

USSR

UDC: 621.923.046:669.14.018.44

SOVKIN, V. F., LEUSHKIN, I. P., and KHAVIN, V. M.

"Increasing the Productivity of Grinding Valves Made From Heat-Resisting Steel"

Moscow, Mashinostroitel', No 12, Dec 72, pp 33-34

Abstract: Studies were conducted at the Kuybyshev Valve Plant with the aim of selecting optimal disc characteristics and cutting conditions for the centerless grinding of valves made from EI69 grade steel. A table is given for the 12 PP600X15GX305 grinding discs tested. The following basic indices were used in evaluating the quality of these discs and the effectiveness of the grinding process: Q_m -- removal of metal in mm^3 /minute, Q_a -- disc wear in mm^3 /minute,

$g = \frac{Q_m}{Q_a}$ -- specific productivity, T -- stability of a disc in minutes, and R_a

-- roughness of the ground surface in microns. The results show that the stabilization of the speed of the disc by increasing its active surface and by determining optimal truing conditions represent a reserve for increasing the effectiveness of grinding heat-resisting grades of steel. The E550S1K6 disc proved optimal for all cutting conditions. The introduction of the study results increased labor productivity, improved the quality of the machined parts, saved diamonds, abrasives, and saved 738 rubles in only one operation of grinding 200 thousand valves. 1/1

Acc. Nr: APC054299

Ref. Code: UR 9115

PRIMARY SOURCE: Ortopediya, Travmatologiya i Protezirovaniye, 1970, Nr 3, pp 26-30

SOME ROENTGENOGRAPHIC AND MORPHOLOGICAL DATA ON BONE TISSUE REGENERATION IN DISTRACTION EPIPHYSEOLYSIS IN EXPERIMENT

G. A. Ilizarov, L. M. Soybelman and A. M. Chirkova

A. roentgenographic and morphological study of bone tissue regeneration in distraction epiphyseolysis created with aid of G. A. Ilizarov's apparatus has been carried out in experiments on 51 puppies. The regeneration has been studied during the distraction period, period of fixation of bone ends with the apparatus after termination of distraction, and at various periods following withdrawal of the apparatus. The follow-up studies ranged from 1 to 420 days. The study revealed that toward the end of the distraction period, the diaphysis measuring 10-20 mm in height was substituted by bony regenerate with preservation in its central sections of fibrous tissue zone of various width undergoing ossification. After termination of distraction, during fixation of bone ends with the apparatus, and after withdrawal of apparatus, a gradual reconstruction of regenerate took place which within 4-6 months from the beginning of experiment acquired the structure of the metaphysary bone section. These experimental findings confirm the possibility of bloodless elongation of the long tubular bones by the method of distraction epiphyseolysis.

REEL/FRA
ME
19831437

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USSR

UDC 547.412+661.718.1

KOZLOV, E. S., GAYDAMAKA, S. N., SOYFER, G. B., GACHEGOV, YU. N., and
GORIYEV, A. D., Institute of Organic Chemistry, Academy of Sciences Ukraine SSR
and Perm State University

"Stereochemistry of the Trichloromethyl Derivatives of Pentavalent Phosphorus"

Leningrad, Zhurnal Obshchey Khimii, Vol 42 (104), Vyp 4, 1972, pp 756-759

Abstract: Nuclear magnetic resonance -- in particular the P-Cl, N¹⁵-H, and C-Cl interactions -- was used to determine the geometry of (trichloromethyl)-tetrachlorophosphorus (I), bis(trichloromethyl)trichlorophosphorus (II), and bis(trichloromethyl)amidodichlorophosphorus (III). Spectra were taken at 77°K and 300°K. The distribution and intensity of the peaks indicate a covalent bipyramidal structure, the trichloromethyl group occupying an axial position. The nature of the hybridization of the nitrogen in III was determined from the value of the spin-spin interaction $J(N^{15}-H): \frac{1}{2}2S = 0.43J(N^{15}-H)-6$.

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1/2 016

UNCLASSIFIED

PROCESSING DATE--04DEC70

TITLE--SOLUTION FOR POLISHING OPTICAL WINDOWS -U--

AUTHOR--(04)-BURAVLEVA, M.G., SOYFER, L.M., TITOVA, YE.I., SHAKHNOVICH,
M.I.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 261,083

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--06JAN70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--OPTIC GLASS, OPTIC WINDOW, GLASS PROCESSING, PATENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/1747

STEP NO--UR/0432/70/000/000/0000/0000

CIRC ACCESSION NO--AA0136987

UNCLASSIFIED

2/2 016

CIRC ACCESSION NO--AA0136987

UNCLASSIFIED

PROCESSING DATE--04DEC70

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

ABSTRACT. A SOLN. FOR POLISHING OPTICAL
WINDOWS CONTAINED A MIXT. OF HBO SUB3, HCL, H. SUB2 O, IN A 1:1:1 RATIO
AND A LIF ADDITIVE SMALLER THAN 1 G-200 CM PRIME3 MIXT. TO INCREASE
TRANSPARENCY.

