

Radiation Chemistry

USSR

OSANOV, D. P., PANOVA, V. P., and AREF'YEVA, Z. S., Editorial Board of Zhurnal Fizicheskoy Khimii (Journal of Physical Chemistry) of the Academy of Sciences USSR

"Experimental Basis of Age Parameters for a Mathematical Model of the Metabolism of Radioactive Strontium"

Eksperimental'noye obosnovaniye vozrastnykh parametrov matematicheskoy modeli metabolizma radioaktivnogo strontsiya (cf. English above), Moscow, 1970, 18 pp, ill, bibliography with 10 titles (No 2883-70 Dep) (from RZh-Biologicheskaya Khimiya, No 8, 25 Apr 71, Abstract No 8F1310 Dep by authors)

Translation: The work presents the results of an experimental investigation of the rate of elimination of radioactive strontium from dog organism as a function of age. Discharge functions are determined for five age groups. A method is given for the interpolation of the discharge functions for any age. The authors consider one of the possibilities of using the results of this work in calculating doses for people of different ages.

1/1

Burn Studies

USSR

UDC 617-001.17-06:616-008.939.6-085.355:577.
156.014

DOLGINA, M. I., PANOVA, Yu. M., ZAYETS, T. L., and KUZNETSOVA, A. N.,
Institute of Surgery im. A. V. Vishnevskiy, Academy of Medical Sciences USSR,
Moscow

"Ways of Slowing Protein Catabolism in Burns"

Moscow, Sovetskaya Meditsina, No 1, 1973, pp 33-36

Abstract: Contrical, an East German drug known to inhibit trypsin, chymotrypsin, plasmin, and kallidinogenase, was administered to 28 patients with extensive thermal burns, all of whom were suffering from hypoproteinemia, hypoalbuminemia, and elevated globulin levels at the initiation of contrical treatment. The drug prevented the continued decrease in serum proteins, especially albumins, characteristic of the early period of burns. Two to 3 days after the burn the activity of the proteolytic enzymes increased markedly along with the development of hypo- and dysproteinemia. Contrical was suspended after 7 days but proteolytic activity began to decrease and continued to do so for 7 more days. At this time the patients exhibited a tendency toward hyperexcretion of nitrogen (urea nitrogen) and sharp increase in excretion of creatine. Thus, contrical would seem to be efficacious in inhibiting the breakdown of tissue and serum proteins that normally occurs in burns.

1/1

Exobiology

USSR

UDC 523.07

PANOVKIN, B. N., Candidate of Physicomathematical Sciences

"Extraterrestrial Civilization -- Problems and Opinions"

Moscow, Priroda, No 7, Jul 71, pp 56-61

Abstract: The article discusses the difficulties of correct methodological formulation of the problem of extraterrestrial civilizations and presents a critical review of some of the statements made by readers of Priroda in response to an article on this subject published several years ago. The success of the solution of this problem is related to the interpretation of such concepts as "reality," "common sense," "life," and "intellect," and the discovery of the universal aspects of these concepts which can be applied to other hypothetical, highly organized systems of the universe. The search for cosmic signals must be continued in the hope that an intellect which resembles ours to such an extent that it will be recognized can be found but it is important to keep in mind that the intellect which may be discovered someday may be very different from our interpretation of the word. At present the traditional ideas about the origin of life are being replaced by wider, "quasi-cybernetic" methodology for studying the possible evolutionary processes. Several readers suggest various approaches to the solution to this problem
1/2

USSR

PANOVKIN, B. N., Priroda, No 7, Jul 71, pp 56-61

including the use of mathematical models, the analysis of the relationship between civilization and the environment from a cybernetic point of view and the use of television, radio, special languages and codes for interstellar communications.

2/2

- 7 -

USSR

UDC 547.913.2:668.5

~~PANOZISHVILI, K.~~, ZOL'NIKOVA, N. V., and BOROVKOV, A. V., All Union Scientific Research Institute of Agricultural Microbiology

"Verrukarin A from Dendroochium Toxicum"

Tashkent, Khimiya, Prirodnykh Soyedineniy, No. 2, 1972, pp 245

Abstract: Using the activated charcoal adsorption method a toxic fraction was isolated from the Dendroochium toxicum culture. A compound was isolated from the toxic fraction by Al_2O_3 column chromatography with melting point $>330^{\circ}C$. On the basis of its physico-chemical properties, IR and UV data it was identified as verrukarin A.

1/1

172 023

UNCLASSIFIED

PROCESSING DATE--02OCT70

TITLE--PROPERTIES OF ZEOLITES CONTAINING ION EXCHANGE CHROMIUM -U-

AUTHOR--(02)-PANSEVICHKELYADA, L.V., SHARAY, V.N.

COUNTRY OF INFO--USSR

SOURCE--VESTSI AKAD. NAVJK BELARUS. SSR, SER. KHIM. NAVUK 1970 (1) 85-9

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ZEOLITE, ION EXCHANGE, CHROMIUM COMPOUND, CRYSTAL STRUCTURE, CATALYTIC HYDROGENATION, ETHANOL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY PEEL/FRAME--1992/1560

STEP NO--02/0419/70/000/001/0085/0089

CIRC ACCESSION NO--AP0112554

UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0112554

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CR PRIME3 POSITIVE CONTG. ZEOLITES OF THE A, X, Y, AND M TYPES WERE OBTAINED BY ION EXCHANGE BETWEEN A GIVEN ZEOLITE (E.G. OF NAA TYPE) AND 0.01 N CR(OAC) SUB3 (THE PRODUCT DESIGNATED AS CRNAY-1), OR BY MAINTAINING A ZEOLITE IN MOLTEN CR(ND SUB3) SUB3 .9H SUB2 O FOR 2 OR 24 HR (THE PRODUCTS CRNAY-2 AND CRNAY-3, RESP.). IN A AND X ZEOLITES OF LOW STABILITY IN ACIDIC MEDIUM, THE EXCHANGE DEGREE BETWEEN NA PRIME POSITIVE AND CR PRIME3 POSITIVE IONS WAS 6-7PERCENT WHEN USING THE 1ST PROCEDURE. REPEATING THE PROCEDURE OR INCREASING CR(OAC) SUB3 CONC. LED TO DESTRUCTION OF THE CRYSTAL STRUCTURE OF THE ZEOLITES. BY THE 2ND PROCEDURE, APPLICABLE TO THE Y AND M ZEOLITES OF A HIGH SI CONTENT, THE EXCHANGE DEGREE WAS 37-60PERCENT. REFRACTIVE INDICES OF THE PRODUCTS INCREASED WITH INCREASING CR PRIME3 POSITIVE CONTENT. THE PRODUCTS ALSO HAD INCREASED ADSORPTIVITY TO H SUB2 O VAPORS AND BENZENE AS COMPARED WITH THE PARENT ZEOLITES AND AN APPRECIABLY INCREASED CATALYTIC ACTIVITY IN DEHYDROGENATION REACTION OF ETOH.

UNCLASSIFIED

1/2 008 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--OXIDES 2, ALLYLBORNEOL OXIDE AND ITS REACTION WITH SOME AMINES AND
NITROGEN CONTAINING HETEROCYCLIC COMPOUNDS -U-
AUTHOR--(02)-PANSEVICHKOLYADA, V.I., FALALEYEVA, L.N. P
COUNTRY OF INFO--USSR
SOURCE--VESTSI AKAD. NAVUK BELARUS. SSR, SER. KHIM. NAVUK 1970, (1), 106-8
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, AGRICULTURE
TOPIC TAGS--PROCESSED PLANT PRODUCT, EPOXY COMPOUND, ORGANIC OXIDE, AMINE
DERIVATIVE, HETEROCYCLIC NITROGEN COMPOUND, IMIDAZOLE, AZO COMPOUND
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAHE--1987/1077 STEP NO--UR/0419/70/000/001/0106/0108
CIRC ACCESSION NO--AP0104475
UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--13SEP70

CIRC ACCESSION NO--AP0104475

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. KEEPING 30 G 2,ALLYLBORNEOL WITH
 17 G 78PERCENT ACOOH 10 DAYS GAVE 55.8PERCENT
 2,(2,3,EPOXYPROPYL)BORNEOL, B SUB2 123.5-4.5DEGREES, N PRIME20 SUBD
 1.4963, D PRIME20 1.0469. THIS KEPT WITH AMINES SEVERAL DAYS OR HEATED
 SEVERAL HR ON A STEAM BATH (C SUB5 H SUB11 NH SUB2 AND PIPERIDINE
 REQUIRED 2 HR AT 120DEGREES TO COMPLETE THE REACTION), GAVE 24-60PERCENT
 FOLLOWING 2,(3,(R SUBSTITUTED),2,HYDROXYPROPYL) BORNEOLS: (R SHOWN):
 ETNH, M. 110DEGREES; ET SUB2 N, B SUB4 159-61DEGREES, N PRIME20 SUBD
 1.4880, D PRIME20 0.9798; C SUB5 H SUB11 NH, B SUB2 193DEGREES, N
 PRIME50 SUBD 1.4810, D PRIME50 0.9695; PIPERIDINO, B SUB2
 193-3.5DEGREES, N PRIME50 SUBD 1.4950, D PRIME50 1.0075; PHNH, M.
 85-7DEGREES; 2,BENZIMIDAZOLYL, M. 154-5DEGREES; AND 2,BENZOTRIAZOLYL, M.
 169DEGREES.

UNCLASSIFIED

1/2 008

UNCLASSIFIED

PROCESSING DATE--23OCT70

TITLE--REACTION OF ALKYLPHENYL SUBSTITUTED GLYCIDOLS WITH AROMATIC AND ALIPHATIC AROMATIC AMINES -U-

AUTHOR--(02)-BOGUSH, B.K., PANSEVICHKOLYADA, V.I.

COUNTRY OF INFO--USSR

SOURCE--VESTSI AKAD. NAVUK BELARUS. SSR, SER. KHIM. NAVUK 1970, (2), 118-19

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--AROMATIC AMINE, BENZENE DERIVATIVE, PROPANOL, EPOXY COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1873

STEP NO--UR/0419/70/000/002/0118/0119

CIRC ACCESSION NO--AP0123661

UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0123661

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MICROFICHE OF ABSTRACT CONTAINS GRAPHIC INFORMATION. I WERE TREATED WITH PHCH SUB2 NH SUB2, O, MEC SUB6 H SUB4 NH SUB2, OR RHO, MEC SUB6 H SUB4 NH SUB2 AT ROOM TEMP. TO GIVE PHCH(NHR PRIME1) CH(OH), CH(OH)R (R, R PRIME1, M.P. OR B.P., N PRIME20 SUBD, AND D PRIME20 GIVEN): PR, RHO, ME, C SUB6 H SUB4, 120-2DEGREES, MINUS, MINUS; PR, PHCH SUB2 (PICRATE M, 198.5DEGREES), B SUB2 TIMES 5 200-2DEGREES, 1.5670, 1.0955; BU, PHCH SUB2, B SUB1 TIMES 5 202-9DEGREES, 1.5580, 1.0734; ISOAMYL, O-MEC SUB6 H SUB4, 100-1.5DEGREES, MINUS, MINUS; AMYL, O, MEC SUB6 H SUB4, 110-11DEGREES, MINUS, MINUS; HEXYL, O, MEC SUB6 H SUB4, 96DEGREES, MINUS, MINUS. FACILITY: BELORUSS. POLITEKH. INST., MINSK, USSR.

UNCLASSIFIED

USSR

UDC 621.382.539.1.074

KORZYUK, T. G., OVECHKIN, V. V., PANSHIN, A. Z., RAU, L. F., SMIRNOV, A. N.,
TAUBER, A. G., SHCHEBIOT, U. V., YUKOVSKIY, A. V.

