATE PUBLISHED-------70

SUBJECT AREAS--ASTRONOMY, ASTROPHYSICS

TOPIC TAGS--ASTRONOMIC OBSERVATORY, COORDINATE, GALAXY, GALACTIC RADIATION, HYDROXYL RADICAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/1573 STEP NO--UR/0020/70/191/004/0791/0794

CIRC ACCESSION NO--AT0127069

UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AT0127069

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RIGHT ASCENSIONS OF 4 SOURCES OF OH RADIATION WERE MEASURED IN 1969 IN THE MAIN ASTRONOMIC OBSERVATORY OF THE ACADEMY OF SCIENCES OF THE U.S.S.R. TWO SOURCES OF RADIATION, DETECTED IN 1968, CLOSELY COINCIDED WITH THE NMLCYG AND VYCMA OBJECTS. THE RADIOLINE OF OH IN THESE SOURCES HAD THE HIGHEST INTENSITY AT FREQUENCY OF 1612 MHZ AND ITS PROFILE WAS CHARACTERIZED BY THE PRESENCE OF 2 REGIONS OF RADIATION DIFFERING STRONGLY IN RADIAL VELOCITY. THIS CAN BE RELATED TO ROTATION, EXPANSION, OR COMPRESSION OF A GAS CLOUD. THE POSITION IN EACH RADIAL VELOCITY WAS MEASURED SEP.; RADIATION OF OH LINE WITH RADIAL VELOCITIES OF MINUS 24.2, 18.5, PLUS 21 KM, AND MINUS 10.5, MINUS 6.4, PLUS 45.5, PLUS 49.7, AND PLUS 52.8 KM PER SEC FOR NMLCYG AND VYCMA, RESP. OBSERVATION OF W49 AND SGR-B2 SOURCES WAS MADE AT 1655 MHZ. THE LINE OF OH RADIATION IN THE SGR-B2 SOURCE WAS MEASURED AT RADIAL VELOCITY OF PLUS 67.7 KM PER SEC. FACILITY: RYZHKOV, N. F., FIZ. INST. IM. LEBEDEVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC: 681.2:621.317.326

ABROSIMOV, I. L., KRYNIN, N. M., NEUSTROYEV, L. S., and SHUMEYKO, L. V.

"Device for Measuring Instantaneous Values of Pulse Voltages"

Moscow, Izmeritel'naya Tekhnika, No. 7, 1970, pp 48-50

Abstract: The instrument was developed by the VNIIFTRI /expansion unknown/ and uses the compensation method with an electron-beam null indicator. It is highly accurate for pulse voltages of microsecond and nanosecond duration. The null indicator consists of an oscillograph tube, the screen of which has an opening at the center instead of a luminescent screen, and an electron multiplier behind the screen. The opening is on the electrical axis of the electron gun. The signal to be measured and a compensating signal of opposite polarity are applied to the vertically deflecting plates of the indicator, with a sawtoothed voltage applied to the horizontally deflecting plates. The path sketched by the beam is thus the difference between the measured and compensating signals as a function of time. When the difference is close to zero, the electrons are directed through the opening to the first dynode of the multiplier. When the beam center coincides with the opening, the pulse at the output of the unit is a maximum; with a deviation of the beam away from the opening, the output amplitude is reduced. Known

1/2

- 151 -

USSR

ABROSIMOV, I. L., et al, Izmeritel'naya Tekhnika, No. 7, 1970, pp 40-[illegible]

as the IIM-3M, the instrument measures the instantaneous values of pulses ranging in duration from 0.1 to 10,000 μs and in amplitude from 0.1 to 100 volts.

2/2

KRYUSKAYA, I. L.

DEPARTMENT OF THE ARMY
U.S. ARMY FOREIGN SCIENCE AND TECHNOLOGY CENTER
220 SEVENTH STREET NE.
CHARLOTTESVILLE, VIRGINIA 22901

In Reply Refer to:
FSTC-HT-23-1429-72
DIA Task No. T70-23-01

Date: January 1973

TRANSLATION

ENGLISH TITLE: Toxicological Characteristics of Ethylidene Diacetate (EDA)

FOREIGN TITLE: Toksikologicheskaya kharakteristika etilidendiatsetata (EDA)

AUTHOR: I. L. Kryuskaya

REQUESTOR: Edgewood Arsenal

SOURCE: Gigiyena i Sanitariya, Izd. TRANSLATOR: AGSI K-3012
No. 31, pp 192-200

LANGUAGE: Russian

COUNTRY: USSR

ABSTRACT: Ethylidene diacetate (EDA), an ester of dihydric alcohol and acetic acid, is an intermediate product in the manufacture of vinyl acetate. It is a transparent, oily liquid, with a sharp odor reminiscent of acetic acid.

Five experiments to determine the lethal concentrations of EDA vapors were carried out on 50 white mice, 20 white rats, and four female cats. After one-time, two- or four-hour poisoning of these animals with EDA at a concentration of 1.6 milligrams per liter, not even traces of intoxication were observed; only the cats showed a sharp agitation because of the irritating action of EDA vapors. Higher concentration by means of heating were not established, since the substance decomposes here.

The irritating action of EDA vapors were tested on four female cats (exposure time, 40 min) and on 11 persons, volunteers, with exposure times of 1 and 15 min.

CONCLUSIONS: (1) EDA vapors possess a very weakly expressed general toxic action; (2) EDA vapors show a sharp irritating effect on mucous membranes of the upper respiratory tract and eyes; (3) The limiting permissible concentration of EDA vapors in the air in manufacturing areas has been established at 0.03 milligram per liter.

KEY WORDS: Acetic acid, Cyclic alcohol, Aryl acid ester, Animal experiment, Test method, Irritant, CBR R&D

USSR

KRYNSKAYA, I. L.

"IV All-Union Conference on the Hygiene and Toxicology of High Molecular Compounds and Starting Chemicals Used in Their Synthesis"

Moscow, Plasticheskiye Massy, No 10, 1970, pp 68-69

Abstract: The conference was held in Leningrad, 20-23 Jan 1970. The first session was devoted to the problem of toxicology and hygiene of high molecular compounds. LORANSKIY, D. N., ANUROVA, E. N., and SHAKLEINA, YE. N., reported on various measures practiced in regard to sanitary supervision over polymers being introduced into the agriculture. MEDVED', L. I., analyzed current problems of the hygienic evaluation of polymeric compounds, while DANISHEVSKIY, S.L., and GURICHEVA, Z. G., reported on the importance of sanitary-chemical studies of polymers in prevention of their undesirable effects on humans and on the surroundings. The effects of industrial toxic agents with a special attention to reproductive functions were reported by SANOTSKIY, I. V., FOMENKO, V. N., KOTOSOVA, L. D., PAVLENKO, G. I., and

USSR

KRYNSKAYA, I. L., Plasticheskiye Massy, No 10, 1970, pp 68-69

SAL'NIKOVA, L. S.; prolonged action of low concentrations of toxic substances in respect to the development of experimental tumors was discussed by KURLYANDSKIY, B. A., KLOCHKOVA, S. I., and MEDVEDOVSKIY, A. G. Cell culture method for the studies of polymer extracts were developed by YELIZAROVA, O. N., and NUZHDINA, D. P. Treatment of the results of toxicologic studies was discussed by TRAKHTENBERG, I. M., BARTENEV, V. D., CHEKAL', V. N., and SHEFTEL', V. O.; they pointed out the need for thorough evaluation of all changes and their variation within physiological ranges. Next sessions were concerned with evolution of plastics in their application to food and water supply. The criteria for evaluation of plastic containers and the need for uniformity in this area were stressed by STANKEVICH, V. Y., and TVERDSKAYA, M. YA. The problem of adsorption of various plastic components by media modelling food products was studied by GNOYEVA, V. L., KHAMIDULLIN, R. S., and BRAUN, D. D. GURICHEVA, Z. G., and PETROVA, L. I., pointed out that the most suitable containers for food industry are polystyrene based products made by vacuum formation or by pressure mold

