

USSR

TUPIKIN, YE. I., et al., Zashchita Metallov, Vol 8, No 6, 1972, pp 713-714

in solutions where they have a high protective effect. The inhibiting properties of m-dinitrobenzene, picric acid and cupferron are explained by the fact that they put the alloy in the passive state as a result of shifting the stationary potentials into the high positive range and also promote the formation of a dense oxide film on the surface of the alloy protecting it from corrosion. Cupferron can also give an insoluble compound with trivalent titanium ions [Kratkaya khim. entsiklopediya, Moscow, No 2, 894, 1963], and picric anions are adsorbed on the positively charged surface of the titanium [L. I. Antropov, Ukr. khim. zh., No 29, 555, 1963].

2/2

USSR

UDC 621.793.3:669.255'24

KLYUCHNIKOV, N. G., KOSTENICH, I. F.

"Composition and Properties of Cobalt-Nickel Alloys Obtained Chemically"

Uch. zap. Mosk. gos. ped. in-ta im. V. I. Lenina (Scientific Notes of Moscow State Pedagogic Institute imeni V. I. Lenin), 1971, No 340, pp 367-369 (from RZh-Khimiya, No 6 (II), Jun 72, Abstract No 6L316)

Translation: A study was made of the chemical deposition of Ni-Co-P alloys on a glass substrate from solutions containing the following (in grams/liter): 30 grams/liter of $\text{NiCl}_2 \cdot 6\text{H}_2\text{O}$, 10-30 $\text{CoCl}_2 \cdot 6\text{H}_2\text{O}$, 48 NH_4Cl , 100 Na citrate, 20 $\text{NH}_4\text{H}_2\text{PO}_2$, at 90-95° with a pH of 10. The procedure for preliminary treatment of the glass included degreasing, pickling, sensitizing and activating. The deposition rate (7-11 μ in 30 minutes), composition (2-8% P, 8-60% Co, 30-90% Ni) and microhardness (700-900 kg/mm^2) of Ni-Co-P alloys were determined.

1/1

- 18 -

1/2 -010 UNCLASSIFIED PROCESSING DATE--11SEP70
 TITLE--NEW AUTOMATIC WEATHER STATION DEVELOPED FOR ARCTIC AUTOMATIC
 DEVICES ON THE OCEAN'S ICE -U-
 AUTHOR--KLYÜCHNIKOV, S. K
 COUNTRY OF INFO--USSR, ARCTIC OCEAN
 SOURCE--MOSCOW, IZVESTIYA, 23 JANUARY 1970, P 3
 DATE PUBLISHED-----70
 SUBJECT AREAS--ATMOSPHERIC SCIENCES
 TOPIC TAGS--AUTOMATIC METEOROLOGIC STATION, HYDROMETEOROLOGY, RADIO
 METEOROLOGIC STATION
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAME--1987/1177 STEP NO--UR/9003/70/000/000/0003/0003
 CIRC ACCESSION NO--AN01C4543
 UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIPC ACCESSION NO--ANO104543
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. AUTOMATIC RADIOMETEOROLOGICAL STATIONS, FAITHFUL ASSISTANTS TO SCIENTISTS, DRIFT IN THE EXPANSE OF THE NORTH ARCTIC OCEAN. HOWEVER, THE BROAD CRACKS IN THE ICE, ACCUMULATIONS OF FROST ON THE ANTENNAS AND INSTRUMENT FAILURES LEAD FREQUENTLY TO THE PREMATURE FAILURE OF THE STATIONS. EACH SUCH LOSS IN THESE ALMOST INACCESSIBLE LATITUDES IS OF COURSE REFLECTED TO ONE EXTENT OR ANOTHER IN THE WEATHER FORECASTS MADE FOR THESE ARCTIC REGIONS AND IN DETERMINING THE DIRECTION OF MOVEMENT OF DRIFTING POLAR ICE. CANDIDATE OF TECHNICAL SCIENCES YU. ALEKSEYEV, A WORKER AT THE ARCTIC AND ANTARCTIC SCIENTIFIC RESEARCH INSTITUTE, HAS DEVELOPED A FUNDAMENTALLY NEW STATION WHICH WILL MAKE IT POSSIBLE TO BROADEN THE RANGE OF OBSERVATIONS. NOW IT IS CALLED A RADIOHYDROMETEOROLOGICAL STATION.

UNCLASSIFIED

UDC 621.382.2

USSR

GONCHAROV, V. N., ~~KLYUCHNIKOV, V. N.~~, KRYLOV, L. N., LAVRISHIN, Yu. A.,
LONCHIN, M. A., SEREZHKIN, Yu. N., UCHAYKIN, I. G., and YAMASHKIN, Yu. M.

"Role of Microplasma Phenomena in Determining the Properties of Silicon
Avalanche Rectifiers"

Uch. zap. Mordovsk. un-t (Scientific Notes of Mordovskiy University), 1970,
Issue 82, pp 3-20 (from RZh-Elektronika i yeye primeneriye, No 8, August 1971,
Abstract No 8B195)

Translation: The effect of microplasma phenomena on the characteristics of avalanche
rectifiers is considered. A model of the microplasma is presented and the reasons
for formation of microplasm are considered. The distribution of microplasm in
avalanche rectifiers is presented for the area of the p-n junction and for breakdown
voltages. Means are considered for an increase of the breakdown energy of avalanche
rectifiers. Summary.

1/1

1/2 019 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--X RAY DIFFRACTION STUDY OF 3CAO.FE SUB2 0 SUB3 .2SID SUB2 .2H SUB2
0 -U-
AUTHOR--(02)-RYSKINA, L.I., KLYUCHNIKOV, YU.F. *R*
COUNTRY OF INFO--USSR
SOURCE--TR. INST. MET. OBOGASHCH., AKAD. NAUK KAZ. SSR 1970, 37, 42-4
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, EARTH SCIENCES AND OCEANOGRAPHY
TOPIC TAGS--GARNET, X RAY ANALYSIS, CRYSTAL LATTICE STRUCTURE

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3006/0580 STEP NO--UR/0000/70/037/000/0042/0044
CIRC ACCESSION NO--AT0134345
UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AT0134345

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. USING DEBYE-SCHERRER AND POWDER
DIFFRACTOMETER DATA TOGETHER WITH D. MEASUREMENTS, THE STRUCTURAL
PROPERTIES OF $3\text{CaO} \cdot \text{Fe} \text{ SUB}2 \text{ O} \text{ SUB}3 \cdot 2\text{SiO} \text{ SUB}2 \cdot 2\text{H} \text{ SUB}2 \text{ O} \text{ COMPD.}$ ARE
ESTABLISHED. THE PHASE HAS A BCC. LATTICE WITH PARAMETER A EQUALS
12.286 PLUS OR MINUS 0.005 ANGSTROM AND Z EQUALS 8. WITH RESPECT TO THE
X RAY DATA OBTAINED, STRUCTURE OF THE TITLE COMPD. IS VERY CLOSE TO THAT
OF GARNETS.

UNCLASSIFIED

USSR

UDC 669.295.046.43

IL'ICHEV, V. A., ZOTIKOVA, A. N., KLYUCHNIKOVA, Ye. F.

"Chlorination of Flotation and Autoclave Titanium Concentrates in a Fluidized Bed"

Tr. Vses. N-i. i Proyechn. In-ta. Alyumin., Magn. i Elektrodn. Prom-sti [Works of All-Union Scientific Research and Planning Institute of the Aluminum, Magnesium and Electrode Industry], 1970, No. 72, pp. 186-189. (Translated from Referativnyy Zhurnal Metallurgiya, No. 5, 1971, Abstract No. 5 G210 by the authors).

Translation: A laboratory study was performed on the chlorination of flotation and autoclave concentrates and they were comparatively analyzed. The dependence of the rate of chlorination of three fractions of flotation and autoclave concentrates with up to 20% TiO_2 content on this content is linear. With identical content of TiO_2 at 800° , the rate of chlorination of flotation concentrate is 1.5 times higher than that of the autoclave concentrate. One reason for the increased chlorination ability of the flotation concentrate is the significant difference in grain size of rutile in the concentrates. 2 figs.

1/1

USSR

UDC 669.721.472

KLYUCHNIKOVA, Ye. F., ARAKELYAN, O. I.

"Study of the Phase Composition of Impurities in Products of Magnesium Production"

Tr. Vses. N-i. i Proyechn. In-ta. Aiyumin., Magn. i Elektrodn. Prom-sti [Works of All-Union Scientific Research and Planning Institute of the Aluminum, Magnesium and Electrode Industry], 1970, No. 72, pp. 139-143. (Translated from Referativnyy Zhurnal Metallurgiya, No. 5, 1971, Abstract No. 5 G199 by the authors).

Translation: Results are presented from determination of the phase composition of impurities in various plant products from the production of Mg. Optical crystal analysis precisely determines the "transient states" of MgO as a gradual change in the index of refraction between 1.690 and 1.736, whereas the lattices of all these states correspond to periclase. Crystallo-optical characteristics of impurities and their diagnosis are presented. 5 figs; 6 biblio refs.

1/1

1/2 020 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--CAMPIMETRY METHOD OF DETERMINING THE FIXATION CHARACTER -U-

AUTHOR--(03)-KLYUKA, I.V., ROZENBERG, V.A., YAKIMOVICH, T.S.

COUNTRY OF INFO--USSR

SOURCE--OFTALMOL ZH 25(2): 91-93. 1970

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--EYE DISEASE, VISUAL PRECEPTION, MEDICAL APPARATUS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605014/F02 STEP NO--UR/0601/70/025/002/0091/0093

CIRC ACCESSION NO--AP0140527

UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0140527

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A NEW METHOD IS SUGGESTED FOR LOCALIZATION OF A FALSE MACULA WHICH INCLUDES THE STUDY OF FIXATION CHARACTER ON A CAMPIMETER. THE TRIAL OF THE METHOD SHOWED IT TO BE SIMPLE AND ACCESSIBLE FOR ITS CLINICAL USE. A CLINICAL TRIAL OF THE CAMPIMETRIC METHOD OF LOCALIZATION OF FALSE MACULA WAS PERFORMED ON A NEW DEVICE PLEOPTOCAMPIMETER. A COMPARATIVE EVALUATION OF THESE CAMPIMETRIC AND OPHTHALMOSCOPIC METHODS USED FOR THE DETERMINATION OF FIXATION CHARACTER WAS PERFORMED IN 55 PATIENTS WHO SUFFERED FROM AMBLYOPIA. FOVEAL AND PARAFOVEAL FIXATION IS REVEALED MORE FREQUENTLY WHEN STUDIED WITH THE CAMPIMETRIC METHOD RATHER THAN WITH THE OPHTHALMOMETRIC ONE. THIS IS CONNECTED WITH THE BREAK OF NON STABLE FOVEAL OR PARAFOVEAL FIXATION DUE TO A BRIGHT LIGHT FROM A BIG OPHTHALMOSCOPE WHICH BLINDS THE EYE. THE CAMPIMETRIC METHOD FOR DETERMINATION OF FIXATION CHARACTER IS CONSIDERED UNDER MORE EXPRESSED PHYSIOLOGIC CONDITIONS TO ALLOW REVEALING LOCALIZATION OF FIXATION IN AN AMBLYOPIC EYE. THE DETERMINATION OF FIXATION PERFORMED IN GRADES MAKES IT POSSIBLE TO REGISTER THE FINDINGS OF THE INVESTIGATION AND TO OBSERVE THE DYNAMICS OF THE TREATMENT APPLIED. FACILITY: V. P. FILATOV ODESSA RES. INST. EYE DIS. TISSUE THER., ODESSA, USSR.

UNCLASSIFIED

1/2 029 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--THERMODYNAMIC FUNCTIONS OF PIEZOELECTRIC POLARONS IN STEADY
MAGNETIC FIELD AND CYCLOTRON RESONANCE -U-
AUTHOR-(02)-KLYUKANCY, A.A., POKATILOV, E.P.