"Use of Thermoelectric Microrefrigerator for Cooling of Gamma-Spectrometric
Si(Li) Detectors"

V sb. Prikl. yadern. spektroskopiya (Applied Nuclear Spectroscopy --
Collection of Works), Issue 1, Moscow, Atomizdat, 1970, pp 223-232 (from
RZh--Elektronika i yeye primeneniye, No 5, May 1971, Abstract No 5B257)

Translation: The construction and production technology of Si(Li) Gamma
radiation detectors with a thickness of the sensitive region up to 10 mm
are described. The spectrometric properties are studied of such detectors,
which are cooled with the aid of thermoelectric microrefrigerators of
temperatures of minus 40°C. It is found that such cooled detectors make
it possible to realize an energy resolution of 1-1.8 percent for ¹³⁷Cs.
Several possible and promising uses in applied spectrometry of the de-
tectors described are shown.

1/1

- 38 -

USSR

UDC: 620.193.6

BARBASHEV, Ye. A., BOGATOV, V. A., PANSHIN, B. I.

"Influence of Proton Bombardment in a Vacuum on Properties of Polymer Films"

L'vov, Fiziko-Khimicheskaya Mekhanika Materialov, Vol 8, No 6, 1972, pp 66-68.

Abstract: This article presents a study of the effects of proton bombardment on polymer films. The study was performed using films of polyethylene terephthalate 20 μ thick and polyvinyl chloride films 200 μ thick. Tensile-test specimens were bombarded in a vacuum by protons at 200 KeV energy produced by an accelerator at 0.014, 0.028 and 0.14 $\mu\text{a}/\text{cm}^2$ density, maximum flux $0.8 \cdot 10^{15}$ protons per square centimeter. Proton bombardment causes both the strength and elongation of the films at rupture to decrease. The effect of radiation decreases with increasing specimen material thickness. Gas chromatography of the specimens before and after bombardment indicated that acetaldehyde is formed upon bombardment of PETP films, which could occur only by rupture of the bonds in the main chain, i.e., destruction of the material.

1/1

- 104 -

1/2 032

UNCLASSIFIED

PROCESSING DATE--09OCT70

TITLE--CHARACTERISTICS OF THE SCATTER OF MECHANICAL PROPERTY DATA FOR
PLASTICS AT VARIOUS TEMPERATURES -U-

AUTHOR--(03)-FINOGENOV, G.N., PANSIN, B.I., CHERENINA, M.K.

COUNTRY OF INFO--USSR

SOURCE--MEKH. POLIM. 1970, 6(1), 29-34

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--PLASTIC MECHANICAL PROPERTY, TENSILE STRENGTH, IMPACT
STRENGTH, GLASS CLOTH, POLYMETHYL METHACRYLATE, LAMINATED STRUCTURE,
THERMAL EFFECT, LOW TEMPERATURE EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1896

STEP NO--UR/0374/70/006/001/0029/0034

CIRC ACCESSION NO--APO112876

UNCLASSIFIED

2/2 032

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0112876

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SCATTER OF EXPTL. DETNS. OF TENSILE STRENGTH AT BREAK AND FLEXURAL AND IMPACT STRENGTH OF GLASS CLOTH LAMINATES AND POLY(ME METHACRYLATE) WAS ANALYZED STATISTICALLY. THE SCATTER INCREASES AS THE TESTING TEMP. IS DECREASED FROM 0DEGREES TO MINUS 100DEGREES AND IT REMAINS CONST. OR IS SLIGHTLY DECREASED IN THE RANGE FROM 0DEGREES TO PLUS 200DEGREES.

UNCLASSIFIED

USSR

UDC 620.171-41

PANSHIN, B. I., KOTOVA, L. P., and KOLCHEV, O. V.

"Method for Determining the Mechanical Properties of Sheet Materials With a Shear in the Sheet Plane"

Moscow, Zavodskaya Laboratoriya, Vol 36, No 11, 1970, pp 1371-1374

Abstract: A brief review is presented of methods for determining the rigidity and strength characteristics of isotropic and anisotropic materials in the presence of shear in the sheet plane. The shortcomings of indirect methods for determining the shear characteristics of anisotropic materials are noted. Refined formulas for calculating the modulus of transverse elasticity G and the shear stress τ_B from data from tensile and compression tests are derived. A systematic error inherent to tests on buckling of sheet materials in conventional hinge frames is shown and evaluated in tests of ST-1 glass-reinforced textolite. A new stand for pure shear testing is described and presented schematically. It ensures a uniform stress and strain distribution and makes it possible to determine G and τ_B by refined

1/2

USSR

PANSHIN, B. I., et al., Zavodskaya Laboratoriya, Vol 36, No 11,
1970, pp 1371-1374

formulas without corrections. Comparative results obtained
using the conventional and new test stands are presented in tables.

2/2

- 25 -

USSR

UDC 509,216.22

PAN'SHIN, I. A.

"Modes of Reporting Fine-Structured Optical Information on Manganese-Bismuth Films"

Tr. Mosk. in-ta inzh. zh.-d.transp. (Proceedings of the Moscow Institute of Railroad Transportation Engineering), No 412, 1973, pp 29 - 32 (from RZh Avtomatika Telemekhanika i Vychislitel'naya Tekhnika, No 11, Nov 73, abstract No 11 A438)

Translation: A method is given for choosing recording modes, considering the characteristics of the magnetic recording material. Recording circuits are given which permit a sharp improvement in the dynamic range of the recording material. Four illustrations, three bibliographic citations.

Abstract by the author.

1/1

USSR

UDC: 621.391.837.32:681.84.083.84

NOZDRIN, V. V., PAN'SHIN, I. A., PODPALYY, Ye. A., STEPANOV, B. M., FABRIKOV, V. A., All-Union Scientific Research Institute of Opticophysical Measurements

"A Method of Increasing Contrast in Recording Optical Images on Strip-Domain Magnetic Tape"

Moscow, Zhurnal Nauchnoy i Prikladnoy Fotografii i Kinematografii, Vol 18, No 3, May/June 73, pp 217-218

Abstract: A method is described for increasing image contrast in thermal video recording on strip-domain magnetic tape. Before recording, the magnetic structure of the tape is oriented by an alternating magnetic field with amplitude exceeding the saturation field applied in the plane of the tape. The recording (domain-rotation) field is then applied perpendicular to the orientation of the initial domains. The film is heated by 0.03 μ s neodymium laser pulses. As a result, the domain structure is rotated through an angle proportional to the density of the irradiation energy. Contrast at low intensity is increased by an order of magnitude over conventional recording methods.

1/1

- 94 -

Photographic

UDC 778.39:778.534.425

USSR

YEGOROV, YU. P., PAN'SHIN, I. A., STEPANOV, B. M., FABRIKOV, V. A.

"Photography on Magnetic Films of Large Size"

Moscow, Zhurnal nauchnoy i prikladnoy fotografii i kinematografii, No. 6,
Nov/Dec 71, pp 443-445

Abstract: An experimental study to test the possibility of recording an optical image of dimensions $50 \times 50 \text{ mm}^2$ by low intensity light pulses (10^{-7} sec) on a magnetic film with a band domain structure are described. The possibility of applying thin ferromagnetic films with a band domain structure to photograph objects in a pulsed irradiation regime was shown in 1969. Radiant energy scattered from the surface of the object to be photographed is recorded by the magnetic film in the form of the distribution of angles of rotation of the domains in segments of the film with a different degree of irradiation. Nonselectivity of the magnetic films to the radiation wavelength in the thermal recording method makes it possible to record images over a wide spectral range, including the infrared, and the sensitivity over this whole range is comparable

1/2

USSR

YEGOROV, YU. P., et al, Zhurnal nauchnoy i prikladnoy fotografii i kinematografii, No. 6, Nov/Dec 71, pp 443-445

to the sensitivity of photographic films. In the 1969 study recordings were made on an iron-nickel film of dimensions $15 \times 15 \text{ mm}^2$. The light source was a neodymium glass laser in the free generation regime with a pulse length of 1 msec and the image was visualized by a magnetic colloid. For practical purposes it was of great interest to increase the dimensions of the recorded image and to decrease the exposure time. A special technique to keep the composition of the iron-nickel alloy constant over the entire surface of the glass substrate was developed that kept the deviation of the composition in the magnetic film from the composition of the initial alloy less than 0.2%. To reduce exposure time a method of sequential recording of individual sections of the image was applied, the boundaries of which overlapped. The rated heat diffusion from the exposed segments was large in comparison with the repetition rate of the pulses and therefore the cumulative effect on the overlapping sections of the film was eliminated. A photograph is given showing the image on a $50 \times 50 \text{ mm}^2$ film.

2/2

Heat, Combustion, Detonation

USSR

UDC 624.074.075.04

PAN'SHIN, L. L., Moscow

"Longitudinal Deflection of Supporting Structures of Multi-Story Buildings"

Moscow, Stroitel'naya Mekhanika i Raschet Sooruzheniy, No 1, 1973, pp 30-35

Abstract: A method is presented for the calculation of multi-story buildings for stability and according to a deformed schema. A spatially similar model of the building is analyzed in the form of a bundle of plane rod-like elements united by continuous series of elastically pliable shearing joints and absolutely rigid lateral and longitudinal joints. The problem is reduced to the solution of a system of linear differential equations. Some special cases of the work of supporting structures of multi-story buildings (single-span diaphragms, bundling supporting structures, framework-bundling systems) are analyzed and algorithms of their solutions are given. Five figures, fifteen formulas, three bibliographic references.

1/1

I/2 033
 TITLE--CONSERVATISM OF THE BOUNDARIES AND TEMPERATURE EFFECTS IN FILMS
 WITH BANDED DOMAINS WHEN RECORDING AN OPTICAL IMAGE ON THESE -U-
 AUTHOR--(03)-PANSIN, I.A., PODPALYY, YE.A., FABRIKOV, V.A.
 COUNTRY OF INFO--USSR
 SOURCE--FIZIKA METALLOV I METALLOVEDENIE, FEB. 1970, 29, (2), 439-441
 DATE PUBLISHED----FEB 70

SUBJECT AREAS--PHYSICS, MATERIALS
 TOPIC TAGS--FERROMAGNETIC FILM, MAGNETIC DOMAIN STRUCTURE, GRAIN BOUNDARY,
 OPTIC IMAGE, MAGNETIC MOMENT, THERMAL EFFECT, MAGNETIC RECORDING

CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAME--3002/1823

STEP NO--UR/0126/70/029/002/0439/0441

2/2 033

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0129191

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THERMAL EFFECTS ASSOCIATED WITH THE CONSERVATISM OF THE GRAIN BOUNDARIES IN MAGNETIC FILMS WITH BANDED DOMAINS USED TO RECORD OPTICAL IMAGES ARE DISCUSSED THEORETICALLY AND IN THE LIGHT OF PRACTICAL EXPERIENCE. THE MAGNETIC MOMENTS IN THESE FILMS ARE SUBJECT TO SEVERE 'FRICTIONAL' FORCES AND MAY ACCORDINGLY TAKE UP NON EQUILIBRIUM POSITIONS, SUBSEQUENTLY EXPRESSED IN THE FORM OF THERMAL EFFECTS. THE PRACTICAL IMPORTANCE OF THESE AND ANALOGOUS FEATURES IN IMAGE RECORDING ARE CONSIDERED.

UNCLASSIFIED

Precision Mechanical & Optical

USSR

UDC 778.39

KURSHIN, A. D., PANSHIN, I. A. and FABRIKOV, V. A., All-Union Scientific Research Institute of Opticophysical Measurements

"Utilization of Brightness Hysteresis for Recording Images on Ferromagnetic Film"

Moscow, Zhurnal Nauchnoy i Prikladnoy Fotografii i Kinematografii, Vol 17, No 3, 1972, pp 219-220

Abstract: A method for recording images on ferromagnetic film is described, in which the azimuthal angle and the diffraction angle do not change and the image is obtained due to different intensity of the diffracted illumination on illuminated and unilluminated sectors. The new method is based upon the hysteresis nature of the relationship of diffracted-radiation intensity to a normal magnetic field. The hysteresis is manifested in the change of diffraction intensity after the action of a normal field upon a film with band domains. This change of diffraction intensity, brought about by the normal magnetic field, can be "photographed" by heating the film. This forms the basis of the new recording mechanism by means of which the image is fixed on the film in the form of sectors with different diffraction intensities. Pulse laser radiation is used to obtain the image. The sensitivity of this recording

1/2

USSR

KURSHIN, A. D., et al., Zhurnal Nauchnoy i Prikladnoy Fotografii i Kinematografii, Vol 17, No 3, 1972, pp 219-220

method has been experimentally evaluated at 0.1 joule/cm^2 . The unit of resolution is expected to be commensurable with the width of the band domains (0.5 μ). 1 figure. 3 references.