2/7

USSR

KRYNSKAYA, I. L., Plasticheskiye Massy, No 10, 1970, pp 68-69

ing, and KRYNSKAYA, I. L., KOMAROVA, YE. N., KALININ, B. YU., ZIMNITSKAYA, P. L., and EUKEVICH, G. M. discussed toxicologic evaluation of polystyrene plastics used in food industry. The effect of the components leached out of SNP-2P polystyrene on animals was discussed by CHERNOVA, Z. G.; the plastification of triple-component polystyrene is not related to hygienic characteristics of the material. Polyethylene produced by medium pressure was discussed by TARASOVA, N. A., FEOFANOV, V. D., and GUL', V. YE. ZNAMENSKIY, B. N., and ZHUKOLENKO, V. A., proposed that stabilized polyolefine films be used for preservation of fats. The reports of SHUMSKA, N. I., TARADAY, YE. F., CHERNEVSKA, N. N., MEN'SHIKOVA, G. K., STASENKOVA, K. P., PROVOROVA, V. N., and SHURUPOVA, YE. A. covered investigations on various rubber products used in food industry, medicine, and in toys. Construction materials made of plastic were discussed by BOKOV, A. N., in terms of the components secreted by them due to various factors, and TSENDROVSKAYA, V. A., STANKEVICH, K. I., and REYSIG, I. S., developed a formula for theoretical calculation of these volatile products. Gas evo-

3/7

USSR

KRYNSKAYA, I. L., Plasticheskiye Massy, No 10, 1970, pp 68-69

lution from plastics used for production of hermetically sealed containers with limited volume was discussed by YABLOCHKINA, V. D., GORSHUNOVA, A. I., SODIKOVA, N. F., GORBAN', G. M., SOLOMINA, G. I., BIZINA, YU. P., DROBISHEVSKA, T. A., PILIPYUK, Z. I., ZINOVYEVA, V. I., andTIKHONOVA, G. P. Static electricity accumulating on the surface of polymers was discussed by SMIRNITSKIY, N. S., and ANTROPOV, G. A. MIKHAYLOVA, A. A., LIPSHITS, L. I., and IVANOVA, L. T., pointed out that mobile homes should not be constructed from PN-3 polyester, PSBS polystyrene foam or material made of phenol-formaldehyde resin, since even in polar regions toxic materials were secreted from them. YAKHONTOVA, N. YE., and LAZGUNOVA, E. P., proposed that sanitation-hygienic clearance for starting chemicals and polymer products be done at the developmental level. Many papers covered various individual plastics: phenol-formaldehyde based fiber glass -- LITVINENKO, V. I.; extrusion plastic wood -- FEDORCHUK, S. YA.; epoky foam plastics -- KOZIK, I. V., TITOVA, T. S.; polymer and plastocement -- OBOLDUYEV, A. T., MIKHAYLOVA, A. A., YEKIMOVA, N. I., LIPSHITS, L. I.; fire re-

4/7

USSR

KRYNSKAYA, I. L., Plasticheskiye Massy, No 10, 1970, pp 68-69

tardant fiber glass -- TRUBETSKAYA, G. N.; polyester resins PN-1 and SKPS-3 -- GADALINA, I. D.; textiles, footwear and construction materials from polyvinyl chloride and formaldehyde resins -- MARKOVA, Z. S. RAPOPORT, K. A., and BENZINA, G. I.; hygienic evaluation of various shoe and clothing materials was also discussed by RAPOPORT, K. A., KLIMOVA, D. M.; STATSEK, N. K., IVANOVA, T. P., AFANAS'YEVA, L. V., BENZINA, G. I., YEVSEYENKO, N. S., TSIRINA, E. KH., SAMYTINA, V. K., ZLODYREVA, N. N., SIDOROVA, M. V., and SAUTINA, L. I. Toxicological methods for evaluating polymers were discussed by LAPPO, V. G., EL'-TSEFON, V. S., SAVIN, V. A., VINOKURSKAYA, T. M., PEROVA, N. M., TI-KHOMIROVA, V. I. Polymer materials to be used for medical purposes were covered by VAVILIN, G. I., VASIL'YEVA, A. V., IL'INA, A. V., KROPACHEV, V. A., LAVRENT'YEVA, YE. L., RABINOVICH, I. M., TRUKHMANOVA L. B., NAUMCHIK, G. N., REDA, N. S., VAYNSHTEYN, V. A., and IVANOV, N. M. Working conditions were reported for the organic glass industry by BLAGODATIN, V. M., and GOLOVA, I. L.; for production of resins based on substituted phenols by KRAPOTKINA, M. A., and GALITSKAYA, V. A.

5/7

USSR

KRYNSKAYA, I. L., Plasticheskiye Massy, No 10, 1970, pp 68-69

for propylene carbonate by FAUSTOVSKAYA, V. V., and KRASNOKUTSKAYA, L. M.; for starting materials used in polyuretane foams by FILATOVA, V. S. TROITSKIY, S. YU., reported that plastic dusts exhibit a weak fibrinogenic activity, while DANILOV, V. I., VASILENKO, N. M., and MANFANOVSKIY V. V., discussed the toxic activity of polyester fiberglass dust. Further, toxicity of the following materials was discussed at the conference: oxygenated heterocyclic compounds -- by SOCHAVA, YE. A.; metal carbonyls -- MATYUKHIN, N. YA., MIKHEYEV, M. I.; dicobaltocarbonyl -- SOVA, R. YE.; isopropylcyclohexylbenzene and its hydroperoxide -- TARADIN, YA. I., KUCHMINA, N. YA., FETISOVA, L. N., PULYAKHIN, G. T., SHAVRIKOVA, L. N.; isocyanates -- FROLOVA, I. N.; bisphenol A and its derivatives -- STASENKOVA, N. I., SHUMSKAYA, N. I., GRINBERG, A. YE., and GURVICH, YA. A. Siliconorganic polymers in water lines and their regulation was discussed by KRASKOVSKIY, G. N., FRIDLYAND, S. A., MAZAYEV, V. T., RUBLEVA, M. N., and YAKOVLEVA, G. P.

6/7

USSR

KRYNSKAYA, I. L., Plasticheskiye Massy, No 10, 1970, pp 68-69

BROYTMAN, A. YA., discussed the principles of toxicological evaluation of the additives to plastics, and KEL'MAN G. YA., reported on many additives whose toxicity was studied and found to be low. The reasons for peptic ulcers resulting from the action of the dithiocarbaminic acid were discussed by PROKHOROV, V. N., FRIDMAN, S. M., and CHERNYY, Z. KH. A relationship was found between the chemical structure and the biological activity of mono- and polycyclic quinones by VASILENKO, N. M., VOLODCHENKO, V. A., and LABUNSKIY, V. V.

7/7

UDC 577.4

USSR

KRYSANOV, A. I.

"Algorithm for Parallel Decomposition of Probability Automata"

V sb. Ekon.-mat. metody i programmir. plan.-ekon. zadach (Mathematical Economic Methodsand Programming Economic Planning Problems--collection of works), Moscow, 1972, pp 126-134 (from RZh-Kibernetika, No 12, Dec 72, Abstract No 12V262)

No abstract

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AA0043454

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

1/70

241522 RESISTANCE METER FOR METAL FILMS containing a differential magnetic amplifier with two control windings one of which is connected to a resistance standard and the other to the measured component. The secondary winding with a tapping to VF generator is connected to a phase sensitive rectifier, and a polarised relay which gives indication of positive or negative deviation from standard.

31.1.68 as 1214246/18-10.V.S.KRYSANOV & A.S.STEPANOV (3.9.69) Bul 14/18.4.69. Class 21e. Int.Cl.G 01r.

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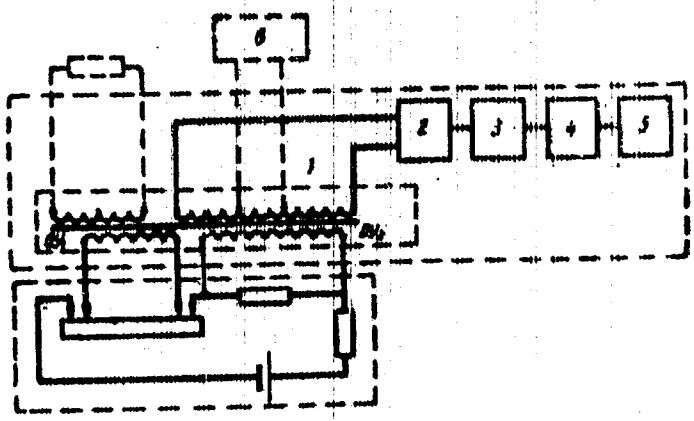
19761808

AA0043454



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19761809

USSR

UDC 801.51

SHARANDA, A. N., KRYSEVICH, V. S.