COUNTRY OF INFO--USSR

SOURCE--PHYSICA STATUS SOLIDI, 1970, VOL 39, NR 1, PP 227-286

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--PIEZOELECTRIC MATERIAL, POLARON, THERMODYNAMIC FUNCTION, WEAK
MAGNETIC FIELD, STRONG MAGNETIC FIELD, ELECTROMAGNETIC ENERGY, MAGNETIC
SUSCEPTIBILITY, SPECIFIC HEAT, CYCLOTRON RESONANCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1440

STEP NO--GE/0030/70/039/001/0277/0286

CIRC ACCESSION NO--AP0112434

UNCLASSIFIED

2/2 029

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0112434

ABSTRACT/EXTRACT--(U) SP-0- ABSTRACT. THE SUM OVER PIEZOELECTRIC POLARON STATES IS CALCULATED AT WEAK AND STRONG MAGNETIC FIELDS. FEYNMAN'S PATH INTEGRAL VARIATIONAL METHOD IS USED TO CALCULATE THE THERMODYNAMIC FUNCTIONS, I.E. ENERGY, MAGNETIC SUSCEPTIBILITY, AND SPECIFIC HEAT. CYCLOTRON RESONANCE OF PIEZOELECTRIC POLARONS IS CONSIDERED AND A COMPARISON OF THEORETICAL AND EXPERIMENTAL RESULTS IS GIVEN.
FACILITY: DEPARTMENT OF THEORETICAL PHYSICS, KISHINEV STATE UNIVERSITY, KISHINEV.

UNCLASSIFIED

USSR

SAMSON, A. M., KEYUKANOVA, N. A., and KOTOMTSEVA, L. A.

"Formation from Noises of Longitudinal Types of Oscillations of a Laser in the Preoscillation Period"

Minsk, Zhurnal Prikladnoy Spektroskopii, May 1971, pp 809-814

Abstract: The formation of longitudinal types of oscillations from noises having a dispersion boundary were studied. On the basis of recurrent relationships for the intensity of the electrical field analytic expressions for the envelopes of the radiation maxima and the forms of the individual longitudinal mode up to the beginning of oscillation were obtained. The wave properties of the resonator, dispersion of the active region, and dependence of the refractive index on the population inversion were taken into consideration. Losses were assumed to be the same for all modes.

The article includes 24 equations and two figures. There are 5 references.

1/1

USSR

UDC 538.573.001.5

KLYUKIN, L.M., MAKSIMOV, V.I., STEPANOV, B.M., FABRIKOV, V.A., SHEVCHUK, E.N.

"Registration Of The Structure Of Microwave Radiation On Magnetic Film"

Radiotekhnika i elektronika, Vol XVII, No 5, May 72, pp 1114-1116

Abstract: The thermal method of recording radiation on thin magnetic film with strip domains described previously in two papers by L.M. Klyukin and others was used for registration of the structure of microwave radiation. The scheme of the device used for recording microwave radiation on magnetic film and a block diagram of the experimental equipment used for registration are shown and described. The authors thank V.P. Kuznetsov for assistance in conducting the experiment. 3 fig. 2 ref. Received by editors, 7 June 1971.

1/1

- 176 -

KLYUKIN, I. M.

Baybakov, H. L., Zabila, G. A.	Reception of Optical Radiation Phase Modulated by a Superhigh-Frequency Signal	304
Popov, L. N.	Parametric Optical Signal Limiter	308
Gusev, V. G.	Study of the Effect of Multimode Laser Emission on the Reception of Phase Modulated Signals	311
Korshunov, I. P.	Study of the basic Parameters of Light-Guide Communications Lines	315
Gertsenshteyn, F. B.	Resonators for Optical Beam Wave Guides	322
Haykrapf, O. I.	Structural Characteristics of Antenna for Photon Information Transmission Systems	331
Khrumov, A. B., Zharikov, V. A., Klyukin, I. M.	Temperature Conditions of Thin Ferrimagnetic Films when Recording Images by Laser Extension	340
Klyukin, I. M., Fedorov, V. A., Kirov, A. B.	Thin Magnetic Films in Laser Beam Information Transmission Systems	350
Man'shikh, O. F.	Method of Precession Diagnostics of Small Disturbances of the Optical Activity and Index of Refraction of Optically Transparent Media using Laser Radiation	364
Man'shikh, O. F.	Procedure for Optical Differentiation of Amplitude Modulated Coherent Radiation	371
Man'shikh, O. F.	Study of the Optical Properties of Substances Based on the Inverse Faraday Effect	375
Mikulin, V. V., Shteynlov, V. D.	Study of Logical Elements Based on a Semiconductor Laser Photodiode	380
Uspenskiy, A. V.	Possibility of Realizing Intra Stable States in a Semiconductor Laser with Nonuniform Excitation	385
Cheruygin, I. A., Fedorov, V. V., Glozarenko, Yu. L.	Two-Dimensional Scanning of an Optical Beam by Light Refraction in an Ultrasonic Field ...	389
Cheruygin, I. A., Kotov, V. V., Obonensko, Yu. L.	Laser System Insuring that an Image of an Object Will be Obtained on a Display Screen ..	395

83

TECHNICAL TRANSLATION

Item / PSIC-JIT-23-2015-72

29 Nov '72

ENGLISH TITLE: PROBLEMS OF LASER BEAM DATA TRANSMISSION
PROCEEDINGS OF THE FIRST ALL-UNION CONFERENCE, KIEV,
SEPTEMBER 1968

FOREIGN TITLE: ПРОБЛЕМЫ ПЕРЕДАЧИ ИНФОРМАЦИИ ЛАЗЕРНЫМ ИЗЛУЧЕНИЕМ

AUTHOR: I. A. DENYGIN, ET AL.

SOURCE: KIEV ORDER OF LENIN STATE UNIVERSITY
ИМЕНІ Т.С. СЕВЧЕНКО

Translated for FSTC by AGSI

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- 1st Page -

USSR

UDC 621.373.531(088.8)

SHLYKOV, N. A., NEMIROVSKIY, B. V., KLYUKIN, L. P., TSELYKOVSKIY, O. P.

"A Pulse Generator"

USSR Author's Certificate No 258377, Filed 14 Mar 66, Published 24 Apr 70 (from RZh-Radiotekhnika, No 10, Oct 70, Abstract No 10G168 P)

Translation: The time-mark circuit in the proposed pulse generator is connected between the negative pole of the auxiliary power supply and the collector of an auxiliary transistor which is connected in turn to the base of the main transistor through a capacitor in the time-mark circuit and the feedback winding of the transformer; the base of the auxiliary transistor is connected to the collector of the main transistor through a feedback resistor; the emitters of the main and auxiliary transistors are connected to the negative and positive poles of the auxiliary and main power supply sources. The circuit may be used over a wide frequency range since provision is made for switching the capacitance of the time-mark capacitor and for continuous control of the time-mark resistor. N. S.

1/1

- 137 -

USSR

UDC 629.7.018.2

BORODIN, Yu. P., KLYUKIN, S. M., KHEYFETS, V. A.

"A Device for Measuring the Aerodynamic Loads Acting on a Helicopter Rotor Model"

Moscow, Otkrytiya, Izobreneniya, Promyshlennyye Obrastzy, Tovarnyye Znaki, No 2, Jan 73, Author's Certificate No 362216, Division G, filed 5 Apr 71, published 13 Dec 72, p 89

Translation: This Author's Certificate introduces a device for measuring the aerodynamic loads acting on a model of the lift rotor of a helicopter. The device contains amplifiers, low-frequency filters and a commutator which are connected in series, and also a control unit with its outputs connected to the commutator inputs and to the inputs of an analog-digital converter and a keypunch machine. The device also contains data transmitter units for the azimuthal position of the shaft of the helicopter rotor model. As a distinguishing feature of the patent, the accuracy of measurement of aerodynamic loads is improved by locating the data units for the azimuthal position of the shaft diametrically opposed, and connecting them to the input of the control unit through a pulse shaper which is incorporated into the device.

1/1

USSR

UDC: 621.3-182-525

ZHOLKOV, Yu. A., ~~KLYUKINA, G. V.~~, CHUDAKOV, A. D., State Scientific Research
Institute of Heat and Power Engineering Equipment Building

"A Fluidic Logic Device"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obratzsy, tovarnyye znaki,
1970, No 25, Soviet Patent No 278208, class 42, filed 22 May 69, published
5 Aug 70, pp 129-130

Translation: This Author's Certificate introduces a fluidic logic device
which can be used for controlling a shifted code converter. The device
contains a NOR element with two input channels, and an "inhibit" element
with main and inhibiting input channels. As a distinguishing feature of
the patent, reliability is improved by connecting the input channel of the
device to the first input channel of the NOR element and to the main input
channel of the "inhibit" element, connecting the output channel of the NOR
element to the inhibiting input channel of the "inhibit" element and to
the first output channel of the device, and connecting the output channel
of the "inhibit" element to the second input channel of the NOR element and
to the second output channel of the device.

1/1

- 31 -

USSR

UDC 621.385.6:621.314.6

KLYUSHIN, A. S., ZVEREVA, L. Ye.

"Test of the Development of Technology for Production of Magnetic Field Rectifiers"

Elektron. tekhnika. Nauchno-tekhn. sb. Elektron. SVCh (Electronic Technology. Scientific-Technical Collection. Microwave Electronics), 1971, Issue 1, pp 88-94 (from RZh--Elektronika i yeye primeneniye, No 5, May 1971, Abstract No 5A152)

Translation: In order to decrease the level of the parasitic components of the magnetic field at the axis of the magnetic system of Type 0 electronic devices, a rectifier is used which consists of Permalloy and aluminum disks. It is shown that the residual level of the transverse component at the axis of the rectifier is determined by the inclination of the Permalloy disks. The technology is described which makes it possible to assemble amplifiers with an inclination of the disks not more than $1.5 \cdot 10^{-3}$ radian with a 25-mm diameter of the disks, which assures a magnitude of the transverse component of the value of ~ 0.2 percent of the axial component. A method for inspection of the magnitude of the transverse component at the system axis with the aid of a Hall-effect device and an evaluation of measurement errors are presented. 6 ref. Author's Abstract.

USSR

KLYUSHIN, Ya. G.

"One Differential Game with a Special Type of Control"

Mat. Apparat. Planov. Raschestov. [Mathematical Apparatus of Plan Calculations -- Collection of Works], Moscow, 1972, pp 61-64 (Translated from Referativnyy Zhurnal, Kibernetika, No 1, 1973, Abstract No 1 V677 by the author).

Translation: In solving differential games, it is usually assumed that the upper and lower values of the game in the pure strategies correspond. This assumption is incorrect for very simple differential equations defining a differential game. One class of differential games of this type is studied. The solution is constructed successfully, due to the specifics of limitations on the strategies of one player. An example is presented of a differential game which can be interpreted as the game of an engineer versus nature.

1/1

USSR

UDC 669.71.074.2

MARGOLIN, Ye. V., BURKAT, V. S., KLYUSHKIN, V. P., CHERKASSKIY, M. L.

"Development of a Method for the Determination of Drop Transfer From Wet Gas Purification Apparatus in Aluminum Production"

Tr. Vses. N-i. Proyechn. In-ta. Alyumin., Magn. i Elektrodn. Prom-sti [Works of All-Union Scientific Research and Planning Institute of the Aluminum, Magnesium and Electrode Industry], 1970, No. 71, pp. 168-176. (Translated from Referativnyy Zhurnal Metallurgiya, No. 5, 1971, Abstract No. 5 G162 by the authors).

Translation: A review is presented of existing methods for determination of drop transfer. A new method is suggested, recommended for use both in testing of industrial wet purification apparatus and for organization of periodic testing of drop transfer. The accuracy of the method is quite high in determining drop transfer of up to 1.2 g/m^3 s. t. p. 3 figs; 2 tables.

1/1

Aluminum and Its Alloys

UDC 669.713.1

USSR

SAFONOV, V. N., LIMANSKIY, V. A., ~~KLYISHKIN, V. P.~~ LEVKOV, YE. G., BULGA-KOVA, N. G., IL'BINSKAYA, G. I., BORISENKO, N. A., and LEVKOVA, A. S.