UNCLASSIFIED

USSR

UDC 632.95

MANDEL'BAUM, YA. A., SOYFER, R. S., FEDOSEYENKO, L. G., GOLYSHIN, N. M.,
MEL'NIKOV, N. N.

"A Fungicide"

USSR Author's Certificate No 243998, filed 10 Jul 67, published 2 Nov 71
(from RZh-Khimiya, No 11, Jun 72, Abstract No 11N442)

Translation: O-Aryl S,S-di-(N-alkylcarbamoylmethyl) trithiophosphates (I)
are used for disinfecting seeds (cereal grains) against rust and mold fungi.
In a concentration of 0.002%, compound I is 100% effective in suppressing
growth of Botrytis cinerea, Fusarium noniferae, Aspergillus niger and other
pathogenic fungi. The disinfectant is nontoxic for plants in a dose of 2 kg
per ton of wheat seeds and 4 kg per ton of oat seeds.

1/1

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USSR

UDC 547.26'118

MANDEL'BAUM, YA. A., ~~SOYFER, R. S.~~, BELOVA, L. A., MEL'NIKOV, N. N.

"Synthesis of Derivatives of Aryl-S-(N-alkylcarbamoylmethyl)di- and trithiophosphates"

Leningrad, Zhurnal Obshchey Khimii, Vol XLII (CIV), No 1, 1972, pp 65-73

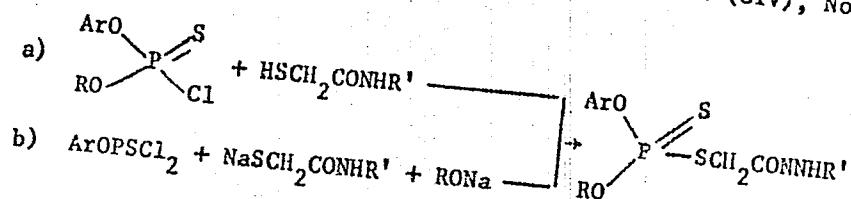
Abstract: A study was made of the possibility of synthesizing O-aryl-O-alkyl-S-(N-alkylcarbamoylmethyl)dithiophosphates from O-aryl-O-alkylchlorothiophosphates and amides of thioglycolic acid (a) and from O-aryldichlorothiophosphates, amides of thioglycolic acid and sodium alcoholates in alcohol (b). One procedure resulted in greater than a 50% yield of the target compounds. A second procedure gives a very low yield as a result of prevalence of the side processes in the synthesis. A new series of O-aryl-S,S-di(N-alkylcarbamoylmethyl)trithiophosphates was synthesized from O-aryldichlorothiophosphates and Na-derivatives of thioglycolic acid. The reaction takes place with the formation of a series of side products. The compounds obtained have acaricidal and fungicidal activity. The formulas, some physical characteristics, yields and side compounds are presented for the various reactions in tabular form. The two synthesis methods used are represented as follows

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MANDELBAUM, YA. A., et al., Zhurnal Obshchey Khimii, Vol XLII (CIV), No 1, 1972, pp 65-73



USSR

UDC 547.26'118

MANDEL'BAUM, YA. A., SOYFER, R. S., BELOVA, L. A.

"Synthesis of Alkyl and Dialkylamides of O-phenyl-S-(N-Alkylcarbamoylmethyl)dithiophosphoric Acids"

Leningrad, Zhurnal Obschey Khimii, Vol XLII (CIV), No 1, 1972, pp 62-65

Abstract: In order to find new pesticides and to study the dependence of biological activity on structure, the alkyl and dialkylamides of O-phenyl-S-(N-alkylcarbamoylmethyl)dithiophosphoric acids (I) were synthesized from the corresponding amides of O-phenylchlorothiophosphoric acid [Ya. A. Mandel'baum, et al., USSR Author's Certificate No 238554, 1968; Byull. izobr., No 10, 1969] and the Na derivatives of the amides of thioglycolic acid in alcohol [R. S. Soyfer, et al., USSR Author's Certificate No 255262, 1969; Byull. izobr., No 33, 1969]. The highest yields of compounds (I) were obtained from the dialkylamides of O-phenylchlorothiophosphoric acids (higher than 50%).

The compounds (I) were tested as insecticides, acaricides and fungicides. They have high activity as systemic acaricides, frequently exceeding the activity of the standard, and high activity as fungicides.

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USSR .

VITTIKH, V. A., SOYFER, V. A., YAMOVICH, A. A.