"Algorithmic Recognition of Grammatic Homonymies (Based on Case Forms of the German Article Der)"

Voprosy Lingvostatistiki i Avtomatizatsii Lingvisticheskikh Robot. Vyp. 3. [Problems of Linguistic Statistics and Automation of Linguistic Work. No. 3]. Moscow, 1970, pp 43-56. (Translated from Referativnyy Zhurnal Kibernetika, No. 4, April, 1971, Abstract No. 4 V733).

Translation: The problem is studied of eliminating grammatical homonymies in machine translation. An algorithm is described for differentiating case forms of the article der. Computer experiments were performed using a dictionary of the 435 most frequently used nouns, selected from 20,000 word combinations. A block diagram of the program and results of the experiments are presented.

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UDC 542.67:546.91

USSR

KRYSHCHENKO, K. I., STYRKAS, A. D.

"Dissolution of Noble Metals under the Influence of AC Current"

Moscow, Khimicheskaya Promyshlennost', No 5, 1971, pp 363-366

Abstract: A process for the formation of the soluble chlorides of noble metals (platinum, palladium, osmium, and particularly ruthenium, rhidium, and iridium) using AC current (up to 5 a/cm^2) and excess hydrochloric acid is presented. This process utilizes powdered metals, thus eliminating the necessity of compressing them into cores, as was formerly the practice. However, the process is equally effective for fixed shapes. It is considered to be a highly effective method of producing a pure product in high yield on an industrial scale.

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USSR

UDC 616.33-091-02:[616.453+616.831.371]-008.1

KRYSHEN', P. F., KOLPAKOV, A. A., TKACH, YU. I., SAKOVICH, I. V., and CHUICH, N.A.
Pathophysiology Laboratory, Dnepropetrovsk Institute of Gastroenterology

"Functional State of the Central Nervous System and Pathological Changes of the Stomach Mucosa of Immobilized Rats"

Moscow, Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya, No 6, Nov/Dec 72, pp 48-51

Abstract: The immobilization of rats for 24 hr (by tying them to boards) produced the excitation and inhibition states. The excitation state reached the peak in 4-5 hr. During this period the animals tried to escape, at first every 5-20 sec, then every 10-50 sec. The number of heart beats and respiration amounted to 447 ± 16 and 106.8 ± 3.9 per min, respectively. The inhibition state occurred in 4-5 hr during which the respiration and the number of heart beats decreased to 86.6 and 304, respectively. The contraction of muscles was slow and attempts for escape were repeated only 1 every 4-5 min. Anatomical studies of the stomach walls showed the presence of hemorrhages (0.1-2.5 mm in diam.), the blood vessels were dilated and full of blood in the mucous coat, as well as in muscle layers in some cases. Accumulation of lymphocytes, neutrophils, and histiocytes was detected under the mucous coat. The forceful

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USSR

KRYSHEN', P. F., et al., Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya, No 6, Nov/Dec 72, pp 48-51

immobilization caused an extreme excitation of the central nervous system, muscular, cardiovascular, and respiratory systems. The excessive activity of these systems for 4-5 hr consumed the energy reserves of the animal organism and inhibition followed. The central nervous system was affected first, followed by the inhitition of the muscular, cardiovascular, and respiratory systems.

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Acc. Nr.: AP0032012 Ref. Code: UR 0475

PRIMARY SOURCE: Vrachebnoye Delo, 1970, Nr 1, pp 6-9

SUMMARY

CHARACTERISTICS OF BIOELECTRICAL ACTIVITY OF THE HEART IN PATIENTS WITH AVERAGE SEVERE CRANIO-CEREBRAL INJURY

P. F. Kuzlan' (Dnepropetrovsk)

A study of ECG changes in 24 persons with average severe cranio-cerebral injury indicates that the majority of patients showed disturbances of cardiac activity mainly in the form of tachycardia, hypoxia and signs of myocardial involvement. Some patients showed signs of cerebro-coronary syndrome, dystonia and conduction disorders.

The above changes were considered in the treatment plan and complex therapy led to normalization of cardiac disorders by the time of discharge.

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REEL/FRAME
19700164

Acc. Nr: AP0044156 Ref. Code: UR 0244

PRIMARY SOURCE: Voprosy Pitaniya, 1970, Vol 29, Nr 1, pp 20-23

CHANGES IN THE ACTIVITY OF SOME CARBOHYDRATE METABOLISM ENZYMES IN SCORBUTIC GUINEA PIGS

I. P. Mitev, M. S. Kharizanova, A. M. Angelov, A. M. Krushkova,
(Plovdiv, Bulgaria)

Summary

The activity of the aldolase, glucose-6-phosphate-dehydrogenase, lactate-dehydrogenase, sorbitol-dehydrogenase and aspartate-aminotransferase enzymes were investigated in the liver and kidneys of scorbutic guinea pigs. A tendency towards reduced activity of nearly all enzymes was observed, except for that of sorbito-dehydrogenase which was rising. The author associates these changes with diminished glucose cleavage in the course of glycolysis and pentose cycle, this being compensated for by the scorbutic organism by means of the glucose conversion into fructose through the sorbitol-dehydrogenase reaction.

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REEL/FRAME
19770637

2

Phytology

USSR

UDC 63:551.509.6

SHEVELUKHA, V. S., Candidate of Agricultural Sciences, RUDAGHKO, A. F., KRYSHNEV, I. I., and KOVALEV, V. M., Belorussian Agricultural Academy

"An Artificial Climate Chamber"

Moscow, Vestnik Sel'skokhozyaystvennoy Nauki, No 11, Nov 70, pp 131-135

Abstract: An artificial climate chamber has been designed which provides for programed control of the temperature, humidity, and intensity and duration of artificial light in experiments concerned with the physiology of plants and plant growth. The outer frame is lined with a double layer of insulating material. The inner dimensions (length 2,600 m, width 960 m, height 1,590 m) are ample to accommodate simultaneously 18 to 24 pots with plants, 2 to 4 mechanical auxanographs, and a variety of sensors and recording devices. There are 3 interconnected compartments, two of which contain the plants while the third holds a ventilator and condenser. In the center of the chamber are an electric heater, humidifier, temperature and humidity sensors, etc. The chamber has been used mainly to study plant growth as a function of time and to determine the reasons for the "bottlenecks" in plant growth arising from external and internal factors. The results of these studies are briefly described.

1/1

USSR UDC 551.463.288

BARDYSHEV, V. I., KOZHELUPOVA, N. G., and KRYSHNYY, V. N., Acoustic Institute, Academy of Sciences, USSR

"A Study of the Laws of Underwater Noise Distribution in Sea and Ocean Coastal Zones"

Moscow, Akusticheskiy Zhurnal, Vol 19, No 2, Mar-Apr 73, pp 129-132

Abstract: Distributions of the instantaneous values of the sound pressure of natural underwater noises were studied experimentally in the surf-noise zone 10-600 meters from the shoreline, at a depth of 2 to 20 m, within the frequency range of 100-8000 Hz, and in the far coastal zone 20 km from the coastline, at a depth of 130 m, within the frequency range of 5-11,000 Hz. In applications lasting 0.05 to 1200 seconds, the distribution law in the far coastal zone is Gaussian, and in the surf-noise zone the distribution law is non-Gaussian and is distributed by considerable excess and asymmetry. The obtained results are discussed. 3 figures. 6 references.

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USSR

UDC 621.791.65.037

GRAKUN, V. F., KRAVCHUK, L. A., MOROZENKO, L. N., KRYSHTAB, G. S. (deceased)

"Electron Gun for Microwelding and Micromachining"

Kiev, Avtomaticheskaya Svarka, No 4, Apr 70, pp 72-73

Abstract: The article describes an electron gun developed at the Institute of Electric Welding imeni Ye. O. Paton for electron-beam microwelding and micromachining with a ~50-kv accelerating voltage and a beam current of up to 5 mA. The gun is comparatively simple, inexpensive, and reliable, and is suitable for both laboratory research and industrial use. An electron optic system is used with a triode electron projector, one electromagnetic lens, and a deflection system. The electron projector has an all-soldered case with a glass insulator. The electron optic system is protected by a case, which assures firm attachment of the high-voltage cable and its flexible connection with the projector, biological shielding of the operator, electrointerlocks, and convenient access to the cathode assembly of

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USSR

GRAKUN, V. F., et al., Avtomaticheskaya Svarka, No 4, Apr 70, pp 72-73

the electron projector. Such a gun design makes it possible to dispense with additional adjusting devices, bushings, and a vacuum-tight metal case. The article includes a drawing of the electron gun.