2/2

USSR

UDC: 669.15.156:620.17

P
PAN'SHIN, I. F., Kurgan Machine Building Institute

"Mechanical Properties of Steel Quenched From the Intercritical Temperature Interval"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy, Chernaya Metallurgiya, No 8, 70, pp 119-122

Abstract: An attempt is described to determine the relationship of the properties of 35KhNV steel (0.34% C; 0.33% Si; 0.67 Mn; 1.41% Cr; 1.43% Ni and 0.9% W) to its structure after quenching from the A_{c1} -- A_{c3} interval. 35KhNV steel after quenching from the intercritical interval was found to have lower strength and plasticity properties than after quenching and high tempering. The difference in the properties diminishes as hardness decreases. The proportionality limit depends on phase distribution and remains constant at a low level until the formation of a martensite skeleton. The greatest promise is held by incomplete quenching for a lower hardness ($HRC \leq 30$), when the set of mechanical properties is close to an improved steel and the possibility of stress redistribution is greater.

1/1

USSR

UDC 621.385.64

P
PAN'SHIN, V.V.

"Approximate Calculation Of The Flight Time Of Electrons Between The Electrodes In Magnetron Devices With A Cathode In The Interaction Area"

Elektron. tekhnika. Nauchno-tekhn. sb. Elektron. SVCh (Electronics Technology. Scientific-Technical Collection. Microwave Electronics.), 1970, No 1, pp 143-145 (from RZh--Elektronika i yeye primeneniye, No 8, August 1970, Abstract No 8A118)

Translation: On the basis of adiabatic theory a formula is obtained for calculation of the flight time of electrons from the cathode to the anode in magnetron devices with the cathode in the interaction area. The dependences are presented of the flight time of electrons in a magnetron (expressed in periods of the cyclotron frequency), on the phase of the escape of an electron from a cathode, the parameters of the magnetic field, the amplitude of the high-frequency voltage, and the anode voltage. 4 ill, 3 ref. G.B.

1/1

- 286 -

USSR

UDC 621.385.64

PAN'SHIN, V.V.

"Approximate Computation Of The Impact Energy Of Electrons Against The Anode In Magnetron Devices"

Elektron. tekhnika. Nauchno-tekhn. sb. Elektron. SVCh (Electronic Technology. Scientific-Technical Collection. Microwave Electronics), 1970, No 9, pp 23-25 (sic) (from RZh--Elektronika i yeye primeneniye, No 12, December 1970, Abstract No 12A155)

Translation: A method is proposed for an approximate computation with the use of a simple computer of the impact energy of electrons against the anode in magnetron devices with secondary emission cathodes. The effect is considered of the amplitude and phase of the HF field and other parameters which determine the operating conditions of the device, on the character of the electron motion near the anode. Graphs are presented of the dependences of the averaged square of the dimensionless electron velocity at the point of impact, on the dimensionless parameters of the regime. A comparison of the computed characteristics of the anode losses with those observed in practice gives satisfactory agreement. 9 ref. Summary.

1/1

USSR

UDC 632.95

GOL'DINOV, A. L., PANSHIN, Yu. A., ZIL'BERMINTS, G. S., SHAPKIN, L. G., and GALUTSKIY, G. M.

"Synthesis of Trichloroacetic Acid"

USSR Author's Certificate No 284781, Filed 11 Jun 69, Published 12 Jun 72
(from Referativnyy Zhurnal -- Khimiya, Svodnyy Tom, (I, L-S), No 1(II),
1973, Abstract No IN499P by T. A. Belyayeva)

Translation: Trichloroacetic acid is synthesized by oxidation of CCl_3CHO (I) at $45-65^\circ\text{C}$ in the presence of HNO_3 by passing oxygen through the reaction mixture, followed by a final oxidation with HNO_3 at $80-100^\circ\text{C}$. Example. Synthesis is carried out continuously in a sequence consisting of three glass reactors (Rc). The first Rc is supplied with I, as well as with HNO_3 and O_2 in amounts 0.2-0.5 and 0.4-0.8 mole per 1 mole of I, respectively. In some cases the second Rc is also supplied with O_2 . The reaction mixture stays in each Rc for 6 hrs. Temperature in the first, second, and third Rc is maintained at $45-65$, $80-90$, and $90-95^\circ\text{C}$, respectively. The concentration of HNO_3 is kept at 85-98%, and of I at 83-98%. The yield of CCl_3COOH is 97.5-100%.

1/1

1/2 015 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--KINETICS AND MECHANISM OF THE THERMAL DECOMPOSITION OF
1,2, DIFLUORO, 1, CHLOROETHANE FREON 142 -U-
AUTHOR--(02)-PANSIN, YU.A., PANSINA, N.G.
COUNTRY OF INFO--USSR
SOURCE--ZH. FIZ. KHIM. 1970, 44(6), 1396-9
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--REACTION KINETICS, CHEMICAL REACTION MECHANISM, THERMAL
DECOMPOSITION, FREON, PYROLYSIS, CHLOROFLUOROCARBON COMPOUND
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605012/F06 STEP NO--UR/0076/70/044/006/1396/1399
CIRC ACCESSION NO--AP0140336
UNCLASSIFIED

2/2 015 UNCLASSIFIED PROCESSING DATE--04DEC70
CIRC ACCESSION NO--AP0140336
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE PYROLYSIS, WHICH GAVE H
SUB2 C:CF SUB2 AND HCL, WAS IRREVERSIBLE AT 600-780DEGREES. ANALY. OF
THE PRODUCTS, AS WELL AS EXPTS, WITH ADDED H SUB2 C:CHME SUB2 AND H SUB2
C:CHME, SHOWED THAT THE REACTION PROCEEDS VIA A UNIMOL. MECHANISM.

UNCLASSIFIED

1/2 015 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--KINETICS AND MECHANISM OF THE THERMAL DECOMPOSITION OF
1,2-DIFLUORO,1,CHLOROETHANE FREON 142 -U-
AUTHOR-(02)-PANSIN, YU.A., PANSINA, N.G.
COUNTRY OF INFO--USSR
SOURCE--ZH. FIZ. KHIM. 1970, 44(6), 1396-9
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--REACTION KINETICS, CHEMICAL REACTION MECHANISM, THERMAL
DECOMPOSITION, FREON, PYROLYSIS, CHLOROFLUOROCARBON COMPOUND
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605012/F06 STEP NO--UR/0076/70/044/006/1396/1399
CIRC ACCESSION NO--AP0140336
UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0140336

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE PYROLYSIS, WHICH GAVE H
SUB2 C:CF SUB2 AND HCL, WAS IRREVERSIBLE AT 600+780DEGREES. ANALY. OF
THE PRODUCTS, AS WELL AS EXPTS. WITH ADDED H SUB2 C:CHME SUB2 AND H SUB2
C:CHME, SHOWED THAT THE REACTION PROCEEDS VIA A UNIMOL. MECHANISM.

UNCLASSIFIED

USSR

UDC 632.95

KAGAN, YU. S., KLISENKO, M. A., and PANISHINA, T. N.

"Some Questions in the Quantitative Toxicology of Organophosphorus Compounds"

V sb. Khimiya i primeneniye fosfororgan. sovedin. (Chemistry and Application of Organophosphorus Compounds -- Collection of Works), Moscow, "Nauka," 1972, pp 438-448 (from RZh-Khimiya, No 14, 25 Jul 72, Abstract No 14N448 by T. A. Belyayeva)

Translation: In vivo experiments during study of the neutralization of organophosphorus compounds (OPC) confirmed the regularity noted during in vitro investigations, viz. that there is a correlation between the rate of neutralization and the degree of toxicity. Neutralization of OPCs in insects takes place considerably more slowly than in the organism of warm-blooded animals, and this is the basic reason for the selectivity of OPCs for insects.

1/1

- 54 -

BIOLOGY
Agriculture

USSR

BURYY, V. S., and PAN'SHINA, T. N.

"Herbicides"

Moscow, Zdorov'ye, No 2, 1971, pp 28-29

Abstract: Following a description of the properties of the main classes of herbicides authorized for sale in the USSR, their degree of toxicity, and symptoms of poisoning they produce upon inhalation or ingestion, the authors outline a series of steps that must be taken to safeguard those whose jobs require regular handling of the chemicals and those who may want to use them in private gardens and orchards. These steps are set forth in detail in the official publication Sanitarnyye pravila khraneniya, transportirovki i primeneniya yadokhimikatov v sel' skom khozyaystve (Sanitary Regulations for the Storage, Transport, and Use of Toxic Chemicals in Agriculture).

1/1

USSR

GABOVICH, A. M., PASHITSKIY, E. A. (Institute of Physics of the Ukrainian Academy of Sciences, Kiev)

"Polarization Operator of a Superconducting Electron Gas. Kohn Anomalies and Screening of the Charge in Superconductors"

Kiev, Ukrainskiy Fizicheskii Zhurnal, April 1973, pp 549-557

Abstract: A static polarization operator of superconducting electron gas $\Pi_3(q,0)$ was calculated within the framework of the Bardeen-Cooper-Schrieffer model at $T = 0$. It is shown that, as a result of the Fermi surface diffusion by an amount on the order of Δ (where Δ is a gap in the spectrum of quasi particles), the logarithmic singularity at the point $q = 2k_F$ in $\Pi_3(q,0)$ characteristic of the polarization operator for a normal electron gas $\Pi_n(q,0)$ is absent. This leads to a diffusion of the Kohn anomalies in the metal phonon spectrum and to a change in the character of the asymptotic behavior of the screened potential of the charge at distances of $r \geq \xi_0$ (ξ is the coherence length).

1/1

- 71 -

USSR

GABOVICH, A. M., PASHITSKIY, E. A. (Physics Institute of the Ukrainian Academy of Sciences, Kiev)

"Magnetic Susceptibility of a Degenerate Electron Gas. Interaction of Nuclear Magnetic Moments in Normal Metals and Superconductors"

Kiev, Ukrainskiy Fizicheskii Zhurnal, June 1973, pp 898-905

Abstract: Static magnetic susceptibilities of normal and superconducting electron gases were calculated by means of a macroscopic electrodynamic approach based on the Lindhard formula (Dan. Mat. Fys. Medd., 28, 8, 1954) relating magnetic permeability with transverse and longitudinal dielectric constants of a medium having space and time dispersion. A formula is obtained for the energy of the interaction of nuclear magnetic moments in normal metals. It is shown that the logarithmic singularity at the point $q = 2k_F$, characteristic of the magnetic susceptibility of a degenerate electron gas, disappears in the transition from a normal to a superconducting state; this may affect the character of ordering nuclear spins in superconductors as well as the magnitude of the anomalies in the spin wave spectrum under the condition of the simultaneous existence of ferromagnetism and superconductivity.