"Compression of Data in Experimental Studies of Physical Fields"

Avtomatika i Vychisl. Tekhn. [Automation and Computer Technology], 1972, No 6, pp 61-66 (Translated from Referativnyy Zhurnal Kibernetika, No 4, 1973, Abstract No 4V311, by the authors).

Translation: This article studies an approach to the problem of data compression in experimental studies of physical fields represented by exponential functions of two variables, using methods of adaptive discretization. Means are indicated for realization of adaptive discretization algorithms, and estimates are constructed of the expansions of these fields under adaptive noise conditions. The relationship of the problems of data compression with the physics of the processes studied is emphasized, increasing the effectiveness of compression.

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SOYFER, V.A.

Communication

GLORIA

JPRS 55939
9 May 1972

ПРОПУСКНАЯ СПОСОБНОСТЬ МУЛЬТИПЛЕКСНЫХ КАНАЛОВ
СМ. 621.391.133

Article by V. A. Soyfer, USSR, Radio Engng. Electron. Phys.
17:2, 1972, 1972, 1972, pp. 10-251

The throughput capacity of multiplex channels is determined under slow fading conditions. The statistics of each of the N paths is described by a generalized gaussian model. The separate reception is defined both under conditions of In the former case, two methods of beam combination are studied: noncoherent addition and synthesizing.

defined for a single-path (in our terminology) channel with arbitrary fading amplitude characteristics [4]. In the present work, we study the throughput capacity of multiplex channels with quite general statistical properties. The importance of this problem has been noted by V. I. Soforov [5]. Its solution will allow objective evaluation of various methods of beam combination. The partial beam separation. The development of radio

We studied a channel with arbitrary number of fluctuating beams. Fading in each beam resulting from the narrowness of the input signal band width was considered smooth as to frequency. The behavior of an arbitrary

This is also correct for radio systems with noise-like signals.
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[1 - USSR - 7]

USSR

UDC: 621.391:519.2

KLOVSKIY, D. D., SOYFER, V. A.

"Differentiating Two Orthogonal Signals in a Generalized Radio Channel"

Tr. uchben. in-tov svyazi. M-vo svyazi SSSR (Works of Educational Institutes of Communications. Ministry of Communications of the USSR), 1970, v. 48, pp 48-53 (from RZh-Radiotekhnika, No 2, Feb 71, Abstract No 2A70)

Translation: Analytical expressions are found for the probability of error in optimum reception with respect to the criterion of the plausibility ratio. An investigation is made of the effect of random channel characteristics on interference stability. Resumé.

1/2 C18

UNCLASSIFIED

PROCESSING DATE--11DEC70

TITLE--DIMERIZATION OF PYRIMIDINE BASED DNA OF HELA CELLS DURING
ULTRAVIOLET IRRADIATION, AND REMOVAL OF THE DIMERS DURING REPARATION IN
AUTHOR--(03)-SOYFER, V.N., MATUSEVICH, L.L., GORUSHKINA, G.I.

COUNTRY OF INFO--USSR

SOURCE--KALICBIOLOGIYA 1970, 10(2), 275-8

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DNA, BIOLOGIC CELL, UV RADIATION BIOLOGIC EFFECT, RADIATION
CELLULAR EFFECT, PAPER CHROMATOGRAPHY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605004/C02 STEP NO--UR/0205/70/010/002/0275/0278

CIRC ACCESSION NO--AP0139613

UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AP0139613

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HELA CELLS WERE INCUBATED WITH THYMIDINE PRIME3 H FOR 20 HR AND THEN IRRADIATED WITH UV (MAX. 253.7 NM). THE INCUBATION CONTINUED AND SAMPLES WERE TAKEN FOR THYMIDINE-THYMIDINE DIMER RATIO DETN. BY PAPER CHROMATOG. WITH A N,BUTANCL DOUBLE BOND ACOH DOUBLE BOND WATER (80:12:30) SOLVENT SYSTEM. THE AMT. OF THYMIDINE DIMERS INCREASED LINEARLY WITH THE RADIATION DOSE UNTIL A PLATEAU WAS REACHED. A DECREASE IN DIMERS WAS OBSD. IN THE DARK INCUBATION AFTER IRRADN. FACILITY: INST. OBSHCH. GENET., MOSCOW, USSR.