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7366
CSO: 1842-W (97 pages) - END -

Acc. Nr: AP0044409 Ref. Code: UR 0660

PRIMARY SOURCE: Neyrofiziologiya, 1970, Vol 2, Nr 1, pp 91-99

THE EFFECT OF CONDITIONING POLARIZATION ON THE ACTION POTENTIAL OF MOLLUSC GIANT NEURONS

I. S. Magura, O. A. Kryshtal'

The A. A. Bogomoletz Institute of Physiology, Academy of Sciences, Ukrainian SSR, Kiev

Summary

The effect of conditioning displacement of membrane potential on the mechanism of generation of action potentials (AP) was studied. The effect of conditioning was revealed by changes in the amplitude of AP, its first derivative and transmembrane currents (under voltage clamp conditions). It was found that conditioning membrane potential change causes at least two reaction exerting an opposite influence upon the mechanism of AP generation. One of them is similar to that described on other excitable tissues and shows activation (with hyperpolarization) and inactivation (with depolarization) of the AP generation mechanism. The other promotes either an increase in effectiveness of this mechanism (with depolarization) or a decrease in it (with hyperpolarization). The possible nature of this change in effectiveness is discussed.

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REEL/FRAME
19771027

AP0044409

Conditioning polarization also influences the system producing membrane repolarization during the AP generation. This effect is manifested by changes in the reaction of the system to the effect of the TEA ions.

After displacement of the membrane potential to a certain stable level the changes in membrane properties lasted sometimes many seconds indicating high inertial properties of their systems.

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19771028

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1/2 019 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--THE EFFECT OF ENGINEERING FACTORS ON THE MECHANICAL PROPERTIES OF AL9 ALLOYS POURED IN A CHILL MOLD -U-

AUTHOR-(03)-MALTSEV, V.P., KRYSIN, B.T., SUVOROV, A.S.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, IZVESTIYA VYSSHIKH UCHEBNYKH ZAVEDENIY, MASHINOSTROYENIYE, NO. 1, 1970, PP 176-180

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--MECHANICAL PROPERTY, ALUMINUM ALLOY, METAL CASTING, FOUNDRY MOLD/(U)AL9 ALUMINUM ALLOY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1985/0517 STEP NO--UR/0145/70/000/001/0176/0180

CIRC ACCESSION NO--AT0100978

UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AT0100978

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECTS OF METAL FLOW RATE IN THE MOLD, POURING TEMPERATURE, MOLDS, AND THE THICKNESS OF THE MOLD COATING ON THE MECHANICAL PROPERTIES OF AL9 ALLOY CASTINGS IN CHILL MOLDS ARE EXAMINED. A CHART SHOWING THE EFFECTS OF RISER DIAMETER ON MECHANICAL PROPERTIES IS GIVEN. EXPERIMENTAL CASTINGS OF PLATES 5, 8, 12, AND 16 MM THICK AND RISER DIAMETERS OF 8, 14, 18, AND 24 MM WERE MADE AND THE RESULTS, REFLECTING THE MECHANICAL PROPERTIES (TENSILE STRENGTH) FOR THE ZONES AND SUBZONES OF THE PLATES WERE PLOTTED GRAPHICALLY. THE BEST MECHANICAL PROPERTIES WERE OBTAINED AT POURING TEMPERATURES OF 680 AND 700DEGREESC AND THE BEST TENSILE AT MOLD TEMPERATURES OF 200-250DEGREESC AND A MOLD LINER THICKNESS OF 0.2-0.65 MM. IT IS CONCLUDED THAT THE POURING SPEED SHOULD BE MINIMUM TO PERMIT UNIFORM HEATING OF THE MOLD. IT IS RECOMMENDED THAT FLAT CASTINGS WITH A THICKNESS OF 7-8 MM NOT BE POURED IN THE HORIZONTAL. CASTINGS THICKER THAN 8 MM SHOULD HAVE SUPPLEMENTAL POURING (OR INJECTION) OR SHOULD BE POURED IN THE VERTICAL.

UNCLASSIFIED

1/3 021 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--STUDY OF CARBURIZATION OF CARBON MOLD COMPOSITIONS -U-

AUTHOR-(03)-KOLOTILO, D.M., NOSALEVICH, M.I., KRYSIN, V.P.

COUNTRY OF INFO--USSR

SOURCE--V SB. VOPR. TEORII PROTSESSOV LITEYA (PROBLEMS OF THE CASTING
REFERENCE--KZH,TEKHNOLOGIYA MASHINOSTROYENIYA, NO 1, JAN 70, ABSTRACT NO
DATE PUBLISHED--------69

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

TOPIC TAGS--COAL, METAL CASTING, MOLD MATERIAL, DILATOMETRIC ANALYSIS,
CARBON, PHENOL FORMALDEHYDE RESIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1999/1401 STEP NO--UR/0000/69/000/000/0116/0120

CIRC ACCESSION NO--AR0173340

UNCLASSIFIED

2/3 021 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AR012334O

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN ORDER TO INVESTIGATE THE SUITABILITY OF VARIOUS BINDERS FOR THE MANUFACTURE OF ACCURATE MOLDS, AND ABOVE ALL, TO DETERMINE THE NATURE OF VOLUMETRIC CHANGE OF MIXTURES, THERMOGRAVIMETRIC AND DILATOMETRIC STUDIES OF A SERIES OF BINDERS WERE CARRIED OUT AT TEMPERATURES OF UP TO 1000 C. IT WAS ESTABLISHED THAT THE MOST PROSPECTIVE BINDERS FOR CARBON COMPOSITIONS ARE FURAN AND PHENOL RESINS, AND HEAT TREATED COAL PITCHES WITH A MELTING POINT ABOVE 500 C. TO INCREASE THE CARBON FORMATION YIELD AND THE BINDING STRENGTH, IT IS NECESSARY TO CREATE SUCH CONDITIONS AT WHICH THE CARBURIZATION PROCESSES OF THE BINDER WOULD START AT THE THERMOPLASTIC STATE OF THE MIXTURE THUS ENSURING THE HARDENING DURING THE PROCESS OF SWELLING UP. AT THE PRESENT TIME, THE UKRAINIAN SCIENTIFIC RESEARCH INSTITUTE OF COAL CHEMISTRY DEVELOPED SEVERAL SUPERHIGH TEMPERATURE COAL PITCHES WITH A SOFTENING TEMPERATURE OF 200-350DEGREESC, HIGH CONTENT OF SUBSTANCES NOT SOLUBLE IN TOLUOL (UP TO 90PERCENT), AND LOW VOLATILE YIELD (10-20PERCENT). SUCH PITCHES COMBINED WITH FURAN AND PHENOL FORMALDEHYDE RESINS MUST FULLY FULFILL THE REQUIREMENTS. WITH A SUFFICIENTLY HIGH EXPANSION, CAUSED BY A THERMOPLASTIC STATE OF PITCHES, AND A REACTIVE ABILITY OF FURAN RESINS, FAVORABLE CONDITIONS ARE CREATED FOR SELFSEALING AND HARDENING OF CARBON COMPOSITION DURING CARBURIZATION ON A PATTERN WHICH FITS THE PREDETERMINED MOLD FORMING VOLUME. IT IS ALSO POSSIBLE TO CONTROL THE TIME AND DEGREE OF EXPANSION WHICH DETERMINE THE BOND STRENGTH.

UNCLASSIFIED

3/3 021 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AR0123340

ABSTRACT/EXTRACT--BY USING THE COMPOSITION OF NEW BINDING MATERIALS AND PRINCIPALLY NEW BAKING METHOD IT IS POSSIBLE TO PRODUCE CARBON CASTING MOLDS WITH PREDETERMINED PROPERTIES AND ACCURATE REPRODUCTION OF THE MOLD'S SHAPE.

UNCLASSIFIED

USSR

UDC 624.07:534.1

AMEL'CHENKO, V. V., VOLCHKOVA, A. G., KRYS'KO, V. A.