"Physical Properties and Chemical Composition of Dust Formed During the Production of Aluminum and Silumin"

Tsvetnye Metally, No 4, Apr 71, pp 43-44

Abstract: Since the physical and chemical composition of a dust dictates the basic characteristics of the dust-collecting apparatus needed, a study was made of these characteristics of dusts collected during the production of electrolytic aluminum and silumin. Two methods of determining dispersibility were studied -- using triple cyclones and using impactors. The latter were found to give the most reliable results. The specific electric resistance for the dusts was measured and found to be $4 \times 10^7 - 4 \times 10^8$ ohms. cm for electrolytic aluminum and $5 \times 10^9 - 2 \times 10^{10}$ ohms.cm for silumin dust at the dew point of the gas in the temperature range of 20 to 40°C. At 100°C both forms of dust have a specific electrical resistance of less than $10^9 - 10^{10}$ ohms.cm. Other characteristics determined were density, bulk density, angle of rest, porosity, and moisture. The electrolytic aluminum dust was analyzed for total fluorine, Al_2O_3 , Na_2O , Fe_2O_3 , SiO_2 , CaO, MgO, resin, SO_4^{-2} , and calcination loss. 1/1

USSR

UDC: 621.385:530.145.6.623

KLYUSHIN, Ye. B.

"Dispersion of the Axial Modes of a Gas Laser in the Atmosphere"

V sb. Proyektirovaniye (Design--collection of works), vyp. 2, Moscow, 1970, pp 13-15 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5D483)

Translation: Theoretical research is done on the dispersion of axial modes of a gas laser in the ground layers of the atmosphere together with formulas to account for this dispersion. Resumé.

1/1

AA 0043565

UR 0482

K

Soviet Inventions Illustrated, Section II Electrical, Derwent,

243850 DISTANCE MEASUREMENT BY AN ELECTRO-OPTICAL RANGE FINDER based on the measurement of the phase difference of a modulated light flux reflected from two mirrors. The method of the light flux splitting is based on generation by two equivalent reflectors of two equal modulated light fluxes with a phase difference between them. The phase shift is obtained by spacing two similar reflectors at a certain distance along the line of sighting, at which the greatest phase difference sensitivity is achieved. The spacing of one reflector from the other is fixed for each type of the electro-optical range finder. It can vary within the limits $n\lambda \pm (0.1 + 0.2)$, where n is any integer, and λ the modulation wavelength. There is no need of reference light flux. The light flux is modulated in both channels and they play equal parts in the distance measurement.

1/70

30.12.66 as 1123736/18-10 FLYUSHIN, E. E. (1.10.69)
 Bul 17/14.5.69. Class 42c. Int. Cl. G 01c.

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711T

12

19762023

1/2 007 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--COMPOSITION OF PIGMENTS AND TOCOPHEROLS OF RYE LIPIUS -U-
AUTHOR-(04)-KLYUSHKINA, YU.F., DENISENKO, YA.I., NECHAYEV, A.P.,
YANOTOVSKIY, M.TS.
COUNTRY OF INFO--USSR K
SOURCE--PRIKL. BIOKHM. MIKROBIOL. 1970, 6(1), 95-8
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--CEREAL CROP, BIOLOGIC PIGMENT, THIN LAYER CHROMATOGRAPHY,
CHEMICAL ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/0597

STEP NO--UR/0411/70/006/001/0095/0098

CIRC ACCESSION NO--AP0117825

UNCLASSIFIED

2/2 007

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0117825

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FLOUR PREPNS. OF 6 RUSSIAN RYE VARIETIES WERE EXTG. WITH ETHER. BY THIN LAYER CHROMATOG. IT WAS SHOWN THAT THE CAROTENOID FRACTION CONTAINS BETA CAROTENE, POLY (CIS LYCOPENE), XANTHOPHYLL EPOXIDE, XANTHOPHYLL, AND TARAXANTHIN. THE TOCOPHEROL FRACTION WAS SEPD. BY GAS LIQ. CHROMATOG. (CELITE 545 IMPREGNATED WITH 10PERCENT SILICONE ELASTOMER SE-30, CARRIER GAS AR, TEMP. 240DEGREES). THE FOLLOWING TOCOPHEROLS WERE IDENTIFIED (RELATIVE AMTS. IN PERCENT): ALPHA(37-51), GAMMA(7-11), DELTA(17-26), AND ZETA SUB1(13-24). FACILITY: MOSCOW TECHNOL. INST. FOOD IND., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 582.232-119:576.8

KVASNIKOV, Ye. I., STOGNIY, I. P., TRAVCHUK, T. P., SHCHELOKOVA, I. F.,
~~KLYUSHNIKOVA, T. M.~~, and GRINBERG, T. A., Institute of Microbiology and
Virology, Academy of Sciences Ukrainian SSR, Kiev

"Blue-Green Algae From the Kremenchug Reservoir as a Raw Material for
Growing Microorganisms"

Kiev, *Gidrobiologicheskii Zhurnal*, Vol 7, No 6; Nov/Dec 71, pp 80-83

Abstract: Blue-green algae of the Kremenchug reservoir contain a considerable amount of polysaccharides both easy and difficult to hydrolyze, including easily accessible ones for assimilating glucose, mannose, galactose, and xylose. They are also rich in protein substances which can, upon hydrolysis, be converted into amino acids and used in the process of growing microorganisms. Algae contain a sufficient amount of ash elements, but they are poor in phosphorus. Blue-green algae contain a large selection of B-group vitamins. These algae contain all the components necessary for the development of heterotrophic microorganisms used in the brewing and food industry. The necessary number of components can be balanced.

1/1

- 17 -

USSR

UDC:669.187.6

MATUSHKINA, L. I., KLYUYEV, A. M., DEDUSHEV, L. A., KOSYREV, L. K., VOLKOV, S. Ye.,
and SHARAPOV, A. A.

"Thermal Inertia in Electric Slag Remelting"

Proizvodstvo Chernykh Metallov [Production of Ferrous Metals--Collection of
Works], No 75, Metallurgiya Press, 1970, pp 167-169.

Translation: The influence of stopping (for 1-5 min) the electric slag process
on the final macrostructure of ingots of high-chrome heat-resistant steel type
EI961, high-chrome manganese steel type EI835, and type ShKh15 ball bearing steel
is studied.

The surface of the ingots produced is satisfactory with slight corrugations
in the areas where the process was stopped. Obviously, the corrugations are
caused by local disruption of the dynamic equilibrium between heat input and
outflow.

However, the stopping of the process within the limits studied does not cause
appearance of macrostructural defects, since under the conditions of electric
slag remelting the metal bath has significant thermal inertia. 1 table.

1/1

1/2 036 UNCLASSIFIED PROCESSING DATE--11 DEC 70
TITLE--ANTIFRICTION PROPERTIES OF FILLED FIBROPLAST,
POLY, TETRAFLUOROETHYLENE -U-
AUTHOR--(03)-SEVERIN, P.A., KLYUYEV, E.A., STADNIKOV, M.T.
COUNTRY OF INFO--USSR
SOURCE--FIZ. KHIM. MEKH. MATER. 1970, 6(2), 120-1
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--ANTIFRICTION MATERIAL, POLYTETRAFLUOROETHYLENE, GRAPHITE,
PLASTIC DEFORMATION/(U)FIBROPLAST & TEFLON
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/0930 STEP NO--UR/0369/70/056/002/0120/0121
CIRC ACCESSION NO--AP0134659
UNCLASSIFIED

2/2 036

UNCLASSIFIED

PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AP0134659

ABSTRACT/EXTRACT--(U) GP-D- ABSTRACT. THE TITLE POLYMER WAS FILLED WITH 15-40PERCENT COLLOIDAL GRAPHITE BY THE PREVIOUSLY DESCRIBED METHOD (P. A. SEVERIN ET AL., 1966). THE PRESENCE OF GRAPHITE INCREASED THE ABRASION RESISTANCE OF THE COMPNS. SMALLER THAN OR EQUAL TO 1000 TIMES. THE FRICTION COEFFS. OF THE COMPNS. WERE 0.05-0.26. THE DEFORMATION OF THE COMPNS. UNDER STRESS PROCEEDED FAST FOR 24 HR, THEN IT SLOWED DOWN, AND WAS ARRESTED BY THE REORIENTATION OF THE POLYMER STRUCTURE.

FACILITY: INST.KHIM. VYSOKOMOL. SOEDIN., KIEV. USSR.

UNCLASSIFIED

USSR

UDC: 621.317:621.391.822

KLYUYEV, L. L., MESHKOV, M. N., SOLONENKO, V. G., KHODASEVICH, R. G.,
CHERDYNTSEV, V. A.

"Comparative Analysis of Instruments for Measuring the Delay Time of
Noise-Like Signals"

Dokl. Vses. nauchno-tekhn. konferentsii po radiotekhn. izmereniyam. T. 2 (Re-
ports of the All-Union Scientific and Technical Conference on Radio Engineer-
ing Measurements. Vol. 2), Novosibirsk, 1970, pp 147-148 (from RZh-Radiotekh-
nika, No 1, Jan 71, Abstract No 1A316)

[No abstract]

1/1

- 70 -

USSR

UDC:629.7.024.14

VINOGRADOV, Yu. I., KLYUYEV, Yu. I.,

"Stress-Strain State of a Cylindrical Envelope Under Concentrated Loading"

Izvestiya Vysshikh Uchebnykh Zavedeniy, Mashinostroyeniye, No 11, Nov 73,
pp 5-9

Abstract: The problem mentioned in the title is studied on the basis of moment theory. The purpose of the numerical solution is to produce the desired quantities with satisfactory accuracy, for which purpose a matrix method of successive approximations is used. Using the angular coordinate in the plane of transverse cross sections, the solution is constructed in the form of trigonometric series. A system of ordinary differential equations is produced with respect to length of the envelope, and is solved numerically. The external concentrated forces and moments are expanded into trigonometric series with respect to the angular coordinate and then considered under the conditions of contact of the sections of the envelope. During the numerical solution, the length of the envelope is divided into several sections, for each of which a system of equations is written in matrix form.

1/1

USSR

UDC 669.18-412.621.746.753

PIRKULOV, V. G., TAGER, L. P., PRYANISHNIKOV, I. S., FILIPPOV, A. F., and
KLYUYEV, N. M., Elektrostal' Plant and Moscow Institute of Steel and Alloys

"Producing Charging Ingots From Metal-Abrasive Wastes of Heat-Resistant Alloys"

Moscow, Stal', No 8, Aug 73, pp 724-725

Abstract: The technology of concentrating the wastes from grinding a heat-resistant nickel-base alloy using electrical separators with corona discharge has been developed. The engineering modes were determined that provide the production of rich metallic concentrates with a metal content of almost 90% (mixture of oxidized metallic chip and alumina). The enriched concentrate was remelted in an experimental 50-kg induction furnace on a charging block with a resulting quality that satisfied specified requirements for smelting of heat-resistant alloys. Three figures, four bibliographic references.

1/1

- 79 -

USSR

UDC 669.14.018.821

MEL'KUMOV, I. N., KLYUYEV, M. M., PRYANISHNIKOV, I. S., PIVOVAROVA, L. I.,
and SHCHEGLOVA, R. I., Elektrostal' Plant

"Properties of Steels Alloyed with an Excess of Nitrogen"

Moscow, Stal', No 8, Aug 73, pp 749-752

Abstract: The properties of some standard steels were investigated in which nitrogen was added in amounts which exceeded the theoretical limits of its solubility under ordinary conditions. The specific steels studied were: EP222 (Kh21G7AN5), EP618 (Kh25N12AR), EP731 (COOKh19G10N7AM2), EI835 (Kh25N16G7AR), and EP310 (1Kh15N5AM2). The chemical composition of these steels is given. It was shown that in the process of plasma-arc remelting from the gas phase a greater saturation of the metal with nitrogen is achieved than under conditions of using nitrided ferroalloys. Steel from ingots weighing 400 kg had satisfactory properties, especially increased strength with acceptable ductility. The quantitative effect of nitrogen was investigated and its mechanism refined. Four figures, two tables.