1/1

USSR

UDC 669.15-194:669.295:621.785.6:
:539.389.3:620.183.6

GRINBERG, B. G., PASHKOV, P. P., PINCHUK, P. A., KNYSHEV, Yu. V.,
and SHTEYN, L. M., All-Union Correspondence Construction Engineer-
ing Institute

"X-Ray Microanalysis of the Diffusion Layer in Titanium-Steel
Bimetal"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy, Chernaya Metallur-
giya, No 7, 1973, pp 133-135

Abstract: Investigation results are presented of diffusion proces-
ses in the bimetal VT1-1 titanium + EI702(N36TYu) alloy. The bime-
tal was produced by means of joint rolling of EI702 alloy, heated
in argon, with cold VT1-1 titanium. The thickness of the bimetal
was 0.12-1.2 mm, that of the covering was 10% of this. Parts
from the bimetal were hardened from 950-1000°C and subjected to
hardening temper (aging) at 650-700°C for 2-6 hrs. The redis-
tribution of iron, nickel, and chromium from EI702 alloy into
VT1-1 titanium was determined. By comparison of the microhardness,

1/2

- 59 -

USSR

GRINBERG, B. G., et al., Izvestiya Vysshikh Uchebnykh Zavedeniy, Chernaya Metallurgiya, No 7, 1973, pp 133-135

the electron-topography, and the characteristic X-ray radiation with concentration redistribution curves of iron, nickel, and chromium, the character and regularities of the formation of diffusion zones in the process of production and of heat treatment of the bimetal were exposed. One figure, three bibliographic references.

2/2

Acc. Nr:
AP0046226

Abstracting Service: 5/70
INTERNAT. AEROSPACE ABST.

Ref. Code:
UR0077

A70-23174 # Kinematographic study of rapidly occurring processes with the aid of polarized light (Kinematograficheskoe issledovanie bystroprotokaiushchikh protsessov s pomoshch'iu polarizovannogo sveta). L. K. Malyshev and A. A. Panteleev (Vsesoiuznyi Nauchno-Issledovatel'skii Institut Gidrotekhniki, Leningrad, USSR). *Zhurnal Nauchnoi i Prikladnoi Fotografii i Kinematografii*, vol. 15, Jan.-Feb. 1970, p. 31-36. 14 refs. In Russian.

Brief survey of the polarization-optical method of studying mechanical stresses, noting the special features of the application of this method to studies of opaque models of natural material subjected to dynamic loading. Two experimental arrangements employing this method and using available standard equipment are described, which make it possible to record pulsed and periodic stressed states in transparent and opaque models. The results of experiments are presented in the form of kinograms and graphs. Special attention is paid to equipment used for decoding kinograms.

A.B.K.
ALS

1/1

REEL/FRAME
19781342

2/

P
USSR

UDC 778.534.83:535.5

MALYSHEV, L. K., and PANTELEYEV, A. A., All-Union Scientific Research
Institute of Hydraulic Engineering imeni B. YE. Vedeneyev

"Cinematographic Investigation of Fast Flowing Processes With the Help
of Polarized Light"

Moscow, Zhurnal Nauchnoy i Prikladnoy Fotografii i Kinematografii, Vol 15,
No 1, Jan-Feb 70, pp 31-36

Translation: A polarization optical method of studying mechanical stresses
and the peculiarities of its application in the study of opaque models made
of natural material during dynamic loading are reviewed. Two experimental
apparatuses which utilize the method are described. They are assembled from
standard parts and make possible a recording of pulsed and periodic stress
states in transparent and opaque models. Results obtained in experiments are
presented in the form of cinemagrams and graphs. The technique of reading
cinemagrams is given special attention.

1/1

USSR

UDC 539.4

PANTELEYEV, A. K., RZHAVIN, L. N., GL SECHENKO, N. I., KONOVALOV, V. I., and TRIPOL'SKIY, S. S. (Zaporoz'ye)

"Investigation of Combined Vibrations of the Disk-Blade System of the Impeller of a Turboprop-Engine Turbine"

Kiev, Problemy Prochnosti, No 11, Nov 73, pp 78-81

Abstract: In order to study the nature and modes of the vibrations of a turbo-prop-engine turbine, as well as the distribution of the stresses, a tensometric investigation was conducted of the entire set of the 82 blades and the disk of the turbine impeller. Results of the conducted tests show that the cause of the high stresses occurring in the blades is to be found in the critical impeller rotation rates, at which combined vibrations of the disk-blade system occur in accordance with a mode with five node diameters. Frequency adjustment of the disk-blade system was conducted via variation of the system components. A correlation was established between the critical rotation rates and the average frequency during the axial mode of vibrations of the blade set. On the basis of this correlation, control over the average vibration frequency of the blade set during the axial vibration mode has been introduced into the process of blade production. 5 figures.

1/1

USSR

UDC 621.017.1.014.482

KHAI TOV, R. M., and PANTELEEV, E. I., Institute of Biophysics, Ministry of Health USSR

"Immunological Memory in Mice Following Lethal Irradiation and Shielding of an Extremity"

Moscow, Zhurnal Mikrobiologii Epidemiologii i Immunobiologii, No 6, 1973, pp 19-23

Abstract: CBA mice, 4 to 5 months old and 24-26 g in weight, were employed in studies to determine the effects of lethal irradiation (800 r) on the secondary immune response and the radioresistance of memory cells. Different groups of animals were either only immunized (0.5 ml of 2% SRBC, intraperitoneally) (controls), or immunized and 1.5 months later irradiated with protection of the right posterior extremity by a metal shield (6 mm lead, 1 mm aluminum) and reimmunized 12 days later, or immunized and irradiated with shielding without reimmunization, or irradiated with shielding and then immunized. The last group consisted of animals that were immunized, subjected to total body irradiation, and then were reimmunized. Comparison of blood hemagglutinin titers for the different groups at a comparative period of time, corresponding to 14-24 days after the secondary immunization, 1/2

USSR

KHAI TOV, R. M., and PANTELEYEV, E. I., Zhurnal Mikrobiologii Epidemiologii i Immunobiologii, No 6, 1973, pp 19-23

revealed that only the group that had been immunized, irradiated with shielding, and reimmunized gave an anamnestic response with a titer (in log₂) of 8.7 ± 0.25 ($M \pm SE$). The titers for the other irradiated groups ranged from 4.2 to 4.6; the corresponding titer for the non-reimmunized controls was 5.9 ± 0.14 . Thus, shielding of bone marrow was required for an anamnestic response in irradiated mice; irradiation alone caused the titers to fall. Further studies with spleen cell transfer experiments showed that cells from immunized and totally irradiated animals would not endow unimmunized totally irradiated recipients with the capacity to respond with an anamnestic reaction. However, spleen cells from immunized unirradiated donors did endow these recipients with the ability to respond with a secondary immune response, demonstrating that the immune memory cells are not radioresistant.

2/2

1/2 028 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--RADIATION GROWTH OF URANIUM DURING LOW BURN UPS -U-

AUTHOR--(04)-KONOBAYEVSKIY, S.T., PANTELEYEV, L.D., LEVITSKIY, B.M.;
NASKIDASHVILI, I.A.
COUNTRY OF INFO--USSR

SOURCE--AT. ENERG. 1970. 28(4), 326-32

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--URANIUM, IRRADIATION, CRYSTAL LATTICE DEFORMATION, LATTICE DEFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3008/0558

STEP NO--UR/0089/70/028/004/0326/0332

CIRC ACCESSION NO--AP0137644

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--27NOV70

2/2 028

CIRC ACCESSION NO--AP0137644

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

ABSTRACT. RADIATION GROWTH OF U AT MINUS 150DEGREES AND 160DEGREES WAS STUDIED IN THE 1ST STAGES OF IRRADN., US BEING THERMALLY PRETREATED AT VARIOUS TEMPS. 20-620DEGREES. THE INITIAL STAGE OF GROWTH WAS THE RESULT OF THE FORMATION OF INDIVIDUAL DEFECTS CAUSING THE ANISOTROPIC DEFORMATION OF THE ALPHA U LATTICE IN THE TOTAL VOL. OF THE METAL, NOT ONLY IN THE NEIGHBORHOOD OF THE THERMAL PEAKS. OWING TO VACANCIES FORMED DURING THE KNOCK OUT OF ATOMS BY FISSION FRAGMENTS, THE CONTRACTION INSIDE THE ZIGZAG LIKE LAYERS OF ALPHA U LATTICE TOOK PLACE AND THE DISPLACED ATOMS WERE SITUATED IN POSITIONS WITH THE COORDINATION NO. OF 5, PYRAMIDAL DEFECTS, OR 4 OR 6, OCTAHEDRAL DEFECTS; VOL. AND AXIAL DEFORMATIONS CAUSED BY THE FORMER DEFECTS EXCEEDED MANY TIMES THOSE ARISING WHEN OCTAHEDRAL DEFECTS WERE FORMED. IN THE PRESENCE OF LATTICE IMPERFECTIONS, THE PYRAMIDAL DEFECTS WERE FORMED PREDDOMINANTLY. IN THE 1ST STAGE OF GROWTH, PARTIAL RECOMBINATION OF DEFECTS TOOK PLACE WHICH REDUCED THEIR AMT. IN U DEFORMED AT LOW TEMPS., DISPLACED ATOMS WERE PREVENTED FROM RECOMBINING OWING TO THEIR ADSORPTION ON VARIOUS LATTICE IMPERFECTIONS, WHICH EXPLAINED THE HIGH RATE OF GROWTH IN THESE SPECIMENS. WHEN THE LOCAL CONC. OF DEFECTS REACHED A SUFFICIENTLY HIGH VALUE, THE FORMATION OF THEIR COMPLEXES STARTED OWING TO THE FIELD OF TENSION. THE STAGE WHEN AN EQUIL. BETWEEN THE NO. OF FORMED INDIVIDUAL DEFECTS AND THE NO. OF DEFECTS FORMING THEIR COMPLEXES WAS REACHED CORRESPONDED TO THE LINEAR COURSE OF THE RADIATION GROWTH CURVE.

UNCLASSIFIED

1/2 011 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--ECONOMIC ENCOURAGEMENT OF HIGH QUALITY MANUFACTURING -U-
AUTHOR--(02)-LINKE, YE.A., PANTELEYEV, V.D. P
COUNTRY OF INFO--USSR
SOURCE--STANDARTY I KACHESTVO, 1970, NR 3, PP 54-55
DATE PUBLISHED-----70
SUBJECT AREAS--BEHAVIORAL AND SOCIAL SCIENCES
TOPIC TAGS--ECONOMIC INCENTIVE, INDUSTRIAL PRODUCTION, QUALITY CONTROL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1986/1743 STEP NO--UR/0422/70/000/003/0054/0055
CIRC ACCESSION NO--AP0103507
UNCLASSIFIED

2/2 011 UNCLASSIFIED PROCESSING DATE--09OCT70
CIRC ACCESSION NO--AP0103507
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXAMPLES ARE GIVEN OF ECONOMIC
INCENTIVES FOR HIGH QUALITY PRODUCTS ACCEPTED AT FIRST PRESENTATION.
DIFFERENT SYSTEMS OF ECONOMIC ENCOURAGEMENT ARE COMPARED.

89

UNCLASSIFIED

USSR

UDC 621.375.82

GLAZER, A. A., NIKITINA, T. F., PANTELEYEV, V. I., PLOTNIKOV, A. F., POPOV, YU. M., POTAPOV, A. P., SELEZNEV, V. N., TAGIROV, R. I., and SHUR, YA. S.

"Using GaAs and Nd Lasers for Optical Writing on MnBi Film"

Kratkiye Soobshch. po fiz. (Brief Communications on Physics) No 12, 1972, pp 9-12 (from RZh-Fizika, No 7, 1973, Abstract No 7D1088)

Translation: The possibility of using a GaAs semiconductor laser for recording information on a ferromagnetic film of MnBi is experimentally investigated. MnBi film 700 Å thick, which has undergone condensation in a vacuum on glass substrates of 0.1-0.2 mm in thickness, is used. For recording information, a GaAs laser with a threshold current of 2 amp at 77° K and a p-n junction width of 400 μ is used. It is shown that the laser's minimum pumping current at which recording is possible is 80 amp, whereas the radiation power is 20 w. The energy density of the radiation on the film is then $6 \cdot 10^{-9}$ j/μ². With a monopulse neodymium laser, an evaluation of an information recording density equal to 2500 lines/cm is made. It is noted that the use of a semiconductor laser with a junction width not exceeding 20 μ permits reducing the power to a fraction of a watt. Bibliography of four.