"On the Problem of the Thermal Stability of Flexible Orthotropic Shells"

V sb. Raschet prostranstv. sistem v stroit. mekh. (Calculation of Three-Dimensional Systems in Structural Mechanics -- Collection of Works), Saratov, Saratov University, 1972, pp 188-192 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3V298)

Translation: A hollow fiberglass shell is considered as a nonhomogeneous orthotropic shell. The change in the elastic moduli is taken into account as a function of temperature, which is considered a known function of three variables. Relationships for thermoelastic forces and deformations are found. A system of nonlinear equations for equilibrium and compatibility of deformations is obtained in the ordinary manner. The nonlinear system is linearized by the consecutive loads method to solve the problem. The resulting linearized system is solved by the Bubnov-Vlasov variation method in high approximations. The calculations were performed on the M-220 computer. The example considered is that of a square isotropic shell hinge-supported on unstretchable ribs that are flexible in the tangential plane.

1/2

USSR

AMEL'CHENKO, V. V., et al, Raschet prostranstv. sistem v stroit. mekh., Saratov, Saratov University, 1972, pp 188-192

The temperature over the thickness of the shell was taken to be constant in the examples. 7 ref. O. I. Terebushko.

2/2

1/2 015 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--MECHANISM OF THE DISPLACEMENT OF INTERCRYSTALLITE BOUNDARIES DURING COLLECTIVE RECRYSTALLIZATION -U-

AUTHOR-(02)-ARKHAROV, V.I., KRYSOV, V.I.

COUNTRY OF INFO--USSR

SOURCE--FIZ. META. METALLOVED. 1970, 29(1), 131-7

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--RECRYSTALLIZATION, GRAIN BOUNDARY, METAL DIFFUSION, COPPER, TEMPERATURE DEPENDENCE, GRAIN GROWTH

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0050 STEP NO--UR/0126/70/029/001/0131/0137

CIRC ACCESSION NO--AP0105149

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--16OCT70

2/2 015

CIRC ACCESSION NO--AP0105149

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A NEW TREATMENT OF COLLECTIVE RECRYSTN. PHENOMENA IS PROPOSED, MAKING IT POSSIBLE TO UNDERSTAND THE ABRUPT COURSE OF THE MIGRATION OF INTERCRYSTALLITE BOUNDARIES AND PROVIDING A CRITERION FOR THE DIRECTION OF THEIR DISPLACEMENT. THIS TREATMENT ISSUES FROM THE CONCEPT OF MULTI AT. THICKNESS AND ASYMMETRY OF DISTRIBUTION OF EXCESS ENERGY OF THE TRANSITION ZONE OF INTERLINKED CRYSTALLITES. THE PROPOSED MECHANISM OF BOUNDARY MIGRATION IS BASED ON THE DIFFUSIONLESS PROCESS OF ATOM DISPLACEMENTS, WHICH TRAVERSE THIS ZONE IN STAGES; THE PULSATIONS OF THE EXCESS ENERGY VALUE IN THIS ZONE, RELATED TO THE PRESENCE OF STRUCTURAL DEFECTS, MAY CAUSE RETARDATION OR JUMP DISPLACEMENT OF THE BOUNDARY. THE ABRUPT DISPLACEMENT OF THE BOUNDARIES DURING COLLECTIVE RECRYSTN. WAS EXPTL. OBSD. IN CU, AND THE EXISTENCE OF 2 TYPES OF JUMPS WAS DETD. THEIR TEMP. DEPENDENCE WAS DETD. AND AN EXPLANATION IS GIVEN RELATIVE TO THEM ON THE BASIS OF THE CONCEPT CONCERNING THE DISCRETENESS OF THE SPECTRUM OF STRUCTURAL HETEROGENEITIES. FACILITY: DONETS. FIZ. TEKH. INST., DONETSK, USSR.

UNCLASSIFIED

USSR

UDC 547.26'118

[redacted], KASLENNIKOV, V. P., SERGEYEVA, V. P.

"Synthesis and Some Physical and Chemical Properties of Sec-Butyl Peroxydiethyl Phosphate"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), No 7, Jul 72, p 1649

Abstract: The sodium salt of sec-butyl hydroperoxide reacted with diethyl chlorophosphate to give sec-butyl peroxydiethyl phosphate $(C_2H_5O)_2P(O)OOCH(CH_3)C_2H_5$. The compound is easily hydrolyzed. Thermal dissociation in n-nonane at 140°C gives a high yield of methyl ethyl ketone and diethylphosphoric acid.

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USSR UDC 547.26'118

NIFANT'YEV, E. YE., NASONOVSKIY, I. S., KRYUCHKOV, A. A.

"Stereochemistry of the Dialkylamides of 1,3-Butylene Phosphorous Acid"

Leningrad, Zhurnal Obshchey Khimii, Vol XLIII (CV), No 1, 1973, pp 71-73

Abstract: The dialkylamides of 1,3-butylene phosphorous acid exist in the form of two isomers -- stable and labile [E. Ya. Nifant'yev, et al., ZhOKh, No 40, 1420, 1970]. The latter are easily converted to the former on storage (more rapidly with heating). On the basis of the stereochemical data for other similar derivatives [B. A. Arbuzov, etal., DAN SSSR, No 195, 835, 1970] it can be proposed that the difference between forms is determined by the spatial arrangement in them of the amido group with respect to the 6-member ring having chair configuration. The method of dipole moments is used to solve this problem in the example of the dimethyl and ethyl amides of 1,3-butylene phosphorous acid. The axial configuration of the amino group corresponds to the labile isomers of these compounds, and equatorial configuration, to the stabile isomers. The dipole moment of the P-N-bond was determined.

1/1

USSR

UDC: 621.375.82

PETROV, V. V., KRYUCHIN, A. A., SALYUK, L. I., TOKAR', A. P.

"Focusing Laser Emission in Optical Memory Devices"

Kiev, Fokusirovka lazernogo izlucheniya v opticheskikh zapominayushchikh ustroystvakh. AN USSR. In-t elektrodinam. (cf. English above. UkrSSR Academy of Sciences. Institute of Electrodynamics), Preprint No 54, 1973, 17 pp, ill., 7 k., mimeo. (from RZh-Fizika, No 11, Nov 73, abstract No 11D1441 [résumé])

Translation: Concentration of laser emission into a spot of fairly small dimensions is considered. Different types of focusing systems are analyzed. Graphs are presented showing the emission density and size of the focused spot as functions of the parameters of the optical system. It is shown that in an optical memory device with discrete data recording it is advisable to use a focusing system with telescope.

1/1

USSR

KRYUCHKOV, A.S., and CHEBOTAREV, M.V., Ministry of Geology USSR

"Development of the Mineral-Raw Material Basis of Non-Ferrous Metallurgy in the 8th Five-Year Plan"

Moscow, Razvedka i okhrana nedr, No 5, May 71, pp 5-10

Abstract: This article presents an account of the results of surveys and prospecting conducted in the USSR during the 8th Five-Year Plan, for widening the present mineral base and uncovering new deposits of copper, lead, zinc, nickel, bauxites, tin, tungsten, mercury, and antimony. New goals in the coming Five-Year Plan for increasing production (1.4 times) of non-ferrous metallurgy are established on the basis of these results. It is stated in the conclusion that widening the scope of geological works in regions of operating mining enterprises and in regions with favorable economic conditions is the main problem of geological organizations. An intensification of prospecting for high-quality bauxite and the most important non-ferrous and rare metals is planned. Particular attention will be given to prospecting for lead, tungsten, and mercury deposits.

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USSR

UDC 621.355.2(088.8)

ASEYNBERG, E. Ye., CHERNYSHEV, I. I., KRYUCHKOV, A. V., BETS, D. I., MARSHEVA, Z. V.

"A Lead Battery"

USSR Author's Certificate No 300913, Filed 21/08/69, Published 27/05/71, (Translated from Referativnyy Zhurnal, Khimiya, No 2, 1972, Abstract No 2 L213 P by the author's).

Translation: In order to increase the specific electrical characteristics and simplify the technology of manufacture of a lead battery, its body is made as individual vessels connected by barriers, each of which is made as a one-piece unit with the walls of the two neighboring vessels.