1/1

AA0040651- KLYUYEV MM UR 0482

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

240726 ELECTROSLAG REMELTING in a syphon bottom pouring operation: the consumable electrode is inserted so that its base is clear of the bottom by one third of the slag bath depth. Voltage is applied and the molten slag syphoned into the mould, or else imported via a tundish and orifice in the bottom of the mould. The slag rises and makes the circuit. The idea is to raise the slag sharply and thus avoid any skull or crusting on the mould bottom or walls. Once the slag reaches project height, syphoning stops and remelting proceeds normally.

5.3.66 as 1060334/22-2. PATON, B.E. et al. E.O. PATON ELECTROWELDING INST. (20.8.69) Bul 13/1.4.69. Class 18b. Int.Cl.C 21 c.

19750234

AA0040651

AUTHORS: Paton, B. Ye.; Medovar, B. I.; Latash, Yu. V.; Dudko, D. A.;
Yemel'yanenko, Yu. G.; Klyuyev, M. M.; Pryanishnikov, I. S.;
Laktionov, V. S.; Butskiy, V. N.; and Kosyrev, L. K.

Ordena Trudovogo Krasnogo Znameni Institut Elektrosvarki
Imeni E. O. Patona

19750235

USSR

UDC 669.15.018.8(088.8)

FEDOTOVA, L. S., ALEKSEYENKO, M. F., POTAK, YA. M., BELYAKOVA, V. A., ORZHEKH-
OVSKIY, YU. F., SHEPETOV, V. A., TOPILIN, V. V., DOROVIN, V. M., KLYUYEV,
M. M.

"Stainless Steel"

USSR Author's Certificate No 276434, Filed 25 Jul 68, Published 13 Oct 70
(from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4I637P)

Translation: A steel for operation at temperatures up to 600° is proposed with the following composition (in %): C 0.05-0.09, Cr 10.5-12, Ni 1.4-1.8, Mo 0.35-0.5, Nb 0.06-0.15, V 0.15-0.25, Si < 0.6, Mn < 0.6, Ce < 0.02. The ratio of the alloying elements satisfies the formula $0.68\% \text{ Cr} + (\% \text{ Mo} + \% \text{ V} + \% \text{ Si}) + 0.5\% \text{ Nb} - (30\% \text{ C} + \% \text{ Ni} + 0.5\% \text{ Mn}) < 6.6$. After quenching from 1,000° and tempering at 570°, at 20, 500, and 550° the steel has σ_B of 120, 70, and 55 kg/mm², σ_T of 100, 75, and 55 kg/mm², δ of 12% and ψ of 60-65%, respectively; σ_{100}^{500} and σ_{100}^{550} are 56 and 32 kg/mm², respectively.

1/1

- 65 -

UDC:669.187.6

USSR

VOLKOV, S. Ye., PAVPEROVA, I. A., KLYUYEV, M. M., PUPYNINA, S. M., and
FRENKEL, YA. A.

"Improvement of the Quality of Type Kh25N16G7AR (EI835) Steel"

Proizvodstvo Chernykh Metallov [Production of Ferrous Metals--Collection of
Works], No 75, Metallurgiya Press, 1970, pp 169-177

Translation: The possibility is studied of improving the quality of type EI835 steel by double electric slag remelting. The repeated electric slag remelting allows a significant reduction in the contamination of the metal with non-metallic inclusions. However, in order to produce metal of the highest quality, it is necessary to consider the temperature mode of the process and the composition of the flux.

The influence of the composition of the working flux on the nature of non-metallic inclusions following electric slag remelting has been established. For example, after remelting under a flux with increased content of basic oxides, the inclusions contain calcium oxide and magnesium oxide. Remelting beneath a flux, the composition of which included aluminum oxide, led to an increase in the content of alumina in the inclusions. Based on these facts, an assumption is made concerning the mechanism of interaction of slag and metal during the process of electric slag remelting. 4 figures; 3 tables; 3 biblio. refs.

1/1

UDC 669.187.6

USSR

NIKULIN, A. A., ARTEM'YEV, V. D., VOLKHONSKIY, L. A., KLYUKHEV, N. M., TOPILIN, V. V., VOLKOV, S. YE., and SHARAPOV, A. A.

"Study of Methods of Acting on Processes of Crystallization of Ingots During Electric Slag Remelting"

Proizvodstvo Chernykh Metallov (Production of Ferrous Metals -- Collection of Works), No 75, Metallurgiya Press, 1970, pp 161-167

Translation: Results are presented from a study of the control of crystallization of an ingot by acting on the drop transfer and hydrodynamic processes in the slag and metal bath by two methods, performed on a laboratory electric slag installation. The methods are remelting of electrodes moving eccentrically relative to the axis of the crystallizer, and remelting of electrodes in a longitudinal constant magnetic field, created by a solenoid wound around the cover of the crystallizer and supplied by a controlled direct current source. 3 figures; 2 tables; 5 biblio. refs.

1/1

- 17 -

Steels

K

UDC: 669.14.018.8

USSR

MEL'KUMOV, I.N., VIHOGRAD, M.I., and KLYUYEV, M.M.

"Improving the Quality of High-Strength 1Kh15N5AM2 Stainless Steel"

Moscow, Stal', No 5, May 70, pp 460-463

Abstract: Studies were made of the effect of electroslag remelting on the macrostructure, contamination by nonmetallic inclusions, and mechanical properties of 1Kh15N5AM2 (also called brand EP310 or VNS-5) high-strength stainless steel of the intermediate austenite-martensite class. The steel has the following chemical composition (%): 0.11-0.16 C, ≤ 0.7 Si, ≤ 1.0 Mn, ≤ 0.020 S, ≤ 0.035 P, 14.0-15.5 Cr, 4.0-5.0 Ni, 2.3-2.8 Mo, and 0.05-0.10 N. Inclusions dropped threefold as the result of electroslag remelting. The denser and more uniform macrostructure and the absence of coarse clusters of nonmetallic inclusions prevent the formation of internal defects in forged pieces made of metal from electroslag remelting. The remelted metal is distinguished by uniformity and stability of mechanical properties along the entire section of the ingot, and has higher plasticity and ductility properties and considerably less anisotropy of mechanical properties at testing temperatures up to 500°C in comparison with metal obtained by open melting. The macrostructure and nonmetallic inclusions were investigated on cast and deformed specimens and the mechanical properties -- on deformed metal.

1/2

USSR

MEL'KUMOV, I.N., et al, Stal', No 5, May 70, pp 460-463

The nonmetallic inclusions were determined according to the scale in the All-Union State Standard 1778-62, and the quantitative composition of the inclusions was determined by an electrochemical dissolution method using an acid electrolyte (HCl + KCl).

2/2

- 57 -

UDC 543.51:547.743

USSR

~~KIMYEV, N. A., KIMELNITSKIY, R. A., NIKITINA, S. B.,
GRANDBERG, I. I.~~

"Mass Spectra and Structure of Some Pyrrolines"

Leningrad, Zhurnal Organicheskoy Khimii, Vol 7, No 10, Oct 71,
pp 2038-2043

Abstract: The article describes results of a mass spectrometric study of the behavior of compounds of the pyrroline class under the action of electron impact. The following pyrrolines were studied: 2-methyl- Δ^1 -pyrroline, 2-ethyl- Δ^1 -pyrroline, 2-isopropyl- Δ^1 -pyrroline, 2-phenyl- Δ^1 -pyrroline and 1,2-dimethyl- Δ^2 -pyrroline. The mass spectra were obtained at a temperature of 2500, accelerating voltage of 2 kv, cathode emission current of 1.5 and 1.0 ma and ionizing electron energies of 50, 30, 20 and 15 ev. Relative sensitivity coefficients and relative ionization cross-sections were determined. It was found that there is a linear relation between the number of carbon atoms in the alkyl substituent and the relative ionization cross-section, described
1/2

USSR -

KLYUYEV, N. A., et al, Zhurnal Organicheskoy Khimii, Vol 7, No 10,
Oct 71, pp 2038-2043

by a regressive equation. It is suggested that in the excited
state the studied compounds have an enamine structure and their
decomposition path is the result of this form.

2/2

- 33 -

USSR

UDC: 621.396.677(088.8)

KLYUYEV, O. L., TEREKHOV, V. M., FADDEYEV, V. Ye., SHOFLER, I. V.

"Drive Mechanism for a Ground-Based Antenna System"

USSR Author's Certificate No 282452, filed 30 Oct 68, published 11 Dec 70
(from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6B109 P)

Translation: This Author's Certificate introduces a drive mechanism for a ground-based antenna system. The mechanism contains a DC force converter, an even number of actuating motors, high-speed and low-speed gear boxes, and crown gears connected to the drive gears. To improve the rigidity of the gear train and simplify the construction of the mechanism, the converter is connected between the common point of the actuating motor armatures and the common point of two power diodes which are connected in series in the same direction in the armature circuits of the same motors. An additional DC source is connected in parallel with these diodes through an auxiliary diode.

1/1

- 19 -

UDC 51

USSR

GORSTKO, A. B., YELISTRATOV, A. D., and KLYUYEV, V. N.

"On Certain Optimization Problems Involving Macroeconomic Models"

V sb. Mat. analiz ekon. modeley. Ch. 3 (Mathematical Analysis of Economic Models. Part 3 -- Collection of Works), Novosibirsk, 1972, pp 34-50 (from RZh-Matematika, No 3, Mar 73, Abstract No 3V577 from the introduction)

Translation: Suppose that planning takes place during an infinite period. Function $f(c(t))$ at each moment of time t characterizes the effect of consumption $c(t)$. On the set of functions $c(t)$ let us define the functional

$$\Phi(c) = \int_0^{\infty} f(c(s)) e^{\alpha s} ds,$$

where $\alpha < 0$ is the discount coefficient. Function $c(t)$ must satisfy certain conditions. A number of extremal problems arise in accordance with these conditions and the assumptions made.

1/1

1/2 015 UNCLASSIFIED PROCESSING DATE--20NOV70
 TITLE--CHARACTERISTICS OF THE CHROMOPHORES OF THIO DERIVATIVES OF
 MACROCYCLES AND THIOPHTHALOCYANINE BASED ON SPECTRAL DATA -U-
 AUTHOR--(03)-KLYUYEV, V.N., BEREZIN, B.D., SNEGIREVA, F.P.
 COUNTRY OF INFO--USSR
 SOURCE--IZV. VYSSH. UCHEB. ZAVED., KHIM. TEKHNIL. 1970, 13(2), 209-13
 DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY
 TOPIC TAGS--PHTHALOCYANINE, POLYNUCLEAR HYDROCARBON, HETEROCYCLIC NITROGEN
 COMPOUND, ORGANIC SULFUR COMPOUND, COPPER COMPOUND, ABSORPTION BAND
 SPECTRUM, COLOR

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAE--3005/0167

STEP NO--UR/0153/70/013/002/0209/0213

CIRC ACCESSION NO--AT0132445

UNCLASSIFIED

PROCESSING DATE--20NOV70

UNCLASSIFIED

2/2 015
CIRC ACCESSION NO--AT0132445

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. REPLACEMENT OF C ATOMS BY S IN THE PHthalocyanine (I) RING, AND THAT OF A MACROCYCLE (II) RESULTS IN A DISPLACEMENT OF ABSORPTION BANDS IN BOTH II AND ITS CU DERIV. THE PRINCIPAL ABSORPTION BANDS IN II, AND IN II WITH S ATOMS IN 1; 2 AND 3; AND 1, 2, AND 3 POSITIONS ARE 360 AND 510; 360 AND 500; 345 AND 480; 335 AND 430 NM WITH INTENSITIES (LOG EPSILON) IN THE RANGES 3.15-3.37 AND 2.95-3.06. BANDS FOR THE CORRESPONDING CU DERIVS. ARE : 379, 550, 687; 360, 490, 540, 655; 335, 450, 530, 650; AND 335, 430, 510, 615 NM WITH LOG EPSILON: 3.23-3.50 FOR THE 1ST BAND 2.84-2.99 FOR THE 2ND, 2.68-2.89 FOR THE 3RD (WHERE PRESENT), AND 2.06-2.38 FOR THE LAST. FOR CU (I), BANDS ARE FOUND AT 680, 614, AND 346 NM, WHILE IN ITS TETRATHIO DERIV. THE BAND POSITIONS ARE AT 455, 440, AND 310 NM. A THEORY EXPLAINING THE EFFECT OF S ATOMS ON THE CHROMOPHORIC CHARACTERISTICS IS PRESENTED.