1/1

USSR

UDC 681.333:53

KALININ, I. F., SOSUSTIN, B. P., PANTELEYEV, V. I.; Scientific Research Institute of Automation and Electromechanics Affiliated With Tomsk Polytechnical Institute

"A Device for Modeling Electric Circuits"

USSR Author's Certificate No 321832, filed 7 Apr 70, published 31 Jan 72 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 7, Jul 72, Abstract No 7B477 P)

Translation: This Author's Certificate introduces a device for modeling electric circuits which contains a comparison module, a feedback module, an input signal generator, a load model, an operational amplifier, a square pulse generator, and relays. As a distinguishing feature of the device, the class of solvable problems is enlarged by connecting the winding of the relay in the comparison unit to the feedback module and through the normally closed contact of the commutation relay to the input signal generator, whose first output is connected to the square pulse generator. The output of the square pulse generator is connected through the first normally closed contact of the comparison module relay and

1/2

USSR

KALININ, I. F. et al., USSR Author's Certificate No 321832

through the feedback module to the load model. The second output of the input signal generator is connected through the operational amplifier and the normally open contact of the commutation relay to the winding of the comparison module relay. The winding of the commutation relay is connected through the second normally closed contact of the comparison module relay to the zero line, the load model being connected through the first normally open contact of the comparison module to the zero line as well. One illustration.

2/2

- 68 -

USSR

UDC 621.378.35

BOGATOV, A.P., YELISEYEV, P.G., PANTELEYEV, V.I., SHEVCHENKO, YE.G.

"Comparison Of Instantaneous And Average Emission Spectrum Of An Injection Laser In A Regime Of Spontaneous Pulsations"

Kvantovaya elektronika, Moscow, No 5, May 71, pp 93-95

Abstract: A comparison is made of the spectra of the multimode generation of an injection laser, obtained with averaging during not more than 10^{-10} sec ("instantaneous" spectrum) and during 10^5 pumping pulses ("average" spectrum). A "Kontrol'-2" photoelectron recorder and a DFS-8 diffraction spectograph were used for observation of spectra with a large resolving time. A number of models of lasers based on heterostructures in the system GaAs-AlAs and operating at 300° K were studied. The data presented in the paper pertain to a diode with a typical behavior for all the models studied which has a one-way heterostructure and a Fabry-Perot resonator with a length of 347 micrometer and a width of 200 micrometer. A pulse of the pumping current had a duration of 200 nsec, a repetition frequency of 5-500 Hz, and an amplitude up to 40 amp. With the presence of deep pulsations of laser emission, the instantaneous spectrum in the separate pulses strongly differs from the average and contains an arbitrary set of modes of the number observed in the average spectrum. It is assumed that the random dis-

1/2

USSR

BOGATOV, A. P., et al., Kvantovaya elektronika, Moscow, No 5, May 71, pp 93-95

tribution of photons with respect to the oscillation modes at the start of the pulses predetermines the instantaneous generation spectrum. It is noted that during the transition to a singlemode regime the spontaneous emission pulsations disappear. Received by editors, 28 May 71. 3 fig. 7 ref.

2/2

98

USSR

BERLOVICH, E. Ye., BLINNIKOV, Yu. S., VAYSHNIS, P. P., VITMAN, V. D., YELKIN, Yu. V., IGNATENKO, Ye. I., PANTELEYEV, V. N., and TARASOV, V.K., B. P.
Konstantinov Nuclear Physics Institute

"Short-Lived Osmium Isotopes"

Moscow, Izvestiya Akademii Nauk SSSR -- Seriya Fizicheskaya, No 12, 1972, pp 2490-2498

Abstract: The purpose of the experiments described in this paper is to detect ^{175}Os and to obtain information concerning gamma irradiation of this and lighter osmium isotopes. The short-lived isotopes were obtained in spallation reactions by irradiating mercury with 1-Gev protons in the synchro-cyclotron of the*irradiation conditions vary, inasmuch as the proportion of the different Os isotopes in the specimens depends on the mode of proton bombardment. In the gamma irradiation, the gamma ray spectrum was measured by a Ge(Li) detector, with a resolution of 3.5 kev for a line of 662 kev, and the spectra were recorded by an electronic system including an AI-1024 analyzer, a control block with timer, and the Minsk-22 computer to measure half-lives. Isotopes

1/2

USSR

BERLOVICH, E. Ye., Izvestiya Akademii Nauk SSSR -- Seriya Fizicheskaya,
No 12, 1972, pp 2490-2498

with half-lives of more than 2.5 minutes and less than 2.0 minutes were investigated, and tables of their gamma-radiation spectra are given. Results of the present paper are compared with those of earlier papers. An attempt was also made to find a genetic connection between short-lived osmium and rhenium isotopes, and a table for the gamma irradiation of ^{174}Re is also given.

* Leningrad Institute of Nuclear Physics;

2/2.

USSR

UDC 621.318.576

LERNER, M. I., PANTELEYEV, V. N., RYZHEVSKIY, A. G., SHLYANDIN, V. M.

"Digital Display Device"

USSR Author's Certificate No 307401, filed 27 Nov 69, published 29 Jul 71 (from RZh--Avtomatika, Telemekhanika i vychislitel'naya tekhnika, No 4, Apr 72, Abstract No 4A474P)

Translation: A digital display device is proposed which contains a counting decade, a decoder, switches, a display tube, and switch transistors, the base outputs of which are connected via resistors to the outputs of the low-order flip-flop of the counting decade. In order to use low-voltage elements requiring a feed voltage which is positive with respect to the common point to control the indicator tube, the anodes of the indicator tube are connected via series-connected resistors and diodes to the power supply and via capacitors to the collectors of the switch transistors connected via resistors to the power supply, and the bases of the transistors are connected via resistors to the control pulse source. There is 1 illustration.

1/1

- 7 -

USSR

UDC: 621.3.083.721

PANTELEEV, V. N., RYZHEVSKIY, A. G., and SHLYANDIN, V. M.

"Shape of the Scanning Voltage in Time-Pulse Converters"

Novosibirsk, Avtometriya, No 5, 1971, pp 97-104

Abstract: Since the available literature offers no means of generalizing the choice of scanning voltage shape in analog-digital converters used for time-pulse conversion, the purpose of the authors is to develop such an approach. A possible application of the approach is to find new areas for the utilization of the time-pulse converter. Two types of possible equipment for generating the proper scanning voltage shape are shown in the form of block diagrams. It is shown that the shape is determined by the type of conversion parameter and by the conversion characteristic, and a general equation is obtained for the scanning voltage. From this equation, an expression for the voltage as applied to a particular type of conversion parameter can be found for a specified conversion characteristic.

1/1

USSR

PANTELEYEV, V. V., RAZINOVA, S. M., VASIL'YEV, S. S.

"Temperature Field in a Discharge Column Bounded by Walls"

Moscow, Khimiya i Fizika Nizkotemperaturnoy Plazmy, Moscow University Press, 1971, pp 139-142

Abstract: Rotational gas temperature distribution is spectrometrically determined for a discharge in air in an enclosed tube. The ISP-51 spectrograph was used with a camera having a focal length of 270 mm. The intensity of the rotational lines was also determined photoelectrically, using the FEP-1 attachment. A discharge tube with an inside radius of 0.2 cm was used. The results agree with data in the literature obtained with a high-dispersion spectrograph. Three figures, one table, bibliography of five titles.

1/1

- 81 -

1/2 033 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--YIELD OF METAL SUBSTANCE FOR METALS EXPOSED TO THE ACTION OF LASER
RADIATION -U-
AUTHOR-(04)-KORUNCHIKOV, A.I., PANTELEYEV, V.V., PUTRENKO, O.I.,
YANKOVSKIY, A.A.
COUNTRY OF INFO--USSR
SOURCE--ZH. PRIKL. SPEKTROSK. 1970, 12(5), 819-23
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, PHYSICS
TOPIC TAGS--BIBLIOGRAPHY, LASER THERMAL EFFECT, METAL SURFACE PROPERTY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/1425 STEP NO--UR/0368/70/012/005/0319/0823
CIRC ACCESSION NO--AP0135009
UNCLASSIFIED

2/2 033

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0135099

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A REVIEW WITH 13 REFS., CONTG. DATA ON THE EFFECTS OF LASER RADIATION FOCUSED ON SN, PB, ZN, MG, AL, CU, NI, FE, MO, W, AND C TARGETS.

UNCLASSIFIED

Acc. Nr:

AP0048388

Abstracting Service:
CHEMICAL ABST. 5170

Ref. Code:

UR 051

P

/

94412x Epitaxial piezoelectric transducers. Morozov, A. I.;
 Gingis, A. D.; Kotelyanskii, I. M.; Aitkhozhin, S. A.; Pintsikov,
 V. V. (Inst. Radiotekh. Elektron., Moscow, USSR). Izv. Akad. Nauk SSSR, Ser. Fiz. Tverd. Tela 1970, 12(1), 109-113 (Russ). Epitaxial piezotrans-
 ducers were prepd., based on CdS films grown by gas transport.
 Frequency characteristics were investigated of these transducers
 of longitudinal and transverse ultrasound waves at 10-600 MHz.
 The dynamic range of such piezoelec. transducers is > 80 decibels.
 The relative transmission band is 100-120%, with conversion
 losses of 20-5 decibels. Good temp. stability was noted for these
 transducers. Data are given on damping of longitudinal ultra-
 sound waves in Ge at 80, 300, and 430°K. Prospects for appli-
 cation of piezoelec. transducers are discussed. A. Libackyj /

BYK

1/1

REEL/FRAME
19800096

14

AA0044794

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

243237 ULTRASONIC LENGTH AND DISPLACEMENT GAUGE
 based on the propagation of ultrasonic waves
 down a waveguide and the exact measurement of the
 standing wave antinode positions, is improved in
 accuracy by the additional use of a second ultra-
 sonic transmitter-receiver set up perpendicular to
 the waveguide and detecting the precise position of
 the antinode. The second unit is fixed to the
 length or displacement measuring device and moves
 with it. The diagram shows the elongated body 1
 forming the master waveguide, on the end of which
 is the primary ultrasonic transmitter 2 energized
 from generator 3. The position of the antinodes
 in the standing waves propagated by 2 is the basis
 on which the length or displacement is measured,
 converted by instrument 5 from a measure of the
 time of passage of the waves along 1. Connected
 with 5 is the secondary ultrasonic set 4, which
 acts as a fine position indicator of the wave phase

22.3.67 as 1147486/25-28. YU. P. PANTELEEV, S. G. I.
 KHARIZOMENOV. MACHINE TOOL INST., MOSCOW. (24.9.69)
 Bul 16/5.5.69. Class 42k, 42b. Int. Cl. G 01n, G 01b

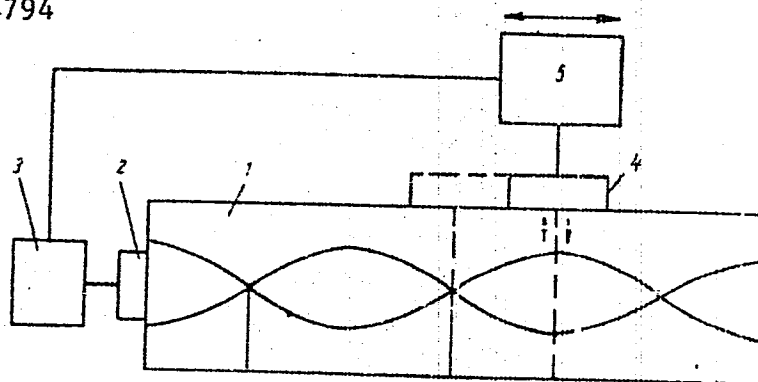
2/70

1/2

21

19771619

AA0044794



AUTHORS: Panteleyev, Yu. P.; Kharizomenov, G. I.

Moskovskiy Stankoinstrumental'nyy Institut

2/2

gc

19771620

Ion Exchange

USSR

UDC 66.074.7

PANTELEYEVA, A. P., DOLMATOVA, M. YU., and DOLMATOV, YU. D.