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USSR UDC 678.664-408.8/01:53

KRYUCHKOV, F. A., ANISTHOVA, A. N., and NOVOKRASHCHENOVA, L. N.

"New Semirigid Foam Polyurethane"

Moscow, Plasticheskiye Massy, No 4, 1972, pp 24-26

Abstract: A new semirigid foam polyurethane is described which is based on activated ordinary polyester, triethanolanine and polyisocyanate. A study was made of the rigidity of the foam polyurethane as a function of the water content in the compound, the foam factor, the amount of cross-linking agent and the time from obtaining a specimen of foam polyurethane to testing it.

The rigidity of the specimens of semirigid foam polyurethan increases during the first month, and by the end of the second month the rigidity is 1.5-2.5 times greater than that of the initial specimen. Thereafter the rigidity remains constant. With an increase in the foam factor, the rigidity increases noticeably. An increase in the amount of cross-linking agent leads to an increase in rigidity. With an increase in the amount of cross-linking agent the system becomes more active since the triethanolamine is simultaneously a catalyst of the chemical reactions with the participation of the isocyanate groups.

1/1

USSR [illegible]

[illegible]YEVA, [illegible] A., [illegible], A. [illegible], [illegible], L. [illegible], and [illegible]

"The Effect of the Nature of Alkylene Oxide on the [illegible] Elastic Polyurethane [illegible]"

Moscow, Plasticheskiye [illegible], No 3, 19[illegible], pp [illegible]

Abstract: [illegible] to synthesize [illegible] urethane based on tetrahydrofurane copolymerized with [illegible] oxides. Polyurethane [illegible] obtained at room temperature. [illegible] tetrahydrofurane with ethylene oxide and 1,2-butylene oxide [illegible] their properties except for viscosity: the increased content of [illegible] resulted in higher viscosity of the copolymer. The behavior of 1,2-[illegible] oxide copolymer was the opposite. It has been [illegible] the nature of alkylene oxide, the frostresistance of [illegible] tained down to about -[illegible] to -[illegible]°C. The type of alkylene oxide [illegible] effect on the content of primary hydroxyl groups in the [illegible] responsible for their [illegible] [illegible]

1/2 020 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--WEAR RESISTANT GRINDING COMPONENTS OF CENTER RUN COAL GRINDING MILLS -U-

AUTHOR-(05)-TSYPIN, I.O., TRUBITSYN, N.A., KRYUCHKOV, P.P., TIMOFEYEV, V.L., ZOLOCHEVSKIY, G.L.

COUNTRY OF INFO--USSR

SOURCE--LITEINOE PROIZVOD. 1970, 2, 11-13

DATE PUBLISHED--------70

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

TOPIC TAGS--COAL, GRINDING MACHINE, WEAR RESISTANT FERROUS METAL, ALLOY DESIGNATION, HARD ALLOY, CAST IRON, ALLOY COMPOSITION, CHROMIUM CONTAINING ALLOY, MANGANESE CONTAINING ALLOY, NO MOLYBDENUM CONTAINING ALLOY/(U)KIHARD CAST IRON, (U)300KH13G3M CHROMIUM MANGANESE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/1378 STEP NO--UR/0128/70/002/000/0011/0013

CIRC ACCESSION NO--AP0116627

UNCLASSIFIED

2/2 020 UNCLASSIFIED PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0116827

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FOLLOWING CAST IRONS WERE TESTED: NIKHARD, 300KH13G3M, AND CHILLED IRON WITH GLOBULAR GRAPHITE. THE BEST WEAR RESISTANCE WAS SHOWN BY THE NIKHARD AND 300KH13G3M; CHEM. COMPNS. OF THESE ALLOYS AS USED EXPTLY. AT 4 INDUSTRIAL COAL GRINDING MILLS ARE GIVEN AS FOLLOWS: (SHOWN ON MICROFICHE). THE WEAR RESISTANCE AFTER 3500 HR OF WORK OF 300KH13G3M WAS A FACTOR OF 1.6 HIGHER THAN THAT OF THE NIKHARD CAST IRON. A DECARBURIZED LAYER ON THE SURFACE OF 300KH13G3M (DUE TO AIR HARDENING) INITIALLY DECREASED THE WEAR RESISTANCE.

UNCLASSIFIED

USSR

UDC 669.3.053.4.094

KRYUCHKOV, V. A., GOLOMZIK, A. I.

"Application of the Simplex Method for Optimizing Bacterial Oxidizing Processes"

Tr. Ural'sk. n.-i. i provekt. in-ta medn. prom-sti (Works of the Ural'sk Scientific Research and Planning and Design Institute of the Copper Industry), 1971, vyp. 14, pp 173-177 (from RZh--Metallurgiya, No 4, Apr 72, Abstract No 4G296)

Translation: In order to optimize the process of regeneration of the oxidizing agent ($Fe_2(SO_4)_3$), one of the stages of the process of bacterial leaching of metal out of ore, the method of successive simplex planning is used. The essence of this planning is that first for k variable factors, the zero level and interval of variation of their values are selected, and k + 1 different experimental conditions are planned, the values of the variable factors of which are calculated so that the set of planned conditions will form a proper simplex in the k-dimensional space. The application of the simplex planning method has permitted acceleration of the oxidizing agent regeneration process by 2.5 times. Two tables and a 5-entry bibliography.

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KRYUCHKOV, V. A.

life support systems

So: TPS 5439

03 NOV 71

UDC 543.3:628.336.3/.629.78

GROUP METHOD FOR ANALYSIS OF IMPURITIES IN REGENERATED WATER

[Article by V. A. Kryuchkov, Moscow, Kosmicheskaya Biologiya i Meditsina, Russian, Vol 5, No 6, pp 21-26, 1971, submitted for publication 22 April 1971]

Abstract: The composition of impurities which may contaminate water reclaimed from human liquid wastes has been analyzed. The reclamation procedure, composition of contaminants and methods for the consumption of reclaimed water have been shown to disagree with standard norms. Criteria for appraising the quality of reclaimed water have been formulated. A method for estimating total contamination of reclaimed water based on group parameters has been devised. Application of the method in assessing the quality of reclaimed water is described. Many problems related to water regeneration are discussed.

A number of methods have now been developed for regenerating water from the products of vital functions of a spaceship crew. These methods are different with respect to the physical and chemical processes used. The quality of the collected regenerated water is also different.

The composition of the potentially possible impurities in regenerated water, determining its quality, as a result of the special conditions for artificial collection, is extremely specific. During the water regeneration process numerous impurities of the initial products are subject to selective separation occurring during phase changes, ion exchange, sorption, and other processes. The regenerated water does not contain, at least in quantities affecting its quality, sodium, calcium, magnesium, chlorides, sulfates, [illegible] acids, microelements, and other fundamental components of surface and ground water. The potentially possible impurities of regenerated water usually have a predominance of organic compounds, in most cases volatile components which are poorly absorbed by sorbents; when the ion exchange materials used in the system are worn out the regenerated water can be contaminated by ammonia and ammonium compounds. Contamination of regenerated water by inorganic impurities which might influence its quality is possible only in emergency and other situations in which there is an impaired operating regime of the systems.

KRYUCHKOV, V. A.

JPRS 55287
12 May 1972

UDC 628.19:[543.3+543.87]:629.78.048

INVESTIGATIONS FOR DETERMINING THE OXIDABILITY OF REGENERATED WATER

[Article by V. A. Kryuchkov and N. S. Nareyeva, Moscow, Kosmicheskaya Biologiya i Meditsina, Russian, Vol 6, No 1, pp 26-32, 1972, submitted for publication 21 April 1970]

Abstract: The significance of the data describing oxidability of reclaimed water obtained by different techniques for measuring oxidability of surface, ground and sewage waters was evaluated. The kinetics of oxidation of impurities occurring in the water condensate resulting from urine distillation by the potassium bichromate method was studied. The relationship between bichromate oxidability and reaction medium acidity, as well as other factors, was investigated. It was concluded that various methods of assaying oxidability may be employed for analysis of reclaimed water.