USSR. FACILITY: IVANOV. KHIM.-TEKHNOL. INST., IVANOVO.

UNCLASSIFIED

PROCESSING DATE--20NOV70

UNCLASSIFIED

1/2 011
TITLE--STABILIZATION OF POLYCAPROLACTAM -U-

AUTHOR--(05)--SHIRNOV, L.N., KHARITONOV, V.M., KLYUYEV, V.N., SNEGIREVA,
F.P., KRAVCHENKO, M.P.
COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 263,136
REFERENCE--CTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--04FEB70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL STABILIZER, CAPROLACTAM, CHEMICAL PATENT, POLYNUCLEAR
HYDROCARBON, HETEROCYCLIC NITROGEN COMPOUND, HETEROCYCLIC SULFUR
COMPOUND, ORGANOMETALLIC COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/F-RAME--3004/1844

STEP NO--UK/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0132109

UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AA0132109

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EPSILON CAPROLACTAM IS POLYMD. IN THE PRESENCE OF 0.001-1 WT. PERCENT STABILIZER, SUCH AS A MACROCYCLIC COMPD. OF THE FORMULA I OR II, WHERE M IS A GROUP II OR III METAL OF VARIABLE VALENCE TO GIVE STABLE POLYCAPROLACTAMS. THESE MACROCYCLIC COMPS. ARE MIXED WITH METAL HALIDES.

UNCLASSIFIED

UDC: 621.373:530.145.6

USSR

FARSHTEINDINER, V. L., TOLCHINSKAYA, R. M., KLYUYEV, V. P., BARANOV, B. A.,
ANGERT, N. B.

"A Method of Making Monodomain LiNbO_3 Crystals of 0° Orientation"

USSR Author's Certificate No 280450, filed 21 Jun 68, published 10 Dec 70
(from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6D239 P)

Translation: This Author's Certificate introduces a method of making monodomain LiNbO_3 crystals of 0° orientation. As a distinguishing feature of the patent, the size and yield of the output product are increased by annealing the crystal grown to the necessary dimensions at $1160-1180^\circ\text{C}$ for 30-60 minutes under a voltage of 15-25 V, then cooling the crystal to $1025-1125^\circ\text{C}$ while reducing the voltage by 25-40 percent followed by cooling of the crystal at a rate of $25-30^\circ\text{C/hr}$.

1/1

- 174 -

USSR

UDC: 620.179.14

KLYUYEV, V. V., and FAYNGOYZ, M. L., Scientific Research Institute of
Introscopy

"Nondestructive Inspection of Current-Conductive Articles by Flow-Through
Transducers by the Constant-Field Method"

Sverdlovsk, Defektoskopiya, No 2, 1972, pp 27-31

Abstract: An analysis is made of the interrelationship of the inserted vector potential of a cylindrical coil, fed by alternating current, with the rate of motion of an inspected current-conductive article, coaxial with the coil. When the article is situated within the coil, there is the analogy of a flow-through external transducer; when the coil is situated within the article, there is the analogy of a flow-through external transducer. The value of the vector potential was determined for a point at the distance Z from the plane of the current coil, in a direction opposite to the velocity along the radius of the current coil. The analysis is conducted on the basis of exact computation of improper integrals. 2 figures. 1 table. 1 reference.

1/1

- 3 -

1/2 008 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--OPENING OF THE BENZOXAZINE RING IN 2, SUBSTITUTED
4,4,DIETHYL,4H,1,3,BENZOXAZINES.-U-
AUTHOR--(03)-LOPATINA, K.I., KLYUYEV, S.M., ZAGOREVSKIY, V.A.
COUNTRY OF INFO--USSR
SOURCE--KHM. GETERUTSIKL. SOEDIN. 1970, (2), 279-80
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--HYDROLYSIS, HETEROCYCLIC NITROGEN COMPOUND, BENZENE DERIVATIVE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1983/1193

STEP NO--UR/0409/70/000/002/0279/0280

CTRC ACCESSION NO--AP0054092

UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0054092

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE HYDROLYTIC OPENING OF THE BENZOXAZINE RING WAS READILY ACCOMPLISHED IN PRESENCE OF CU(II) SALT AND ACOH. THUS, EQUIMOL. SOLN. OF IA AND CU(II) SALT IN 70PERCENT ACOH WAS STIRRED 2 HR TO YIELD 40.7PERCENT IIA, M. 13102DEGREES. 18 (0.02 MOLE) IN 20 ML ETOH WAS ADDED TO 0.02 MOLE CU(II) SALT, 0.01 MOLE ACOH IN 50 ML 70PERCENT ETOH ADDED, AND THE MIXT. STIRRED 2 HR TO GIVE 50PERCENT IIB, M. 119-20DEGREES.

UNCLASSIFIED

1/2 012 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--BENZOXAZINES AND RELATED COMPOUNDS. II. SYNTHESIS OF 2 SUBSTITUTED
4,4 DIALKYL 4H 1, 3 BENZOXANINES -U-
AUTHOR--(03)-LUPATINA, K.I., KLYUYEV, S.M., ZAGOREVSKIY, V.A.
COUNTRY OF INFO--USSR
SOURCE--KHM. GETEROTSIKL. SUEDIN. 1970, (1), 43-4
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, CHEMISTRY

TOPIC TAGS--CHEMICAL SYNTHESIS, BENZENE DERIVATIVE, HETEROCYCLIC OXYGEN
COMPOUND, ORGANIC NITRILE COMPOUND, CHLORINATED ORGANIC COMPOUND,
AROMATIC ESTER, ORGANIC AZINE COMPOUND, MOLECULAR STRUCTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1993/0548

STEP NO--UR/0409/70/000/001/0043/0044

CIRC ACCESSION NO--AP0113439

UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--A70113439

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TO A COOLED (0DEGREES) MIXT. OF
 5.4 G O, HYDROXYPHENYLDIETHYLCARBINOL, AND 5.3 G ACYLNITRILE, WAS ADDED
 DROPWISE 5 ML 70PERCENT HCL0 SUB4 SO THAT THE REACTION MIXT. REMAINED AT
 0-10DEGREES, AND THE MIXT. MADE ALK. WITH AQ. NH SUB3 AFTER 24 HR, TO
 GIVE 40PERCENT I (R PRIME1 EQUALS CH:CH SUB2), B SUB1 83-4DEGREES.
 SIMILARLY WERE PREPD. I ((R PRIME1, B.P.-MM, AND PERCENT YIELD GIVEN):
 CH SUB2 CL, 106-7DEGREES-1, 32; CH SUB2 PH, 116-170EGREES-0.03, 57;
 P, CLC SUB6 H SUB4, 153-4-0.03, 46; CH SUB2 CD SUB2 ET, 109-10-0.06, 32;
 ME SUB2 COH, 118-19-4, 8.6; 6 PIPERIDINOHEXYL, 178-9-0.02, 41;
 6, (4,4, DIETHYL, 4H, 1,3, BENZOAZIN, 2, YL)HEXYL, 138.5+9.0DEGREES, 50; ME,
 83-4DEGREES-4, 22. ATTEMPTS TO PREP. THE BENZOAZINE FROM BETA
 PIPERIDINOPROPIONITRILE WERE UNSUCCESSFUL. FACILITY: INST.
 FARMAKOL. KHIMIDTER., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC: 621.376:530.145.6:621.376

KLYUYEV, V. P., MASH, D. I., MOROZOV, V. V., MIKOGOSYAN, D. N., ORAYEVSKIY, A. N.

"Detection of Infrared Emission by Shifting it to the Visible Range"

Kratk. soobshch. po fiz. (Brief Reports on Physics), 1970, No 5, pp 38-42 (from RZh-Radiotekhnika, No 10, Oct 70, Abstract No 10D459)

Translation: An experimental investigation was made into the possibility of detecting weak infrared radiation by shifting it in a nonlinear crystal (LiNbO_3) with a powerful pulse of emission from an argon laser. The installation used was sufficiently sensitive to create a nonlinear infrared spectrometer; it is assumed that such a spectrometer can produce broadening of the order of 1 \AA . Two illustrations, bibliography of twelve titles. N. S.

1/1

USSR

UDC 620.10

~~KLYUYEV, Yu. I.~~, Engineer, SOKOLOV, V. F., Candidate of Technical Sciences

"Determination of the Natural Frequencies and Forms of Oscillation of Shells of Revolution by Means of Matrix Series"

Moscow, Izvestiya Vysshykh Uchebnykh Zavendeniy, Mashinostroyeniye, No 12, 1970, pp 29-36

Abstract: The article deals with determination of the natural frequencies and forms of rotation of cylindrical, conical, and spherical shells with various conditions of fastening. The solution is developed on the basis of equations of the linear theory of shells with the use of matrix series. Consideration is given to variants of the construction of a single numerical algorithm, and recommendations are given on the use of these variants, depending upon the relative length of the shell. It is shown that determination of the frequencies and forms of oscillation of the shells for various variants of uniform boundary conditions is reduced to the solution of only one equation. The results of the conducted calculations are illustrated by graphs. 4 figures, 7 bibliographic entries.

1/1

- 133 -

AA0044235

KLYUYEV Yu. V. UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

2/70

243661 TRANSISTORISED TWO-STAGE POWER AMPLIFIER

characterised by the provision of short-circuit protection obtained by connecting the base of control transistor (5) to the output terminal of the amplifier via CR circuit (10). Short-circuit causes transistor (4) and (12) to cut off. The amplifier is used for VF signalling.

3.1.68 as 1207937/26-9. IU.V.KLINEV.E.P.TARASOV.CINEMA CONSTRUCTION OFFICE APPARATUS (3.10.69) Bul 17/14.5.69. Class 21a². Int.Cl. H 03f.

AUTHORS: Klyuyev, Yu. V., Tarasov, E. P.

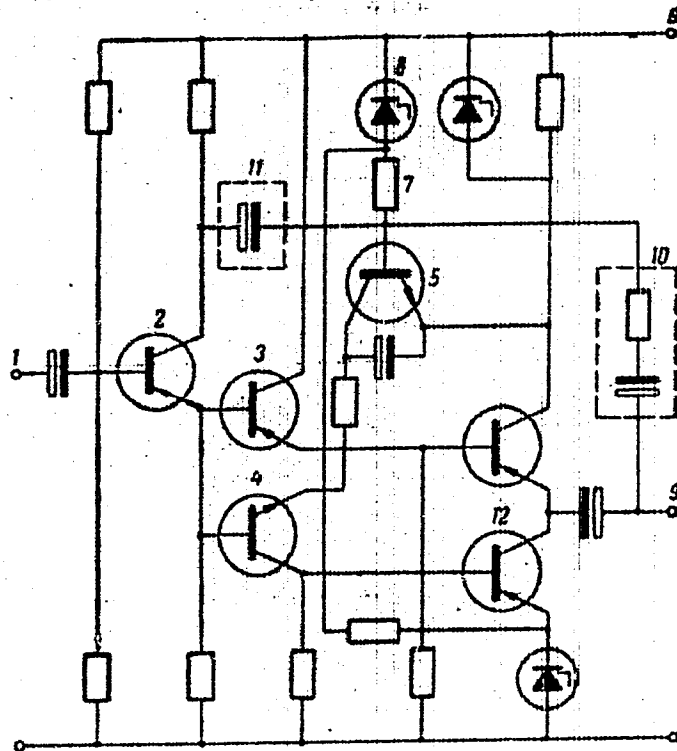
Tsentral'noye Konstruktorskoye Byurd Kinoapparatury

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AA0044235



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19770736

USSR

UDC 621.357.8.669.3-416

KUZMETSOVA, O. M., KLYUYEVA, K. M., and TRESNYAKOV, I. I.