"Study of the Ion-Exchange Interaction of Bivalent Cations with Alginic Acid"

Leningrad, Radiokhimiya, Vol XIV, No 5, 1972, pp 741-743

Abstract: New experimental data are presented on the interaction of alginic acid with metal cations as a function of the conditions of this process, and the problems of a specific nature of the interaction are discussed. Laboratory samples of alginic acid (AlgH) and its calcium hydride form (AlgCaH) obtained by saturation of alginic acid with calcium ions under static conditions were used for the investigation. The product obtained contained 24-27 mg of calcium per 1 gram of acid. A study was made of the exchange of

Mn^{2+} , Ni^{2+} , Co^{2+} , Ca^{2+} , Sr^{2+} , Cu^{2+} ions from $3.0 \cdot 10^{-3}$ normal solutions of the chloride salts tagged by their radioactive isotopes (^{54}Mn , ^{90}Sr , ^{90}Y , ^{63}Ni , ^{45}Ca , ^{60}Co). All of the experiments were performed under thermostated conditions using the experimental procedure and radiometric and chemical analyses introduced previously (M. Yu. Dolmatova, et al., Radiokhimiya, Vol 10, No 3, 379, 1968). Inasmuch as in aqueous solutions at $pH > 5$ sodium alginate forms a colloidal solution, the method of dialysis with ultrafiltration was used to separate the phases at $pH = 7.5$ (S. M. Puchkova, Can-
1/2

USSR

PANTELEYEVA, A. P., et al., Radiokhimiya, Vol XIV, No 5, 1972, pp 741-743

didate's Dissertation, Medical Institute, Chelyabinsk, 1969). The experimental data are presented in the form of the ion distribution coefficients during static sorption. The possible mechanism of the observed effects connected with the structural features of the ion-exchange resins is proposed.

2/2

USSR

UDC 669-172

PANTELEYEVA, G. V., LYUTOVICH, A. S., CHUPRIKOV, G. Ye., and FROLOV, A. V.

"Structure and Electrophysical Properties of Boron in Crystals Produced by Crucibleless Zone Melting in a Vacuum and in an Atmosphere of Hydrogen"

Monokristally Tugoplavkikh i Redkikh Metallov [Single Crystals of Refractory and Rare Metals -- Collection of Works], Nauka Press, 1971, pp 95-99

Translation: Results are presented from a study of the little-studied material, boron, which is being used increasingly for the manufacture of heat-resistant, refractory alloys, as well as for semiconductor devices for operation under high temperature conditions. Metallographic investigations by the method of chemical thermal etching were performed on high-purity specimens grown by crucibleless zone melting in various atmospheres. The superiority of the structure of boron grown in a vacuum in comparison to that produced in hydrogen is demonstrated. Certain electrophysical properties of boron crystals are studied. 2 Tables; 4 Figures; 4 Bibliographic References.

1/1

1/2 . 026

UNCLASSIFIED

PROCESSING DATE--18SEP70

TITLE--EFFECT OF TRINITROPHENYLATION OF MYOSIN ON THE ISOTOPIC EXCHANGE OF OXYGEN IN THE MYOSIN ATP H SUB 2 PRIME 18 O SYSTEM -U-

AUTHOR--(03)-KULEVA, N.V., KARANDASHOV, E.A., PANTELEYEVA, N.S.

COUNTRY OF INFO--USSR

SOURCE--BIOKHIMIYA 1970, 35(1), 42-7

DATE PUBLISHED-----70

P

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--MUSCLE PHYSIOLOGY, ADENOSINE TRIPHOSPHATE, ORGANIC NITRO COMPOUND, BENZENE DERIVATIVE, ORGANIC SULFUR COMPOUND, OXYGEN METABOLISM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1984/0862

STEP NO--UR/0218/10/035/001/0042/0047

CIRC ACCESSION NO--AP0055562

UNCLASSIFIED

2/2 * 026

CIRC ACCESSION NO--A0055562

UNCLASSIFIED

PROCESSING DATE--18SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE BINDING OF FREE NH₂ GROUPS BY 2,4,6-TRINI-TROBENZENESULFONATE (TNBS) IN MYOSIN ATPASE INHIBITED, BY 40-70PERCENT, THE ISOTOPIC O EXCHANGE REACTION CATALYZED BY MYOSIN DURING ATP HYDROLYSIS. HOWEVER TNBS TREATMENT ACTIVATED ATPASE IN THE PRESENCE OF MGRIME₂ POSITIVE 5-9-FOLD, DEPENDING UPON THE NO. OF BOUND NH₂ GROUPS. THE TNBS EFFECT OF ISOTOPIC O EXCHANGE AND ATPASE ACTIVITY WAS SIMILAR TO THAT OF ACTIN. CONFORMATIONAL CHANGES IN THE ACTIVE CENTER OF MYOSIN MAY OCCUR DURING FORMATION OF TRINITROPHENYLATED RESIDUES.

UNCLASSIFIED

USSR

UDC 669.183.218.5

AKINFIYEV, V. I., DUNETS, A. M., and PANTELEYEVA, R. I.
"Sulfur Exchange in the Bath-Gas Phase System in an Open-Hearth Furnace With
Blowing of Powdered Materials in a Stream of Oxygen Through the Metal and
Without Blowing"

Proizvodstvo Chernykh Metallov [Production of Ferrous Metals--Collection of
Works], No 75, Metallurgiya Press, 1970, pp 48-52

Translation: The exchange of sulfur between bath and gas phase in a 10 T open-
hearth furnace is studied during the period of melting and finishing in melts
with blowing of iron ore concentrate and oxygen through the bath and without
blowing.

The characteristics of participation of the gas phase in the desulfuration
of the metal used in the work were not the concentration of sulfur in the com-
bustion products, but rather its relative quantity (in relationship to the
mass of metal), carried away by the combustion products from the working space
per unit time. This quantity was determined for the period of melting and
finishing of melts and for the blowing period in experimental melts. The
combustion products were taken for analysis using a special device developed
for the purpose.

It was established that desulfuration of the gas phase during the period

1/2

USSR

AKINFIYEV, V. I., et al., *Proizvodstvo Chernykh Metallov*, No 75, Metallurgiya Press, 1970, pp 48-52

of melting in most cases occurred more intensively than during the period of finishing. Worsening of desulfuration of the bath by the furnace atmosphere during the finishing period is explained not only by the decrease in activity of sulfur during this period, but also by the increase in basicity of the slag. The rate of desulfuration of the bath by the gas phase during blown melts differs slightly from its values during standard melts. 3 figures; 8 biblio. refs.

2/2

- 24 -

USSR

UDC 669.183.218.5

AKINFIYEV, V. I., DUNETS, A. M., and PANTELEYEVA, R. I.

"Sulfur Exchange in the Bath-Gas Phase System in an Open-Hearth Furnace With Blowing of Powdered Materials in a Stream of Oxygen Through the Metal and Without Blowing"

Proizvodstvo Chernykh Metallov [Production of Ferrous Metals--Collection of Works], No 75, Metallurgiya Press, 1970, pp 48-52

Translation: The exchange of sulfur between bath and gas phase in a 10 T open-hearth furnace is studied during the period of melting and finishing in melts with blowing of iron ore concentrate and oxygen through the bath and without blowing.

The characteristics of participation of the gas phase in the desulfuration of the metal used in the work were not the concentration of sulfur in the combustion products, but rather its relative quantity (in relationship to the mass of metal), carried away by the combustion products from the working space per unit time. This quantity was determined for the period of melting and finishing of melts and for the blowing period in experimental melts. The combustion products were taken for analysis using a special device developed for the purpose.

It was established that desulfuration of the gas phase during the period

1/2

USSR

AKINFIYEV, V. I., et al., *Proizvodstvo Chernykh Metallov*, No. 75, Metallurgiya Press, 1970, pp 48-52

of melting in most cases occurred more intensively than during the period of finishing. Worsening of desulfuration of the bath by the furnace atmosphere during the finishing period is explained not only by the decrease in activity of sulfur during this period, but also by the increase in basicity of the slag. The rate of desulfuration of the bath by the gas phase during blown melts differs slightly from its values during standard melts. 3 figures; 8 biblio. refs.

2/2

- 24 -

1/2 019

UNCLASSIFIED
TITLE--KINETIC DETERMINATION OF COPPER -U-

PROCESSING DATE--16OCT70

AUTHOR--(05)-KREINGOLD, S.U., BOZHEVOLNOV, YE.A., ANTONOV, V.N.,
PANTELEIMONOVA, A.A., SOSENKOVA, L.I.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 260,952

REFERENCE--OTKRY, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970 47(4) 95

DATE PUBLISHED--06JAN70

SUBJECT AREAS--MATERIALS, CHEMISTRY

TOPIC TAGS--COPPER, CHEMICAL PATENT, OXIDATION, HYDROGEN PEROXIDE,
FLUORIDE, CHEMICAL ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/1994

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

CIRC ACCESSION NO--AA0115793

UNCLASSIFIED

2/2 019

CIRC ACCESSION NO--AA0115793

UNCLASSIFIED

PROCESSING DATE--16OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. COPPER WAS DETD. KINETICALLY BY
THE OXIDN. OF AMIDDL BY H SUB2 O SUB2 IN A FLUORIDE BUFFER SOLN. AT PH
2.5-4.5.

UNCLASSIFIED

1/2 027

UNCLASSIFIED

PROCESSING DATE--02OCT70

TITLE--ON THE MECHANISM OF THE INTRACRANIAL PRESSURE FLUCTUATIONS
SECONDARY TO STIMULATION OF THE DIENCEPHALON -U-

AUTHOR--(03)-BUNIN, A.YA., PANTIYELEVA, V.M., ZHDANOV, V.K.

COUNTRY OF INFO--USSR

SOURCE--VESTNIK OPTAL'MOLOGII, 1970, NR 2, PP 55-58

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BRAIN, INTRACRANIAL PRESSURE, DIAGNOSTIC MEDICINE, ELECTRIC
DISCHARGE, BIOELECTRIC PHENOMENON

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REFL/FRAME--1986/0804

STEP NO--UR/0357/70/000/002/0055/0058

CIRC ACCESSION NO--AP0102767

UNCLASSIFIED

2/2 027

CIRC ACCESSION NO--AP0102767
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--02JCT70

ABSTRACT. A TOTAL OF 330 ELECTRIC STIMULI IN THE HYPOTHALAMUS, DIFFERENT AREAS OF THE BRAIN, BODY AND EXTREMITIES WERE IMPARTED TO 5 RABITS IN 10 TESTS WITH THE AIM OF ELUCIDATING MECHANISMS GOVERNING VARIATIONS IN THE LEVEL OF THE INTRAOCULAR TENSION FOLLOWING STIMULATION OF THE DIENCEPHALON WITH ELECTRIC CURRENT. IN APPLYING STIMULATION A SERIES OF COMPLEMENTARY WAVES, WHICH DEPEND UPON CHANGED BLOOD SUPPLY AND THE TONE OF INTRAOCULAR VESSELS, EMERGED ON THE BASIC WAVES OF THE OPHTHALMOPHETHYSMOGRAM. INVESTIGATIONS SHOWED THAT CHANGES IN THE AMOUNT OF BLOOD FILLING INTRAOCULAR VESSELS IS ONE OF THE PRIME FACTORS CAUSING FLUCTUATIONS OF THE OPHTHALMOTONE IN STIMULATION OF THE DIENCEPHALON. AN IDENTITY OF OPHTHALMOPLETHYSMOGRAPHIC CHANGES OBSERVED IN ELECTRIC STIMULATION OF THE HYPOTHALMAUS AND OTHER PARTS OF THE ANIMAL BODY WAS ASCERTAINED.