The method of analysis of water for oxidability is used in the International Drinking Water Standards as one of the methods for determining its contamination by organic impurities. This same method of analysis is recommended in the literature for evaluating the degree of contamination of surface, ground and sewage waters. The water regenerated from the products of man's vital functions, whose collection is usually based on phase and sorption processes, differs sharply in the composition of impurities from natural waters. Among the potentially possible impurities, in addition to ammonium compounds, there are alcohols, ethers, aldehydes, ketones, acids of the fatty series, and some other organic compounds. These impurities are capable of [illegible] in ammonia solutions. Accordingly, the oxidability of regenerated water is the principal criterion used in determining the degree of its total contamination, a criterion more important than in the evaluation of contamination of water of natural origin.

A number of methods are used in determining the permanganate and bichromate oxidability for evaluating the contamination of natural and sewage waters. The investigations revealed that not all these methods are suitable for evaluating regenerated water.

USSR

YEGOROV, Yu. I., KRYUCHKOV, V. N.

"Formalization of Logical Conditions in Production Models of Branch Planning"

Optimal'n. Planir. Razvitiya i Razmeshch. Otrasley Prom-sti Ch. 1 [Optimal Planning of Development and Placement of Branches of Industry, Part 1 -- Collection of Works], Novosibirsk, 1972, pp 174-186 (Translated from Referativnyy Zhurnal Kibernetika, No 6, 1973, Abstract No 6V583, by Yu. Finkel'shteyn).

Translation: In the statement of optimization production problems for future branch planning, it is frequently necessary to describe various logical conditions formally. A number of cases are studied when these logical conditions are to be included in the set of limitations of a partially integer problem of linear programming, i.e., should be written using linear limitations in which all or part of the variables must be integers. A production branch model in the multiple version statement is taken as the basic model. Various versions of writing of logical conditions reflecting the achievement of an economic savings by the creation of a group of enterprises are presented. Certain other logical conditions of more general form are studied, in particular, those which are a natural generalization of fixed payments; a specific example of formalization of a logical condition for a problem of optimization of construction

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USSR

Yegorov, Yu. I., Kryuchkov, V. N., Optimal'n. Planir. Razvitiya i Razmeshch. Otrasley Prom-sti Ch. 1, Novosibirsk, 1972, pp 174-186.

and functioning of a new mine is studied.

Simulations

USSR UDC 577.4

YEGOROV, YU. I., and KRYUCHKOV, V. N.

"Formalization of Logical Conditions in Sectorial Planning Production Models"

V sb. Optimal'n. planir. razvitiya i razmeshch. otrasley prom-sti (Optimal Planning of Industrial Sector Development and Siting -- Collection of Works), Part 1, Novosibirsk, 1972, pp 174-186 (from RZh-Matematika, No 6, Jun 73, Abstract No 6V583 by YU. FINKEL'SHTEYN)

Translation: In the formulation of optimization production problems in long-term sectorial planning the need often arises for a formal description of various logical conditions. The article considers a number of cases where the above-mentioned logical conditions are to be included in the set of constraints of a mixed-integer problem in linear programming; i.e., they have to be written by means of linear constraints in which all or some of the variables must be whole numbers. A production sectorial model in a variant statement is taken as the base model. Different variants are given for writing a logical condition which reflects the deriving of an economic effect from the creation of a group of enterprises. Some other logical conditions

USSR

MIRZOYEV, A. T., RADZIYEVSKIY, V. S., Modelirovaniye protsessov vospriyatiya i raspoznavaniya svoystv ob"yektov pri dvushagovoy bazisnoy iyerarkhii, 1972, No 5562-73 Dep.

stage, introduction of the concept of congruent recognition relaxes the requirement for the trajectory to the level of coincidence of only $(k-\sigma)$ features, where σ is the maximum coefficient of distortion of similarity, [and k] is the maximum permissible number of variable features which are last in the series of abstract ordering. It is readily apparent that the concept formulated in this way permits an artificial intelligence to recognize a considerably greater number of objects (events, conditions) than is afforded by a limited amount of instructional material.

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UDC 577.4

USSR

ALEKSEYEV, A. M., KRYUCHKOV, V. N.

"Optimization of the Construction Program in an Area which is Being Newly Built Up"

V sb. Metody i modeli territorial'n. planir. (Methods and Models of Territorial Planning -- collection of works), vyp. 2, Novosibirsk, 1971, pp 161-172 (from RZh-Kibernetika, No 7, Jul 72, Abstract No 7V546)

No abstract

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USSR

UDC 541.183

SVETLOV, A. K., DEMENKOVA, T. N., TSVETKOV, YU. S., NESTEROVA, O. M., and KRYUCHKOV, V. V., Kuzbas Polytechnical Institute

"The Effect of the Structure of Ion Exchange Resin on the Process of Ion Exchange Sorption"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 46, No 10, Oct 72, pp 2596-2598

Abstract: The effect of the structure of ion exchange resins on the process of dye sorption in aqueous and organic media has been investigated. It was shown that the maximum adsorption value is obtained in nonporous samples with total pore volume of 0.8 cm^3/g, and individual pore dimensions of 4.5-5.5 Å r_{eq}, due to uniform accessibility of the granular structure. Maximum adsorption of rhodamine 6Zh by the cation exchange resin KU-2 occurs in acetone solution; sodium eosine is most effectively absorbed by the anion exchange resin AV-17 from aqueous solutions. It has been noted that the anion exchange resin AV-17 in the OH form shows a higher sorptive ability than in the chloride form.

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UDC 541.13

USSR

KRYUCHENKOV, V. V., GUBAREVA, L. A., and MUSINOVA, V. S.

"Change in the Electrical Resistance and Determination of Electrical Conductivity by Ion Exchange Membranes Expanded in Water"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 46, Vyp 4, 1972, pp 936-940

Abstract: The conductivity of expanded ion exchange membranes can be approximated by the equation

$$\gamma, \text{ ohm}^{-1}\ \text{cm}^{-1} = l/RS$$

where l is the distance between the electrodes, R is the measurable resistance of the membrane, and S is the surface area of the electrode. Two disadvantages are that this method assumes ideal conditions and that R is a function of the resistance between the membrane and the electrodes. An instrument was designed such that the electrodes were in contact with the membrane. Equation (1) can be modified to the form

$$\gamma = l/(R-R_k)S = l/R_mS$$

1/2

USSR

KRYUCHENKOV, V. V., GUBAREVA, L. A., and MUSINOVA, V. S., Zhurnal Fizicheskoy Kimii, Vol 46, Vyp 4, 1972, pp 936-940

where R_k is the resistance of the electrode-membrane contact and R_m is the actual resistance of the membrane. Schematics of the instrument are shown as are plots of the change in electrical resistance and thickness of two heterogeneous membranes of the KhK-14 type - one reinforced and the other unreinforced - as a function of electron potential.

2/2

USSR

UDC 559.315:678

UMANSKIY, E. S., DERRIVNYY, I. Ye., KRYUCHKOV, V. V., Kiev

"Study of the Strength and Deformation Capacity of Thin Composite Materials Such as Magnetic Information Carriers. Report 2. Strength and Deformation Capability at Low Temperatures"

Kiev, Problemy Prochnosti, No 12, Dec 1972, pp 50-54.

Abstract: A cryogenic chamber and system for holding and regulating the temperature of specimens of thin composite materials such as magnetic information carriers subjected to monaxial extension over a broad range of below-freezing temperatures are described. The short-term strength and deformation capability of 5 types of magnetic information carriers are studied at temperatures of 0, -20, -40, -60 and -80°C. Peculiarities of the deformation capacity diagrams of the materials studied are analyzed over the temperature range indicated; it is found that the elastic, strength, and deformation properties of magnetic information carriers are dependent on temperature.

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UDC 539.3/5:678

USSR

UMANSKIY, E. S., KRYUCHKOV, V. V., DEBRIVNYY, I. Ye., IL'CHENKO, V. I., and TINYAKOV, V. G., Kiev Polytechnic Institute

"Stand for the Investigation of Creep and Fatigue Strength of Composition Films of Magnetic Carrier Type at Raised Temperatures"

Kiev, Problemy Prochnosti, No 5, May 73, pp 103-107

Abstract: A twelve-sectional experimental stand for creep and fatigue strength investigations, developed on the Chair of the Strength of Materials of Kiev Polytechnic Institute, is described by reference to its general view and electromechanical and functional schemata. The stand can also be used for testing short-term strength and relaxation. The instrumentation of the stand includes an automatic servomechanism for temperature control and registration (exactness ±1°C) and also a multichannel system for recording deformations on prolonged mechanical tests. Investigation methods of creep and fatigue strength of composition films of magnetic carrier type in the interval of working temperatures are discussed. The described stand and the developed method make it possible to study the rules of accumulation and diminishing not only of the total but also of the reversible (elastic and high-elastic) deformations. Four figures, five bibliographic references.