"The Etching of Copper Coil in Ammonium Persulfate Solutions"

Obzher opytom b radioprom-ste (Exchange of information in the Radio Industry), Vyp 11, Moscow(?), 1972, pp 47-48 (from Referativnyy Zhurnal -- Khimiya, No8 (II), 1973, Abstract No 8L276 by V. V. Grinina)

Translation: Using a constant potential, the mechanism of the process of etching the copper coil was studied in the following solutions: 300 g/l $(NH_4)_2S_2O_8$, 1 ml/l of 0.68% solution of $Hg(NO_3)_2$, and 30 ml/l of H_2SO_4 .

It was shown that the etching of the copper occurs through the stage of formation of Cu^+ , the process being controlled by diffusion. A large amount of etching may be accomplished with a corresponding decrease in the reliability of the process by increasing the temperature of the solution and adding an oxidising agent to it.

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- 24 -

USSR

UDC 615.012.8

KLYUYEVA, L. M., and GORBUNOVA, S. S., All-Union Scientific Research Institute of Antibiotics, Moscow

"Continuous Regeneration of the Cation Exchanger KB-2 From Hydrogen to the Salt (Sodium) Form"

Moscow, Khimiko-Farmatsevticheskiy Zhurnal, Vol 5, No 11, 1972, pp 43-45

Abstract: Regeneration was carried out with 0.1, 0.5, and 1.0 N NaOH. The best results were obtained with 0.5 N NaOH used approximately at the rate of 100 ml/hour·cm², and 30 g/hour of the cation exchanger KB-2, in a four-section column. Absorption of Na ions in this case reached 97% in two hours, with 85% removal of Na⁺ from the regenerant. Extension of the contact time to 5.6 hours, increased the exchange of H for Na ions by only 0.5-1%. The suggested regeneration procedure made possible a four-fold decrease in the consumption of NaOH in comparison with periodic regeneration.

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1/2 007 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--CONTINUOUS EXTRACTION OF STREPTOMYCIN IN A MULTISECTION COLUMN WITH
A FLUIDIZED BED OF ION EXCHANGER -U-
AUTHOR-(03)-GELPERIN, N.I., KLYUYEVA, L.M., STREMOVSKIY, L.L.

COUNTRY OF INFO--USSR

SOURCE--KHIM. FARM. ZH. 1970, 4(2), 23-6

DATE PUBLISHED-----70

K

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--STREPTOMYCIN, FLUIDIZED BED, ION EXCHANGER/(U)KB2 CATION
EXCHANGER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1993/0326

STEP NO--UR/0450/70/004/002/0023/0026

CIRC ACCESSION NO--AP0113252

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--16OCT70

2/2 007

CIRC ACCESSION NO--AP0113252

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXPTS. WERE CARRIED OUT USING KB-2 CATION EXCHANGER (NA PRIME POSITIVE FORM), STREPTOMYCIN (I) SOLNS. OF THE ACTIVITY RANGE 4000-6500 IU-ML, AND FEEDING RANGE OF I SOLN. 114-410 ML-HR-CM PRIME2. THE OPTIMUM CONDITIONS FOR A CONTINUOUS EXTN. OF I USING A LAB. COLUMN (40 MM IN DIAM.) AND A COUNTERCURRENT INTERACTION OF PHASES WERE AS FOLLOWS: FEEDING RATE 220-40 ML-HR-CM PRIME2, EXPENSE OF FRESH EXCHANGER 10-12 G-HR, GRAIN SIZE OF THE EXCHANGER 0.5-0.75 MM, 12 SECTIONS OF THE COLUMN CHARGED WITH THE EXCHANGER, INITIAL CONC. OF I SOLN. 5000-6000 IU-ML. THE ADVANTAGES OF THE PROCESS ARE THE USE OF I COLUMN, REDN. OF THE RESIDENCE TIME OF I IN THE SORBED STATE, HIGH YIELD (SMALLER THAN 97PERCENT) AT THE SATN. OF SIMILAR TO 800,000 IU-G, CONST. CONCNS. OF I IN THE PHASES FED, AND POSSIBILITY OF AUTOMATION OF THE PROCESS. FACILITY: VSES. NAUCH.-ISSLED. INST. ANTIBIOT., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 632.954:634.11

KLYUYEVA, M. P., NIKOLAYEVA, S. I., and BONDURYANSKAYA, B. I., All-Union Scientific Research Institute of Biological Plant Protection Methods

"The Effectiveness of the Application of Banvel-D in the Garden Against Dicotyledonous Perennial Weeds"

Moscow, Khimiya v Sel'skom Khozyaystve, Vol 10, No 6, 1972, pp 48-50

Abstract: The herbicide, produced in the U.S., was tested in bearing apple orchards at the Kishinev school sovkhov for vineyards and vine culture. The soil was common moderately loamy chernozem with up to 4% humus. A 4 m² circle around each tree was treated with 1 liter by hand sprayer. There were 3-4 repetitions of 3 circles each. The toxicity of the herbicide was in direct relationship to its concentration. Dosages of from 1 to 5 kg/ha were tested. Complete kill of dicotyledonous perennial weeds was obtained at dosages of 3 kg/ha and higher, but these dosages also reduced fruit yields and tree growth. Hence 2 kg/ha was chosen as the optimal dosage. Calculation indicated that weed infestation remained low even 2 years after treatment, again in direct relation to the dosage of Banvel-D. There were no adverse effects from the herbicide up to the 2 kg/ha dosage. Some sorts of trees showed stimulated apple growth at the 1 kg/ha dosage, and treated apples also tended to keep somewhat better than those from the control trees.

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1/2 021 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--ELECTRONIC STRUCTURE OF SUBSTITUTED DIAZOPHENOLS -U-
AUTHOR--(02)-KAZITSYNA, L.A., KLYUYEVA, N.D. K
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (1): 192-4
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ELECTRON STRUCTURE, AZO COMPOUND, PHENOL, BORMINATED ORGANIC
COMPOUND, CHLORINATED ORGANIC COMPOUND, ORGANIC NITRO COMPOUND, ELECTRON
DENSITY

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1997/0641 STEP NO--UR/0062/70/000/001/0192/0194
CIRC ACCESSION NO--AP0119553
UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119553

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE LCAO MO CALCNS. REPORTED EARLIER (K., ET AL. 1967) WERE EXTENDED TO 2- AND 4-DIAZOPHENOLS CONTG. SUBSTITUENTS: 2-ME, 2,6-ME SUB2, 2-BR, 2,6-BR SUB2, 2,6-CL SUB2, 2-NO SUB2, 2,6-(NO SUB2) SUB2, 3,5-BR SUB2, 4-NO SUB2, 4,6-(NO SUB2) SUB2. THE ELECTRON DS. ARE IN FULL AGREEMENT WITH THE CHEM. PROPERTIES OF THE PHENOLS. FACILITY: INST. ELEMENTORG. SOEDIN., MOSCOW, USSR.

UNCLASSIFIED

USSR

KLYUYNIK, I. F.

"Differential Equations of Kolmogorov in the Theory of Markov Processes"

Mat. Fizika. Resp. Mezhved. Sb. [Mathematical Physics. Republic Interdepartmental Collection], 1972, No 12, pp 46-49 (Translated from Referativnyy Zhurnal Kibernetika, No 4, 1973, Abstract No 4V91, by the author).

Translation: A method is indicated for studying systems of Kolmogorov differential equations characterizing Markov processes which are discrete in space and continuous in time. No limitations are placed on homogeneity, i.e., the unstable case is studied.

1/1

- 16 -

USSR

UDC 617-001.28-036.11-092.9-035.272.6:547.963.32

ROGACHEVA, S. A., LUZANOVA, O. V., KLYZHUK, K. N., RUSINOVA, G. G., SHAROVA, E. G.,
and LIBINZON, R. Ye., Institute of Biophysics, Ministry of Health USSR, Moscow

"The Therapeutic Effectiveness of High-Polymer Heterologous DNA in Dogs with Acute
Radiation Sickness"

Moscow, Meditsinskaya Radiologiya, Vol 15, No 3, 1970, pp 44-48

Abstract: A study was made of the effect of high-polymer, heterologous, calf thymus DNA preparations on the course and outcome of acute radiation sickness in dogs. In the experiments, 52 dogs of both sexes, one to four years old, weighing 5-24 kilograms, were subjected to cesium-137 gamma-ray irradiation at a rate of 6 r per minute in doses of 700 and 750 r. The animals were divided into four groups: group one received injections of DNA 30-60 minutes after irradiation, groups two and three received injections 24 and 72 hours after irradiation, respectively, and group four served as the control. The animals were distributed evenly among the groups by sex, weight and initial peripheral blood index. The therapeutic effect was evaluated according to 60-day survival, the average life of nonsurvivors, the clinical picture of acute radiation sickness, and the results of peripheral blood studies. Results of the investigations revealed that intravenous administration of calf thymus DNA increased survival in all experimental groups. Of the 18

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USSR

ROGACHEVA, S. A., et al., Meditsinskaya Radiologiya, Vol 15, No 3, 1970, pp 44-48

dogs in the control group, only two (11%) survived, while four of the 12 dogs in group one survived, eight of 11 dogs survived in group two, and six of 11 dogs survived in group three. These results indicate that the optimum time of DNA administration is 24 hours after irradiation. It was determined that the therapeutic effect of DNA, introduced intravenously, depended on the period between irradiation and injection of the preparation.

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USSR

UDC: 621.396.2:621.371.1

KLYZHENKO, B. A. and PROSVETOV, A. M.

"Experimental Investigation of the Probability Characteristics of the Signal Envelope and Phase on a Shortwave Path"

V sb. Radioelektron. v nar. kh-ve SSSR, Ch. 2 (Radioelectronics in the National Economy of the USSR, Part 2--collection of works) Kuybyshev, 1970, pp 259-264 (from RZh-Radiotekhnika, No. 3, March 71, Abstract No. 3A262)

Translation: A description is given of experiments to verify the applicability of the Gaussian model for a shortwave communication channel. Five illustrations, bibliography of two. W. S.

1/1

Electromagnetic Wave Propagation

USSR

UDC 621.317.7

~~KLYZHENKO, B. A.~~

"Shortwave Radio Channel Simulator"

Radioelektronika v nar. kh-ve SSSR. Ch.1 --V sb.(Radio Electronics in the National Economy of the USSR. Part I -- collection of works), Kuybyshev, 1970, pp 151-165 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4A236)

Translation: A survey of various methods of simulating the radio wave propagation medium when studying developed communications systems under laboratory conditions is presented. The basis for the simulator is a unit which simulates the communications channel with random parameters by varying the envelope and phase of the signal input to it randomly. The simulator of a two-wave shortwave channel with a magnetostrictive delay line operating in five modes which are characterized by different shape of the simulated fadings is described. There are 3 illustrations and a 17-entry bibliography.

1/1

1/2 032

UNCLASSIFIED

PROCESSING DATE--11SEP70

TITLE--THE THERAPEUTIC EFFICACY OF HIGH POLYMER HETEROLOGOUS DNA IN DOGS WITH ACUTE RADIATION SICKNESS -U-

AUTHOR--RDGACHEVA, S.A., LUZANOVA, O.V., KLYZHUK, K.N., RUSINOVA, G.G., SHAROVA, E.G.

COUNTRY OF INFO--USSR

K

SOURCE--MEDITSINSKAYA RADIOLOGIYA, 1970, VOL 15, NR 3, PP 44-49

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DOG, RADIATION SICKNESS, DNA, CESIUM ISOTOPE, RADIATION SOURCE, THYMUS GLAND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1985/1693

STEP NO--UR/0241/70/015/003/0044/0049

CIRC ACCESSION NO--AP0101748

UNCLASSIFIED

2/2 032

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0101748

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN EXPERIMENTS ON 52 DOGS IRRADIATED FROM A¹³⁷CS PRIMEL37 SOURCE (6 R-MIN) IN DOSES OF 700 AND 750 R THE AUTHORS DEMONSTRATE THE THERAPEUTIC EFFECTIVENESS OF HIGH POLYMER HETEROLOGOUS DNA OF CALF THYMUS. DNA PREPARATIONS WERE OBTAINED BY THE METHOD OF KAY ET AL. THE THERAPEUTIC EFFECT OF DNA, INTRODUCED INTRAVENOUSLY IN A DOSE OF 15 MG-KG OF BODY WEIGHT, DEPENDED UPON THE TERM BETWEEN IRRADIATION AND INJECTION OF THE PREPARATION. THE GREATEST SURVIVAL (8 OUT OF 11 DOGS) WAS NOTED WHEN THE PREPARATION WAS INTRODUCED 24 HOURS AFTER IRRADIATION. IN DNA INJECTION 3 DAYS OR 30-60 MINUTES AFTER IRRADIATION THE SURVIVAL WAS 6 OUT OF 11 AND 4 OUT OF 12 ANIMALS RESPECTIVELY. IN THE CONTROL GROUP 2 OUT OF 18 DOGS SURVIVED. THE AUTHORS DISCUSS THE RELATIONSHIP BETWEEN THE THERAPEUTIC EFFECT AND TERM OF DNA INJECTION AFTER IRRADIATION.