UNCLASSIFIED

Acc. Nr: AP0049043 P

Ref. Code: UR0357

PRIMARY SOURCE: Vestnik Oftal'malogii, 1970, Nr /
PP /3-17

EFFECT OF GLUCOCORTICOIDS ON THE EYE TISSUE
MUCOPOLYSACCHARIDES IN RABBITS AND THE STATE
OF THE OPHTHALMOTONE REGULATION

B. S. Kasavina, V. M. Pantiyeva, A. M. Shapkina

Summary

Glucocorticosteroids (cortisone, hydrocortisone) were found to exercise different influence on the content and composition of mucopolysaccharides in the ocular humors and tissues, depending upon the kind, dosage and timing of the hormones administration. The earliest and most pronounced changes are shown to occur in the aqueous

1/2

REEL/FRAME
19800828

2

AP0049043

humor, vitreous body, cornea and the crystalline lens. In the ciliary body and sclera modifications are observed to take place after a long-term introduction of the hormones. Deep changes in the trophicity of the eye tissues stemming from protracted administration of steroid hormones are revealed. Such changes in the ciliary body and filtration zone of the anterior chamber angle are attended by shifts in the intraocular pressure. Tests involving long-term introduction of glucosteroids ascertained the presence of direct relationship between the content and composition of mucopolysaccharides, on the one hand, and the hydrodynamics and ophthalmotone regulation, on the other. The present research explains one of the possible causes accounting for complications which supervene after prolonged use of steroid hormones in large doses.

JK

JK

19800829

Molecular Biology

USSR

UDC 576.851.47.095.38:576.858.9

PANTSKHAVA, N. N., DITYATKIN, S. Ya., and IL'YASHENKO, B. N., Institute of Epidemiology and Microbiology Imeni Gamaleya, Academy of Medical Sciences USSR, Moscow

"Reproduction of Infectious DNA from E. coli Phage in Proteus Cells"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 4, 1973, pp 35-40

Abstract: Studies were conducted to determine the optimum conditions for the infection of 2 strains of *Proteus vulgaris* (401 and 3137) with the circular DNA (1.7×10^6 MW) isolated from E. coli phage $\lambda\phi 7$. DNA was isolated from ca. 10^{13} viral particles per 1 ml, and diluted with 0.05 M tris buffer, pH 7.8. The DNA preparation was mixed with a proteus culture, grown in peptone broth (Spofa, Czechoslovakia), and 0.2 ml samples were immediately frozen in a mixture of dry ice and alcohol at -70° , and then thawed in a water bath at 37° . After an additional 10 min incubation period, the bacteria were diluted with 1% peptone and the viral titer was determined by plaque assay on E. coli C. Optimal conditions consisted of a cell concentration of $1-2 \times 10^{10}$ /ml, and 0.062-1 μ g/ml of DNA, pH 6.0-8.0, and Spofa peptone. Under these conditions

1/2

USSR

PANTSKHAVA, N. N., et al., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii,
No 4, 1973, pp 35-40

$1-4 \times 10^5$ infectious centers were formed per $1 \mu\text{g}$ of phage 107 DNA. The fraction of proteus cells that were transfected constituted $1/10^5$ th of the total number of proteus cells. The low efficiency of infectivity was apparently due to the low number of proteus cells able to take up the DNA. The freezing and thawing method has been found to be the only one allowing proteus transfection with E. coli phage 107 DNA. All previous studies had consisted of attempts at infecting proteus spheroplasts with phage 107 DNA. Proteus cells in the lag, logarithmic, and stationary phases of growth were equally well infected.

2/2

- 25 -

1/2 025

TITLE--VITAMIN B SUB12 -U-

UNCLASSIFIED

PROCESSING DATE--20NOV70

AUTHOR--(02)-PANTSKHAVA, YE.S., PCHELKINA, V.V.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 265,043

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

DATE PUBLISHED--09MAR70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, CHEMISTRY

TOPIC TAGS--VITAMIN, COBALT COMPOUND, BIOSYNTHESIS, BACILLUS, CONTINUOUS CULTURE, CHEMICAL PATENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/1079

STEP NO--UR/0462/10/000/000/0000/0000

CIRC ACCESSION NO--AA0130114

UNCLASSIFIED

2/2 025

CIRC ACCESSION NO--AA0130114

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

FERMENTING LOWER ALCS. WITH THERMOPHILIC METHANOBACILLUS ROZNECCOUI IN THE PRESENCE OF CO SALTS.

UNCLASSIFIED

PROCESSING DATE--20NOV79

ABSTRACT. VITAMIN B₁₂ IS PREPD. BY

UNCLASSIFIED

1/2 C20 UNCLASSIFIED PROCESSING DATE--20NOV70
 TITLE--BIOSYNTHESIS OF VITAMIN B SUBI2 AND PORPHYRINS BY THERMOPHILIC
 METHANE FORMING BACTERIA -U-
 AUTHOR--(04)-BYKHOVSKIY, V.YA., ZAYTSEVA, N.I., PANTSKHAVA, YE.S., BUKIN,
 V.N.
 COUNTRY OF INFO--USSR
 SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(1), 221-3
 DATE PUBLISHED-----70
 SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
 TOPIC TAGS--BIOSYNTHESIS, VITAMIN B COMPLEX, METHANE, BACTERIA, ENZYME
 ACTIVITY, PORPHYRIN
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAE--3005/1670 STEP NO--UR/0020/70/191/001/0221/0223
 CIRC ACCESSION NO--AT0133575
 UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AT0133575

ABSTRACT/EXTRACT--(U) CP-C- ABSTRACT. EXOGENOUS DELTA-AMINOLEVULINIC ACID (ALA) WAS REQUIRED FOR SYNTHESIS OF PORPHYRINS AND STIMULATED VITAMIN B SUB12 SYNTHESIS IN METHANOBACILLUS KUZNECEOVII CULTURES. TOTAL SYNTHESIS OF VITAMIN B SUB12 AND PORPHYRINS FROM ALA SEEMS TO INVOLVE FORMATION OF PORPHOBILINOGEN DURING ALA-DEHYDRATASE ACTION. THIS ENZYME WAS PRESENT IN M. KUZNECEOVII ACELLULAR EXTS., AND THE ACTIVITY WAS NOT AFFECTED BY ADDN. OF VITAMIN B SUB12 OR HEMIN IN VITRO. ALA-DEHYDRATASE ACTIVITY WAS INCREASED BY ZN AND ESP. BY CO PRIME2 POSITIVE AND WAS INHIBITED BY CHELATING AGENTS. INHIBITION DECREASED IN THE PRESENCE OF METALLIC IONS. FACILITY: INST. BIOKHIM. IM. BAKHA, MOSCOW, USSR.

UNCLASSIFIED

L/2 008 UNCLASSIFIED PROCESSING DATE--13NOV70
 TITLE--REACTIVITY OF COMPOUNDS WITH DIARYLMETHYLOL GROUPS. IV. BASICITY OF
 SUBSTITUTED AMIDES OF DIARYLGLYCOLIC ACIDS -U-
 AUTHOR--(04)-SHKLYAYEV, V.S., CHEKRYSHKIN, YU.S., KOBLOVA, A.Z.,
 PANTSURKIN, V.I.
 COUNTRY OF INFO--USSR
 SOURCE--ZH ORG KHIM. 1970, 6(5), 1055-61
 DATE PUBLISHED-----70
 SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, CHEMISTRY
 TOPIC TAGS--AMIDE, CONDENSATION REACTION, AMINE DERIVATIVE, AROMATIC
 CARBOXYLIC ACID, CHLORINATED ORGANIC COMPGUND, BENZENE DERIVATIVE
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRA--3006/1270 STEP NO--UR/0366/70/006/005/1055/1061
 CIRC ACCESSION NO--AP0134944
 UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--A0134944
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. CONDENSATION OF MESITYLAMINE WITH
(C) SUB2 ET) SUB2 GAVE 2,4,6,ME SUB3 C SUB6 H SUB2 NHCOCO SUB2 ET, WHICH
WAS TREATED WITH RC SUB6 H SUB4 MGBR (R IS H, O-ME, M-ME, P-ME, O-MEO,
P-MEO, P-F, M-CL, P-CL; OR P-BR) TO GIVE 2,4,6,ME SUB3 C SUB6 H SUB2
NHCOC(OH) (C SUB6 H SUB4 R) SUB2 (I). THE PK VALUES OF I DEPEND ON R.
THEY WERE CORRELATED WITH BROWN OKAMOTO SIGMA PRIME POSITIVE CONSTS.
FACILITY: PERM. FARM. INST., PERM, USSR.

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--16OCT70

1/2 019

TITLE--VAGOTOMY AND PYLOKOPLASTY IN SURGERY OF DUODENAL ULCERS -U-
AUTHOR-(04)-PANTSYREV, U.M., GRINBERG, A.A., MINTS, V.YA., AGEYCHEV, V.A.

COUNTRY OF INFO--USSR

SOURCE--VESTNIK KHIRURGII IMENI I. I. GREKOVA, 1970, VOL 104, NR 4, PP
74-79

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DUODENUM, SURGERY, CRANIAL NERVE, LESION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0038

STEP NO--UR/0589/70/104/004/0074/0079

CIRC ACCESSION NO--AP0105137

UNCLASSIFIED

2/2 019

CIRC ACCESSION NO--A0105137

UNCLASSIFIED

PROCESSING DATE--16OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE HEINEKE-MIKULICZ PYLOROPLASTY ASSOCIATED WITH BILATERAL TRUNK OR SELECTIVE VAGOTOMY WAS ACCOMPLISHED IN 62 PATIENTS WITH DUODENAL ULCERS. FORTY EIGHT PATIENTS WERE OPERATED UPON ON URGENT INDICATIONS FOR PERFORATION OR PROFUSE HEMORRHAGE FROM DUODENAL ULCERS. LIGATION OF THE BLEEDING VESSEL WITH PYLOROPLASTY AND VAGOTOMY IS BELIEVED TO BE ADVANTAGEOUS IS SURGERY OF PROFUSE HEMORRHAGES, WHEN THE ROUTINE GASTRECTOMY YIELDS STILL GREAT PER CENT OF THE POSTOPERATIVE MORTALITY. DISSECTION OF A PERFORATING DUODENAL ULCER, PERFORMED IN 38 PATIENTS, IS CONSIDERED TO BE MORE RADICAL THAN SIMPLE SUTURING OF THE ULCER. THE FORMER IS MORE FEASIBLE TECHNICALLY THAN GASTRECTOMY. IN VAST MAJORITY OF PATIENTS PYLOROPLASTY AND VAGOTOMY RESULTED IN RELIABLE INHIBITION OF THE GASTRIC SECRETION. AMONG 62 PATIENTS THERE WERE TWO DEATHS DUE TO CAUSES NOT RELATIVE TO SURGICAL INTERVENTION. IN THE REMAINDER GOOD IMMEDIATE RESULTS WERE OBTAINED. TWENTY SIX PATIENTS WERE INVESTIGATED CLINICALLY WITHIN THE TERMS FROM 3 MONTHS TO 1.5 YEARS, NO ULCER RECURRENCE WAS NOTED. SLIGHT DIARRHEA WAS OBSERVED IN 2 CASES. NO MARKED DUMPING SYNDROME PHENOMENA WERE OBSERVED.

UNCLASSIFIED

PANTSYREV, Yu. M.

JPRS 55509
29 MAR 72

ABSTRACTS OF ARTICLES PUBLISHED IN THIS ISSUE

[Abstracts; Moscow, Vestnik Akademii Meditsinskikh Nauk SSSR, Russian, No 2, 1972, p 96]

"Medicobiological Investigations Dealing with the Use of Estrogens as Growth Stimulating Agents." by A.A. Pokrovskiy, M.F. Mosterin, G.P. Vasilina, Ye.Ye. Ryzantseva, L.Ye. Solov'yeva, p 3.

As a result of medicobiological examination of meat products obtained from bull calves stimulated with diethylstilbestrol, it was shown that the recommended method of using this hormone does not rule out the possibility of retention in subproducts of meat of residual quantities of this agent. When feeding laboratory animals on experimental meat there was manifestation of some adverse effects on their development and change in sex gland function. On the basis of the data obtained and the literature, with due consideration of worldwide experience in using diethylstilbestrol to fatten various species of animals, the authors conclude that it is impossible to use this preparation in animal breeding.

There are eight tables, one illustration; bibliography lists 118 items.