1/1

- END -

UDC 539.3/5:678

USSR

UMANSKIY, E. S., KRYUCHKOV, V. V., DEBRIVNYY, I. Ye., IL'CHENKO, V. I., and TINYAKOV, V. G. (Kiev)

"An Installation for Investigation of Creep and Long-Term Strength of Film Materials at Reduced Temperatures"

Kiev, Problemy Prochnosti, No 9, Sep 73, pp 107-111

Abstract: A description is given of an installation and a procedure for the study of creep and restoration, at static and pulsed loads, of composition films at reduced temperatures (plus 30 to minus 120°C). A distinguishing feature of the installation is the use of semiconductor thermoelectric batteries for cooling the working volume of the chamber.

Corresponding devices and appliances were developed with semiconductor sensors, which permitted the accuracy of measurement of the forces and deformations to be considerably increased in comparison to the existing methods. Typical diagrams of creep and restoration at static and subsequent pulsed loads are presented. 4 figures. 6 references.

1/1

USSR UDC: 621.374(088.8)

FILIPPOV, V. A., KRYUCHKOV, V. V.

"A Device for Synchronizing Pulses"

USSR Author's Certificate No 263670, filed 9 Sep 68, published 8 Jun 70 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1A303 P)

Translation: This Author's Certificate introduces a pulse synchronizer which contains switches, delay lines and a flip-flop. As a distinguishing feature of the patent, the possibility of two pulses appearing at the output of the device in the case of time coincidence of the synchronized and cadence pulses is eliminated by connecting the output of the first switch to one of the inputs of the second switch through two series-connected delay lines whose common point is connected to the reset terminal of the flip-flop whose output is connected to the other input of the second switch. E. L.

1/1

USSR

UDC 669.295:669-157.97

KRYUCHKOVA, A. I., and GROMOV, G. A.

"Aging of VT9 Titanium Alloy"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 11, 1972, p 77

Abstract: A study was made of the effect of long-term aging (500 hrs) at 450°C and 500°C on the properties of VT9 titanium alloy (6.9% Al, 3.04% Mo, 1.65% Zr, 0.28% Si, 0.11% Fe, 0.085% C, 0.006% H, 0.05% N). Before aging, all billets were subjected to heat treatment: 950°C for 1 hr, air cooling, 530°C for 6 hrs, and air cooling. The billets and prepared specimens were heated in electric retort furnaces in air. Test data of mechanical properties, fatigue strength, and the resistance to repeated static tension are presented. After aging at 450°C and 500°C, the VT9 alloy showed a small increase (1-4 kg/mm^2) in strength. The plasticity decreased during aging. Aging at 500°C decreased the impact strength of prepared specimens by a factor of two. The strength of aged, notched specimens decreased by 14-24 kg/mm^2, depending on the temperature. One table.

1/1

USSR

UDC 669.295:620.172

TSEYTLIN, V. I., GROMOV, G. A., and KRYUCHKOVA, A. N.

"Low-Cycle Fatigue of Titanium Alloys"

Moscow, Metallovedeniye i termicheskaya obrabotka metallov, No 4, 1972, pp 57-58

Abstract: This paper deals with the effect of strength, temperature, stress concentration, and surface hardening on the low-cycle fatigue of titanium alloys. The sensitivity of VT8 and VT9 titanium alloys to repeated stresses is shown to increase with the strength of these alloys for both smooth and notched specimens. The sensitivity factor to repeated stress remains unaffected by increasing the test temperatures. Surface hardening is shown to be an effective means of extending the service life of titanium alloys during low-cycle fatigue tests. This is attributed to the relaxation of residual stresses at test stress values exceeding the yield point of the material. (4 tables)

1/2 020 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--DITETRACYCLINE AGAINST INFECTIONS -U-

AUTHOR-(05)-LAZAREVA, E.N., BELOZEROVA, O.P., KRYUCHKOVA, N.P., EFIMOVA, T.I., SITNIKOVA, L.V.

COUNTRY OF INFO--USSR

K

SOURCE--GER. OFFEN. 1,804,400

DATE PUBLISHED--14MAY70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--TETRACYCLINE, EYE DISEASE, MOLECULAR STRUCTURE, PATENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
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CIRC ACCESSION NO--AA0123801
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2/2 020 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AA0123801

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE COMPD. (I), USEFUL AGAINST INFECTIONS, ESP. EYE INFECTIONS, WAS PREPD. FROM (II), HCHO, AND PHCH SUB2 NHCH SUB2 CH SUB2 NHCH SUB2 PH (III). IN ISO-BUOH OR ISBT-BUOH AT 74-80DEGREES. THUS, II 65.18, III 13.52, AND 40PERCENT HCHO 8.4 G GAVE 45.85 G I. I IS LESS ACTIVE THAN II. FACILITY: ALL UNION SCIENTIFIC RESEARCH INSTITUTE OF ANTIBIOTICS.

UNCLASSIFIED

1/2 010 UNCLASSIFIED PROCESSING DATE--22OCT70

TITLE--THERMOCATALYTIC ISOMERIZATION OF 1,FORMYL,2,3, DIPHENYLCYCLOPROPENE AND ITS CORRESPONDING AZINE -U-

AUTHOR-(03)-KMOENDANTOV, M.I., KRYUCHKOVA, I.K., SOMIN, I.N.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970 6(3) 631-2

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ISOMERIZATION, BENZENE DERIVATIVE, POLYNUCLEAR HYDROCARBON, PROPYLENE, FURAN, PYRROLES, CHEMICAL REACTION MECHANISM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1992/1542 STEP NO--UR/0366/70/006/003/0631/0632

CIRC ACCESSION NO--AP0112536

UNCLASSIFIED

2/2 010 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0112536

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HEATING 1,FORMYL,2,3,DIPHENYL,2, CYCLOPROPENE (I) WITH THE CATALYTIC AMT. OF CU STEARATE (II) AT 80DEGREES GAVE QUANT. YIELD OF 2,3,DIPHENYLFURAN. THE REACTION OF I WITH H SUB2 NNH SUB2.H SUB2 O GAVE THE CORRESPONDING AZINE WHICH ON HEATING WITH II ISOMERIZED TO 2,3,2 PRIME, 3 PRIME,TETRAPHENYL,N, N PRIME,BIPYRROLE. A SIGMATROPIC MECHANISM (G. B. GILLE, 1968) IS PROPOSED FOR THESE 2 ISOMERIZATIONS.

UNCLASSIFIED

USSR UDC 612.822.3+612.821.6

KOTLYAR, B. I., ZUBOVA, O. B., TIMOFEYEVA, N. O., and KHUCHKOVA, N. A., Chair of the Physiology of Higher Nervous Activity, Moscow State University imeni M. V. Lomonosov

"Electrophysiological Analysis of Limbic-Reticular Interaction in the Orienting Reflex"

Moscow, Zhurnal Vysshey Nervnoy Deyatel'nosti imeni I. P. Pavlova, No 4, Vol 22, Jul/Aug 72, pp 828-836

Abstract: Changes in the frequency of synchronized oscillations during extinction of the EEG component of the orienting reaction to acoustic stimuli were studied in rabbits with electrodes implanted in various areas of the brain. The most common development in the reticular formation of the brain stem (73% of all cases) was an immediate fall in the frequency of these oscillations, followed by an undulating extinction of the changes (type II reaction). The simultaneous changes in nonspecific thalamic and limbic nuclei and in the dorsal hippocampus were more variable. However, the most characteristic development (43.5%) was an initial gradual rise with a subsequent diminution in the frequency of the synchronized rhythm (type I reaction). Intramuscular chlorpromazine blocked primarily the type II reaction in the brain stem reticular formation. It is inferred that the first stage of the orienting reaction is
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KOTLYAR, B. I., et al., Zhurnal Vysshey Nervnoy Deyatel'nosti imeni I. P. Pavlova, Vol 22, No 4, Jul/Aug 72, pp 828-836

associated with activation of the reticular formation in the brain stem, while the second stage in the analysis of the significance of the signal is based on recruitment of the activating mechanisms of the limbic-thalamic system.