UNCLASSIFIED

USSR

KHALAUNBRENNER, Ya., KMAYSIK, M. V.

"The Phenomenon of Resonance in Contact of Elastic Bodies"

Kontakn. Vzaimodeystviye Tverd. Tel i Raschet Sil Treniya i Iznosa [Contact Interactions of Solids and Calculation of the Forces of Friction and Wear -- Collection of Works], Moscow, Nauka Press, 1971, pp 38-48. (Translated from Referativnyy Zhurnal Mekhanika, No 1, 1972, Abstract No. 1V322 by V. M. Kulakov).

Translation: Following a brief review of theoretical works in the area of the contact of elastic bodies, a description is presented of an experiment. A spherical glass lens was compressed by a perpendicular force to the plane of a horizontally placed elastic plate and subjected to the influence of the moment of forces rotating around its vertical axis. Resonance curves were produced with various values of amplitude M_0 of loading moment $M=M_0 \sin \omega t$ by changing the pulsating frequency ω . The curves indicate that the elastic forces at the contact point are "soft" and nonlinear in nature. Curves were then measured of the static hysteresis for various amplitudes M_0 and the free and forced contact oscillations of the lens were recorded on an optical oscillogram. In the second portion, based on analysis of the hysteresis loops and resonance curves measured, the elastic and friction characteristics of the contact point are studied. 8 biblio refs.

1/1

- 93 -

USSR

UDC: 621.374.32

VASIL'YEV, V. V., KMET', A. B., PUKHOV, G. Ye., RAKOV, M. A., Physicomechanical Institute of the Academy of Sciences of the Ukrainian SSR

"A Decade Counter With Variable Scaling Factor"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 10, Apr 71, Author's Certificate No 298074, Division H, filed 23 Sep 69, published 11 Mar 71, pp 193-194

Translation: This Author's Certificate introduces a decade counter with variable scaling factor. The counter contains an input device, memory cell, single-digit counters, and also AND logic elements. As a distinguishing feature of the patent, the unit is designed for obtaining an arbitrary controllable scaling factor. The outputs of the memory cell are connected respectively to the master inputs of all single-digit counters and to the inputs of all AND logic elements for all digital places except the last. The inputs of the AND element for the last digital place are connected to the outputs of all single-digit counters, and the output of this AND element is connected to the reset terminals of the single-digit counters.

1/1

- 74 -

USSR

UDC: 681.142-523.8

3

BELEN'KIY, Ya. Ye., YERMAKOV, A. N., RAKOV, M. A., KMET', A. B., RAKOV, V. I.,
TISHCHENKO, A. G., TARASEVICH, V. A., Physicomachanical Institute of the
Academy of Sciences of the Ukrainian SSR

"A Device for Discriminating and Computing Extrema"

Moscow, Otkrytiya, Izobreneniya, Promyshlennyye Obraboty, Tovarnyye Znaki,
No 29, 1970, Soviet Patent No 281913, Class 42, filed 30 Jul 69, p 135

Abstract: This Author's Certificate introduces a device for discriminating and computing extrema in predetermined discrete zones. The unit contains an extremum-isolating flip-flop, a cadence pulse oscillator, a pulse distributor, and a counter. As a distinguishing feature of the patent, the functional possibilities of the device are extended by adding an analog-digital converter whose inputs are connected to the outputs of the cadence pulse oscillator and the pulse distributor, while the output of this converter is connected to the extremum-isolating flip-flop. Also incorporated into the device are two identical channels, each of them consisting of a flip-flop for determining the type of extremum and a coincidence matrix with one input connected to the output of the extremum-isolating flip-flop, and a coincidence matrix with one input connected to the output of the flip-flop for determining the type of extremum and the other connected to one of the outputs of

1/2

BELEN'KIY, Ya. Ye. et al., Soviet Patent No 281913

the analog-digital converter; the other inputs of the matrix are connected to the corresponding outputs of the pulse distributor. One of the outputs of the matrix is connected to the input of the flip-flop for determining the type of extremum, and the others are connected to the counters.

UDC: 8.74

USSR

DZHUGAN, F. K., KMETIK, N. Ye., BEZMOLITVENNYY, O. V.

"A Combined I/O Device"

Tr. NII upravl. vychisl. mashin (Works of the Scientific Research Institute of Control Computers), 1971, vyp. 4, pp 46-59
(from RZh-Kibernetika, No 8, Aug 72, Abstract No 8V603)

Translation: The article gives the particulars of an algorithm and the principle of the circuitry of a combined I/O device for punched tapes which is based on discrete elements. Authors' Resumé.

1/1

- 54 -

USSR

UDC: 621.315.592

KEMARSKIY, V. A., KMITA, A. M., and TELEGIN, A. A., Institute of Radio Engineering and Electronics, Moscow

"Acoustic-Electrical Domains in Epitaxial GaAs Films"

Leningrad, Fizika i tekhnika poluprovodnikov, No 8, 1972, pp 1483-1488

Abstract: This paper, which was presented before the All-Union Conference on semiconductor alloys $Al_{1-x}In_xB^V$ and $Al_{1-x}In_xB^V C_2^V$, in Ashkhabad, 1971, undertakes a more detailed investigation than hitherto offered of current oscillations in epitaxial GaAs films. The specimen films were grown by the method of gas-transported reactions on substrates of semi-insulating GaAs oriented along the (110) plane, and were cut into rectangular plates measuring 10X5X 1.8 mm. Detailed accounts of the specimen preparation and the experimental method are given. Current oscillations were observed in the temperature interval of 4.2 to 120° K, although increases in the 4.2 to 60° K range had little effect on the shape of the oscillations or the threshold field of their initiation. Above 60° K, the depth of current modulation gradually dropped until
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USSR

KEMARSKIY, V. A., et al, Fizika i tekhnika poluprovodnikova, No 8, 1972, pp 1483-1488

complete disappearance of the oscillations at 120° K. These specimens were used to investigate the acoustic-electrical effect generated by passage of an acoustical current through the region behind the anode. Plots of this effect as well as of the specimen characteristics are reproduced. The authors express their gratitude to Yu. V. Gulyayev for his comments and to V. V. Proklov for a useful discussion.

2/2

- 89 -

PHYSICS
Acoustics

USSR

~~KMITA, A. M., MOROZOV, A. I., FEDORETS, V. N.,~~ Institute of Radio Engineering
and Electronics, Academy of Sciences USSR, Moscow

"Impurity-Dipole Absorption of Ultrasonic Waves in CdSe at Low Temperatures"

Leningrad, Fizika Tverdogo Tela, No. 4, Apr 71, pp 1011-1014

Abstract: The absorption of piezoactive ultrasonic waves in photoconducting CdSe crystals at a frequency of $3 \cdot 10^9$ Hz was investigated by the echo method with longitudinal ultrasonic waves generated from the free end surface of a sample placed at the antinode of the electric field of a coaxial quarter-wave resonator. To avoid the effect of infrared background the resonator and sample were placed directly in the tube of a helium cryostat and cooled in helium vapors. It was observed that in the temperature range 4.2-15°K the predominant absorption mechanism for ultrasonic waves at low conductivities is impurity-dipole absorption of ultrasound that is unconnected with the conductivity of the crystal at constant current and is caused by the capture of photoelectrons on small impurity centers, absorption of the Debye dipole dielectric relaxation type. If the conductivity of the crystal is sufficiently high, ordinary electron absorption of ultrasonic

1/2

USSR

KMITA, A. M., et al, Fizika tverdogo tela, No. 4, Apr 71, pp 1011-1014

waves is observed. As the temperature increases, the impurity-dipole absorption decreases due to a decrease in the effectiveness of impurity centers. The effects observed in CdSe were very similar to effects observed by other authors in CdS and support the generality of the theory that has been established for impurity-dipole absorption of ultrasound for crystals of the piezosemiconductor class, in which impurity electron states exhibit natural dipole moments. According to the theory the phenomena observed in CdS are explained by the absorption of piezo-active ultrasonic waves on photoelectrons captured by small impurity centers which have fairly high natural dipole moments at helium temperatures; these electrons, being bonded, do not make a contribution to the conductivity of the crystal in a constant field but can participate in the absorption of sound as free electrons by interacting with the variable field of the waves. It follows from the theory that this mechanism for absorption of sound at low conductivities is predominant in the low-temperature region for this class of crystals in which there is a sufficient concentration of capture centers.

2/2

- 40 -

UDC 539.293:534.286.8

USSR

GULYAYEV, YU. V., ~~KMITA, A. M.~~, MEDVED', A. V., and MOROZOV, A. I., Institute of Radio Engineering and Electronics, Academy of Sciences USSR

"Ultrasound Photoabsorption in CdS and CdSe at Low Temperatures"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, Vol 35, No 5, May 71, pp 889-894

Abstract: The article describes results of a detailed study of ultrasound photoabsorption in photoconductive CdS and CdSe crystals in relation to temperature, conductivity, and illumination intensity in the 2-50° K temperature range and 2-3 Hz frequency range. Experimental results show that the observed photoabsorption of ultrasound is due to the excitation of photoelectrons and their interaction with ultrasonic waves through the piezo effect but cannot be explained by sound absorption by free electrons. The most probable mechanism appears to be ultrasound absorption by electrons bound on small impurity centers -- absorption of the Debye dipole electric relaxation type. The authors thank S. G. KALASHNIKOV and I. A. VIKTOROV for discussing the work and V. N. FEDORETS for assisting in the measurements.

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1/2 041 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--PHOTOABSORPTION OF ULTRASOUND IN CADMIUM SULFIDE AT LOW
TEMPERATURES -U-
AUTHOR--(04)-GULYAYEV, YU.V., KMITA, A.M., MEDVED, A.V., MOROZOV, A.I.
COUNTRY OF INFO--USSR
SOURCE--FIZ. TVERD. TELA 1970, 12(3), 690-9
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS
TOPIC TAGS--ULTRASONIC ABSORPTION, CADMIUM SULFIDE, PHOTOCONDUCTIVITY,
CRYOGENIC PROPERTY, ELECTRON CAPTURE, POTENTIAL WELL, TEMPERATURE
DEPENDENCE, CRYSTAL IMPURITY, CRYSTAL DEFECT

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1987/2005 STEP NO--UR/0181/70/012/003/0690/0699
CIRC ACCESSION NO--AP0105079