"Experience with Vitamin E Supplement for Bicycle Racers and Skiers," by Ye.A. Sakharov, V.V. Yefremov, p 52.

A study was made of the effect of different intensities of physical stress on vitamin E availability in the organism of cyclists and skiers during winter sport weeks. As a result of the study it was found that 1.5-2 and especially 3-4-hour training induces a considerable decline in vitamin E content in the blood serum of the athletes. Additional intake of this vitamin in doses of 50-150 mg for cyclists who trained for 1.5-2 hours and 200-300 mg for skiers who trained for 3-4 hours raises the blood serum vitamin E level and results in greater efficiency of the athletes.

Two illustrations; bibliography lists nine items.

"A Trilur Antrumectomy Technique in Surgery for Peptic Ulcers," by Ye.M. Pankov, A.A. Grinberg, T.I. Loktionova, p 72.

A method is described for pinpointing the boundaries of the antral portion of the stomach during surgical interventions using 2% solution of Congo Red dye as an indicator on the gastric mucosa. The method has been developed experimentally and used in clinical practice on 30 patients with duodenal and gastric ulcers; this revealed that it is simple, safe, and permits performance of a true antrumectomy, in other words, it permits the performance of a functionally substantiated sparing operation on the stomach. The precision of the method was confirmed by histological examinations.

Two illustrations; one table; bibliography lists 24 items.

10,657
CSO: 1847-W

PANTSYREV, Yu. M.

A TRUE ANTRUMECTOMY TECHNIQUE IN SURGERY FOR PEPTIC ULCERS

Article by Yu. M. Pantsyrev, A.A. Kirpichnik, I.I. Laktionov, Second Moscow Medical Institute, Imena N.I. Pirogova, Moscow, Trudnykh Akademii Meditsinskikh Nauk SSSR, Russian, No 7, 1972, pp 72-77

TPRS 55567
29 MAR 72
REC: 615.334616.1421-002 44-089:
616.33-089.873

Known pertaining to surgical management of peptic ulcers continue to have vital importance; indications are being defined, the most substantiated surgical techniques are being discussed, and new technical procedures are being tested.

Interpretation of the data pertaining to clinical pathophysiology of the stomach led to the conception of the dissimilar functional role of its different anatomical parts. With regard to the significance of the antral portion of the stomach in pathophysiology of ulcers it is important to stress the following: 1) the experimental work of physiologists proved that the antrum should be considered first of all as a unique organ that is quite distinct in its morphological and functional characteristics from the other portions of the stomach and plays a major part in regulating gastric secretion (B.P. Babkin; I.I. Korotkin; Davumport; Stasseldt; Thompson and Poskaly); 2) in the case of duodenal ulcer, antrumectomy combined with vagotomy (or the trunk or selective) has presently received both theoretical and clinical substantiation; the experience of Soviet surgeons (G.I. Sorokina; Yu. Ye. Berzov et al.; V.S. Kuyat et al.; V.S. Savol' yev et al., and others) suggests that after such surgery peptic ulcers are extremely rare, while preservation of a large gastric reservoir constitutes, to some extent, a prophylactic measure against the serious postresection disturbances; 3) stomach ulcers can with sufficient justification be called pyloric ulcers, as indicated by the comprehensive works of Oj et al., Radling et al., and Schrafer et al. Consequently, here too, there is no need for extensive gastric resection.

The effort is warranted with regard to substantiation of a technique for resection of the antral portion of the stomach within its true boundaries. It must be stressed, that the procedures that have become popular in clinical practice do not permit accurate enough resection of this problem. It is not by chance that different surgeons employ resection of one-fourth to one-half the stomach when they use the term, "antrumectomy." Only anatomical guide-

1/3 024 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--VAGOTOMY IN SURGERY OF PEPTIC ULCER -U-
AUTHOR--(03)-MAYAT, V.S., PANTSYREV, YU.M., GRINBERG, A.A.
COUNTRY OF INFO--USSR
SOURCE--KHIRURGIYA, 1970, NR 6, PP 28-34 P
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--SURGERY, STOMACH, DIGESTIVE SYSTEM DISEASE, SECRETION,
INSULIN, HEMORRHAGE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3008/0052 STEP NO--UR/0531/70/000/006/0028/0034
CIRC ACCESSION NO--AP0137243
UNCLASSIFIED

2/3 024

UNCLASSIFIED

PROCESSING DATE--27NOV76

CIRC ACCESSION NO--AP0137243

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ON THE BASIS OF LITERATURE DATA AND PERSONAL OBSERVATIONS THE AUTHORS PRESENT A PATHOPHYSIOLOGICAL SUBSTANTIATION OF DIFFERENT METHODS IN THE SURGICAL TREATMENT OF PEPTIC ULCER. THE NECESSITY OF DIFFERENTIATED APPROACH IN SOLVING THE PROBLEM OF THE OPERATIVE TECHNIQUE WITH DUE CONSIDERATION OF THE LOCALIZATION AND COURSE OF ULCER, FEATURES SPECIFIC TO THE SECRETORY AND MOTOR FUNCTION OF THE STOMACH, IS EMPHASIZED. OUT OF 345 OPERATIONS IN PEPTIC ULCER 150 WERE PERFORMED IN COMBINATION WITH VAGOTOMY. IN OVER 80 PER CENT OF PATIENTS THERE WERE ABSOLUTE OPERATIVE INDICATIONS. ECONOMIC RESECTION OF THE STOMACH IN COMBINATION WITH VAGOTOMY IS THE OPERATION OF CHOICE IN CHRONIC DUODENAL ULCER. PYLOROPLASTY WAS CARRIED OUT ONLY IN PATIENTS WITH A MARKED PREVALENCE OF SECRETION AFTER INSULIN STIMULATION. IN STENOSIS OF THE PYLORUS THE OPERATIVE TECHNIQUE IS MAINLY DETERMINED BY THE DEGREE OF STENOSIS AND STATE OF THE GASTRIC MOTOR ACTIVITY. A RARE INHIBITION OF THE LATER SHOULD SERVE AS A CONTRAINDICATION TO VAGOTOMY. SPARING OPERATIONS ARE PARTICULARLY EXPEDIENT IN EMERGENCY SURGERY IN PERFORATING ULCERS AND PROFUSE ULCEROUS HEMMORRHAGES. THE IMMEDIATE RESULTS OF 150 OPERATIONS WITH VAGOTOMY ARE SATISFACTORY. OUT OF 80 PLANNED OPERATIONS THERE WAS ONE LETHAL ISSUE. THE GREATEST LETHALITY WAS OBSERVED IN THE GROUP OF PATIENTS OPERATED FOR PROFUSE HEMORRHAGE. RELAPSES OF PEPTIC ULCER WERE NOT OBSERVED. THERE WERE SEEN NO MARKED POSTGASTRECTOMY DISORDERS. AT REMOTE POSTOPERATIVE PERIODS A MODERATE DIARRHEA WAS REVEALED IN 2 OUT OF 65 CLINICALLY EXAMINED PATIENTS.

UNCLASSIFIED

3/3 024

CIRC ACCESSION NO--AP0137243

ABSTRACT/EXTRACT--FACILITY:

N. I. PIROGOVA.

UNCLASSIFIED

PROCESSING DATE--27NOV70

KAFEDRA GOSPITAL'NOY KHIRURGII. IIMII IMENI

UNCLASSIFIED

USSR

UDC 669.245'71.017.3

ARKHANGEL'SKAYA, A. A., BOGACHEV, I. N., LITVINOV, V. S., and PANTSYREVA, Ye. G., Ural Polytechnic Institute imeni S. M. Kirov

"Phase Transformations in Nickel-Aluminum Alloys With Cesium Chloride Lattice"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 34, No 2, Aug 72, pp 541-546

Abstract: A study was made by metallographic, dilatometric, and roentgenostructural methods of the effects of the degree of nickel supersaturation on phase transformations during heating in substitutional Ni-Al-base solid solutions. The diffusionless transformation of a part of martensite into the β -phase in alloys with 65 and 66 at% Ni is accompanied by a separation of Ni₃Al dispersion particles. At the same time, a reduction of the specific volume of martensite and β -phase takes place. The transformation in the 240-360 deg. temperature interval results in intense hardening of the alloy: its microhardness increases up to 900 kg/mm². Analogous effects are observed for the 64% Ni-2% Co-34% Al and 64% Ni-2% Fe- 34% Al ternary alloys. It is supposed that volumetric changes accompanying the formation of martensite and its transformation during heating must affect the properties

1/2

USSR

ARKHANGEL'SKAYA, A. A., et al., Fizika Metallov i Metallovedeniye, Vol 34, No 2, Aug 72, pp 541-546

of coatings, particularly during repeated heating and cooling, develop microcracks in the protective coating, decay the heat-resistant oxide film, and intensify the diffusion processes in the coating. Three figures, one table, five bibliographic references.

2/2

- 75 -

USSR

UDC:669.245'71.017.3

LITVINOV, V. S., BOGACHEV, I. N., ARKHANGEL'SKAYA, A. A., PANTSUREVA, Ye. G.,
Ural Polytechnic Institute imeni Kirov
"Electron Microscope Investigation of Nickel-Aluminum Alloy Martensite"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 36, No 2, 1973,
pp 388-393

Abstract: The structure of the alloy 64 at.% Ni + 36 at.% Al, in which martensite conversion has occurred upon cooling from high temperatures (1200°C) at rates preventing separation of excess nickel, is studied by an electron-microscope method. It is shown that the martensite needles consist of thin plates in twin orientation in relation to each other with twinning planes in the set {101}. A β -phase shear plan is suggested, leading to the formation of such a martensite structure.

1/1

USSR

UDC 669.71'24:535.21:621.378.325

LITVINOV, V. S., and PANTSUREVA, YE. G., Sverdlovsk

"Special Features of the Deformation and Disintegration of Compounds in the Ni-Al System Under the Effect of High Thermal Impulses"

Moscow, Izvestiya Akademii Nauk USSR, Metally, No 4, Jul/Aug 72, pp 199-202

Abstract: The stresses in the Ni-Al surface layer of gas turbine blades causing blade failure at high flow rates and high local temperature changes were simulated by using the impulse effect of a light beam on specimens of Ni-Al binary alloys with different Ni contents. The microstructures of the specimens show a correlation between the size of the developing craters and the fusing temperature of alloys, indicating an increase in crater size with decreasing fusing temperature. Signs of plastic deformation and microcracks were observed in the influence zone of one-phase specimens. The Ni_2Al_3 and NiAl compounds and solid solutions showed low plasticity under local mechanical and thermal actions. A necessary condition for the plasticity of the alloy is the presence of the Ni_3Al phase in its structure. As a result of the thermal impulse action, a sharp hardening of surface microvolumes takes place. This is obviously connected with an increase of the density of defects in these

1/2

USSR

LITVINOV, V. S., and PANTSYREVA, YE. G., Izvestiya Akademii Nauk USSR, Metally,
No 4, Ju/Aug 72, pp 199-202

regions of the material. One illustration, ten bibliographic references.

2/2

- 67 -

USSR

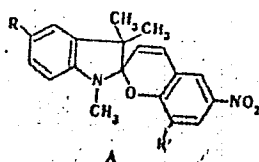
UDC 547.752.754'814.5:541.127'651

PANISYRNYI, V. I., GAL'EERSHTEIN, M. A., and DOMSKAYA, N. A., All-Union Scientific Research Institute of Organic Polymer Products and Dyes

"Effect of Groups at the 5 and the 8' Positions on the Rate of the Dark Decoloration Reaction of Colored Solutions of 1,3,3'-Trimethylspiro [indolin-2,2'-]2H-1 benzopyranes"

Riga, Khimiya Geterotsiklicheskikh Soyedineniy, 5, May 1973, pp 653-658

Abstract: The reaction rates of thirty-five spiroopyranes having the general form



were measured. The R and R' (the 5 and 8') groups were a variety of alkyls, alkoxyis, acids, esters, and halides. A detailed statistical analysis of the kinetics curve at 10° in toluene established that the decoloration reaction

1/2