UNCLASSIFIED

2/2 041

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0105079

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ABSORPTION OF ULTRASOUND WAVES WAS INVESTIGATED IN PHOTOCONDUCTING CDS CRYSTALS AT 2.5-50DEGREEK AND AT 2.2-3.2 GHZ. THE ABSORPTION COEFF. CAUSED BY ILLUMINATION OF THE CRYSTAL CAN EXCEED BY SEVERAL ORDERS OF MAGNITUDE THE CORRESPONDING ABSORPTION COEFF. OF ULTRASOUND BY FREE ELECTRONS CALCD. BY THE LINEAR THEORY OF WYATT. THE OBSD. PHOTOABSORPTION OF ULTRASOUND DOES NOT HAVE A SINGULAR RELATION WITH THE INSTANTANEOUS COND. OF THE CRYSTAL OVER A WIDE RANGE. ON INCREASING TEMP. FROM HE TEMP. TO 200DEGREEK, THE PHOTOABSORPTION OF ULTRASOUND DECREASES APPROX. INVERSELY PROPORTIONALLY TO TEMP.; ABOVE 24DEGREEK AT CONDOS. SMALLER THAN 10 PRIME NEGATIVE6 OHM PRIME NEGATIVE1-CM PRIME NEGATIVE1, NO NOTICEABLE PHOTOABSORPTION WAS OBSD. THE DEPENDENCE WAS ALSO STUDIED OF PHOTOABSORPTION ON THE APPLIED CONST. ELEC. FIELD. AN EXPLANATION IS PROPOSED FOR THE EXPTL. DATA IN TERMS OF NOTIONS ABOUT CAPTURE OF ELECTRONS (PHOTOELECTRONS) IN SHALLOW POTENTIAL WELLS OF LARGE RADIUS DETD. BY THE PRESENCE OF IMPURITIES AND CRYSTAL DEFECTS. THESE ELECTRONS, BEING BOUND OR QUASI SOUND, DO NOT CONTRIBUTE TO THE STATIC COND. OF THE CRYSTAL, BUT CAN PARTICIPATE IN THE ABSORPTION OF ULTRASOUND BY INTERACTING WITH THE ALTERNATING ELEC. FIELD CREATED BY THE SOUND WAVE. IN ANALOGY WITH THE DEBYE THEORY OF DIPOLE RELAXATION INSOLIDS, AN ELEMENTARY THEORY WAS DEVELOPED OF SUCH ABSORPTION AND QUAL. COMPARISON WAS MADE WITH EXPT. FACILITY: INST. RADIOTEKH. ELEKTRON., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 621.382.95:535.371

RYZHIKOV, I.V., EUNYAYEV, V.A., FOMENKO, G.P., VORONIN, Y.G., SMITA, T.G.,
PRONIN, B.V., KHOKHLACHEV, K.I., KRUGLOV, I.I., MIKHAYLOV, V.V., TENYAKOV, YE.I

"Voltempere And Lumenampere Characteristics Of Silicon Carbide Light Diodes With High Current Density"

V sb. III Vses. konferentsiya po poluprovodnikov. karbidy kremniya (III All-Union Conference On Semiconductors Of Silicon Carbide), 1968, Moscow, 1970, pp 116-126 (from RZh--Elektronika i yeye primeneniye, No 1, January 1971, Abstract No 1B301)

Translation: Light diodes were investigated, obtained by diffusion of Al and B into n-SiC (6H) at 2000° C (for 40 minutes) and by diffusion of B alone for 10 minutes. The resistivity of the source material is 0.01--0.3 ohm.cm. The circuit for measurements, the experimental results and their consideration are presented. It is established that the voltempere characteristics with a current density 1-5000 a/cm² are described by the expression $I = AV^n$ ($n = 1.6--1.2$), and the lumenampere by $L = I^n$ ($n = 0.55--0.7$). Such dependences are the consequence of a radiative and nonradiative recombination of the carriers in all the regions of the p-n-n⁺ diode. A deviation is observed from the theory connected with the capture of majority carriers by fine centers of attachment. 7 ill. 10 ref. N.S.

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- 74 -

1/2 C10 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--PREPARATION OF BLACK PORTLAND CEMENT -U-

AUTHOR--(05)-KMITRIYEVA, V.A., KRAVCHENKO, I.V., ALESHINA, O.K.,
CHISTYAKOV, G.I., YEMELYANOVA, D.YA.
COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 267,431
REFERENCE--OTKRYTIYA, IZJBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--01APR70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--PATENT, CEMENT, PIGMENT, CARBON BLACK, HIGH TEMPERATURE HEAT
TREATMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3002/1410

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0128809

UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AA0128809

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BLACK PORTLAND CEMENT WAS PREPD. BY INTRODUCING A PIGMENT ADDITIVE, SUCH AS CARBON BLACK, INTO THE CLINKER WHICH WAS REMOVED FROM THE FURNACE AT GREATER THAN OR EQUAL TO 1200DEGREES AND WAS COOLED IN A REFRIGERATING APP. IN A NATURAL GAS MEDIUM TO 600DEGREES. FACILITY: STATE SCIENTIFIC RESEARCH INSTITUTE OF THE CEMENT INDUSTRY.

UNCLASSIFIED

1/2 910 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--THERMOCATALYTIC ISOMERIZATION OF 1,FORMYL,2,3, DIPHENYLCYCLOPROPENE
AND ITS CORRESPONDING AZINE -U-
AUTHOR--(03)-KMOENDANTCV, M.I., KRYUCHKOVA, I.K., JIMNIN, 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/FRAHE--1992/1542

STEP NO--08/0366/70/006/003/0631/0632

CIRC. ACCESSION NO--AP0112536

UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--02JCT70

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 0 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. S. GILLE, 1968) IS
PROPOSED FOR THESE 2 ISOMERIZATIONS.

UNCLASSIFIED

USSR

UDC 632.95

KNUZOVA, S. I., SVISTUNOVA, N. S., GUS'KOVA, L. A., FADEYEV, YU. N., SAVENKOV, N. F., KHOKHLOV, P. S., and BLYUZNYUK, N. K.

A Nematocide

USSR Author's Certificate No 296546, filed 17 Nov 69, published 27 Sept 71 (from Referativnyy Zhurnal -- Khimiya, No 10(II), 1972, Abstract No 10N528 by T. A. Belyayeva)

Translation: The nematocidal activity is determined for substances of the general formula $R(COCH_2CHCl_2)_n$ (I) ($R = \text{phenyl or arylene } n=1-2$), which are obtained by the reaction of halides of aromatic acids with vinyl chloride in the presence of $AlCl_3$. I is used in concentration 0.1, 0.01 and 0.001%.

Some 30-50 mg I is dissolved in a 2-5-fold volume of acetone and mixed with 30-50 mg OP-7. The solution obtained is mixed with water. I ($R=C_6H_4$,

$n=2$) (Ia) and I ($R = \text{p-C}_6\text{H}_4\text{NO}_2$, $n=1$) (Ib) causes 100% destruction of ralleic

nematode. I (R and n given): $\text{p-BrC}_6\text{H}_4$, 1 (Ic); $m\text{-C}_6\text{H}_4\text{NO}_2$, 1; $m\text{-C}_6\text{H}_4\text{Cl}$,

1, Ia, b cause 100% destruction of *Aphelenchoides besseyi*, *Aphelenchus avenae*, and Ia and Ic (concentration 0.1 and 0.01%) cause a 100% destruction of *Ditylenchus allii*.

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1/2 054 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--EFFECT OF HARDENING AND SOFTENING IMPURITIES AND IRRADIATION ON THE
THERMOLUMINESCENCE AND THERMOEMISSION OF EXCELECTRONS WITH LITHIUM
AUTHOR--(04)-BELYAYEV, L.M., KNAB, G.G., UROSOVSKAYA, A.A., DOBRZHANSKIY,
G.F.
COUNTRY OF INFO--USSR
SOURCE--KRISTALLOGRAFIYA 1970, 15(2), 317-21
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--THERMOLUMINESCENCE, CRYSTAL IMPURITY, LITHIUM FLUORIDE, PHOTON
EMISSION, HARDNESS, LUMINESCENCE SPECTRUM, RADIATION EFFECT, URANIUM,
MAGNESIUM INDIUM, MERCURY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1996/1476 STEP NO--UR/0070/70/015/002/0317/0321
CIRC ACCESSION NO--AP0118465
UNCLASSIFIED

2/2 054

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0118465

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE EFFECT OF DIFFERENT TYPES OF IMPURITIES (U, MG, WHICH HARDEN AND IN, AND HG WHICH SOFTEN THE CRYSTAL) AND OF IRRADN. WAS STUDIED ON THE LUMINESCENCE, EMISSION, AND MECH. PROPERTIES OF LIF. THE PROPERTIES WERE COMPARED FOR PURE AND IMPURE CRYSTALS FOR DIFFERENT IRRADN. TIMES. THE HARDENING IMPURITIES INCREASE THE INTENSITY OF THE LUMINESCENCE AND DECREASE THE EMISSION INTENSITY. IN THE THERMOLUMINESCENCE SPECTRA FOR LIF, HG, U PRODUCES MAX. WHICH CORRESPOND TO THE V BAND ABSORPTION. HG FACILITATES THE ACTIVATION DURING IRRADN. FOR LONG EXPOSURES TO X RAYS OF SOME NEW PROCESSES WHICH SUPPRESS THE ELECTRON EMISSION AND RECOMBINATION. THE SOFTENED CRYSTALS HAVE AN INTENSE EXOEMISSION AND STRONG THERMOLUMINESCENCE. X RADIATION REACTS WITH THE IMPURITIES, BRINGING ABOUT COMPLEX CHANGES IN THE DEFECT STRUCUTRE.

FACILITY: INST. KRISTALLOGR., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 535.37

KNAB, O. D., MAGALYAS, V. I., FROLOV, V. D., SHVEYKIN, V. I., and SHMERKIN, I. A.

"Measurement of the Photoluminescence, Photoelectromotive Force and Electroluminescence of Semiconductor Materials and Structures"

Moscow, Pribory i Tekhnika Eksperimenta, No 4, Jul/Aug 71, pp 225-226

Abstract: The paper describes an installation for high-resolution measurement of the photoluminescence, photoelectromotive force and electroluminescence of semiconductor structures and materials. The device is based on the principle of normal reflection of a light beam. The exciting and receiving optical systems are combined to enable the use of short-focus objective lenses. This appreciably reduces the size of the light spot and thus increases resolution. The exciting and excited light are separated by a narrow-band interference filter. Placement of the surface of the specimen normal to the beam of incident light makes it possible to measure the photoelectromotive force and electroluminescence of diode structures.

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AA0040659- K

Knabe, A.G.

UR 0482

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

241486 THERMAL STRAIGHTENING OF THINWALLED FINNED CYLINDERS reduces residual strain by heating the peripheral parts of the fins and outer case of the cylinder to 300-350°C to cope with alloy steel blanks. The thinwalled, split turbine low pressure cylinder has its peripheral fin parts heated as stated and once the peripheral zone has heated through and the outer case, forces begin to operate from inside in the bolt bores joining the cylinder and these produce a moment which bends each half of the cylinder relative to an axial plane perpendicular to the horizontal joint plane and in a direction opposite to the bend which occurs during the primary deformation of the cylinder. Thus this moment restores the concentricity.
 22.1.68 as 1213096/22-1. KNABE, A.G. et al (28.8.69)
 Bul 14/18.4.69. Class 18c. Int.Cl. C 21 d.

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10

19750248

AA0040659

AUTHORS: Knabe, A. G.; Shilin, Yu. P.; Klurfel'd, I. M.; and
Ostrovskiy, S. I.

19750249

USSR

UDC 616.233-002-036.12-02:616.24-003.662

ALEKPEROV, I. I., Professor, ~~KNABENGOF~~ V. G., Candidate of Medical Sciences, and
ALEKPEROV, Ch. A., Azerbaydzhan Scientific Research Institute of Labor Hygiene and
Occupational Diseases imeni M. M. Efendi-Zade, Baku

"Significance of Chronic Bronchitis in the Initial Stages of Silicosis Developing
Under Conditions of Medium-Height Mountains"

Kiev, Vrachebnoye Delo, No 9, Sep 70, pp 133-136

Abstract: Clinical and x-ray studies were made of 60 persons with stage-1 sili-
cosis; 30 of the subjects were miners living in the Dashkesanskiy Mountain region
(1,800 to 2,000 m above sea level), and 30 were industrial workers living at sea
level. The great majority of the former group were also suffering from chronic
bronchitis and emphysema, and presented complaints of dyspnea, cough, expectoration
of serous sputum, and chest pains. Subjective, clinical, and X-ray changes in the
lungs of those living at sea level were less pronounced. External respiration was
impaired in all of the patients, but to a greater extent in the mountain-dwellers.
The unfavorable atmospheric and meteorological conditions prevailing in the Dash-
kesanskiy Mountains (low temperatures, gusty winds, frequent rains, and snow
throughout the fall and winter), combined with the dry method of drilling, are
particularly conducive to the development of bronchitis.

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