UNCLASSIFIED

172 018

UNCLASSIFIED

PROCESSING DATE--23OCT70

TITLE--ISOTOPIC COMPOSITION OF HYDROGEN IN THE WATERS AND PETROLEUMS OF THE APSHERON OIL AND GAS BEARING REGION -U-

AUTHOR--(05)--MEKHTIYEV, SH.F., BREZGUNOV, V.S., VLASOVA, L.S., RACHINSKIY, M.Z., SOYEB, V.N.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., NEFT. GAZ 1970, 13(1), 3-6

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, MATERIALS, EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--ISOTOPE, HYDROGEN, PETROLEUM DEPOSIT, CRUDE OIL, NATURAL GAS, GROUND WATER, HYDROCARBON, DEUTERIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/1640

STEP NO--IR/0152/70/013/001/0003/0005

CIRC ACCESSION NO--AT0118619

UNCLASSIFIED

242 018

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AT0118619

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AV. ISOTOPIC COMPN. OF H IN WATERS OF VARIOUS FORMATIONS VARIED FROM 1.04 TO 1.065 RELATIVE UNITS, BUT DID NOT DEPEND ON THEIR TYPE AND MINERALIZATION. THE RATHER HIGH CONTENT OF D IN THE WATERS OF ALL HORIZONS SHOWED THE STAGNANT CONDITIONS OF THE BASINS IN THE PRODUCTIVE STRATA, THE COMPN. BEING CLOSE TO THAT OF THE SEDIMENTATION WATERS. THE CONC. OF D IN PETROLEUMS VARIED 0.86-1.01 (AV. 0.93) UNITS AND DID NOT DEPEND ON THEIR SP. GR., HYDROCARBON COMPN., AND OCCURRENCE DEPTH; THEREFORE, THE CAUSES OF THE VARIATION COULD NOT BE DETD. THE AV. D CONTENT OF CONDENSATES WAS 0.90 UNITS. FACILITY: AZERB. INST. NEFTI KHIM. IM. AZIZVEKOVA, BAKU, USSR.

UNCLASSIFIED

USSR

SOYFER, YA. M., and SHTEYNBERG, V. G.

UDC 539.4

"Temperature Dependence of the Yield Point of Zinc at Low Temperatures and Dislocation Mobility"

Khar'kov, Fiz. Mekhanizmy Plastich. Deform. pri Nizkikh Temperaturakh -- Sbornik (Physical Mechanisms of Plastic Deformation at Low Temperature -- Collection of Works), 1971, p 11 (from Referativnyy Zhurnal, Mekhanika, No 2, Feb 72, Abstract No 2V1257)

Translation: An investigation is made of the temperature dependence of the yield point of zinc monocrystals in the temperature interval from 4.2 to 300°K. Samples oriented for basal or pyramidal slip were used. It was discovered that the yield point for shear along the planes of a second-order pyramid is considerably more temperature-dependent than is the yield point for slip along the basal plane. The obtained results are compared with data on the dislocation mobility of the indicated slip systems, obtained by the method of internal friction at frequencies of about 10 Hertz on the same zinc monocrystals. It is shown that in the investigated interval of stress amplitudes, at low temperatures the dislocation mobility is controlled by the process of surmounting the Peierls barrier. Evaluations of the Peierls barrier were made for a basal and for a pyramidal slip system. The relation of these values to the results of measurements of the temperature dependence of yield are discussed.

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1/2 019
 TITLE--ANOMALOUS BEHAVIOR OF SHEAR MODULUS IN DEFORMED ZINC SINGLE
 CRYSTALS -U-
 AUTHOR--SOYFER, YA.M., SHTEYNBERG, V.G. S
 COUNTRY OF INFO--USSR
 SOURCE--FIZ. TVERD. TELA 1970, 12(1) 306-7
 DATE PUBLISHED-----70
 SUBJECT AREAS--MATERIALS, PHYSICS
 TOPIC TAGS--ZINC, SINGLE CRYSTAL, SHEAR MODULUS, TORSION STRESS
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAE--1988/0640
 CIRC ACCESSION NO--A20105619
 STEP NO--UR/0181/70/012/001/0306/0307
 UNCLASSIFIED

C72 019
CIRC ACCESSION NO--AP0105619
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--11SEP70

CRYSTAL ZN WAS MEASURED WITH THE AID OF A VACUUM REVERSIBLE PENDULUM AND WAS DETD. AS THE MAGNITUDE PROPORTIONAL TO THE SQUARE OF THE FREQUENCY OF TWISTING OSCILLATIONS. DIFFERENT ORIENTATIONS OF THE CRYSTALS WERE USED AT 100-300DEGREESK AND FOR VARIOUS DEGREES OF DEFORMATION. THE TEMP. DEPENDENCE IS GIVEN OF THE SQUARE OF THE FREQUENCY OF THE TWISTING OSCILLATIONS. THE SHEAR MODULUS OF NONDEFORMED SPECIMENS IS INDEPENDENT OF TEMP. DEFORMATION BY TORSION BY 1.6PERCENT AT ROOM TEMP. DECREASES THE SHEAR MODULUS AND LEADS TO A VARIATION OF ITS TEMP. DEPENDENCE: AT 170DEGREESK THERE IS A SHARP MIN. DOUBLING THE DEFORMATION SHIFTS THE MIN. TOWARD LOWER TEMPS AND INCREASES ITS DEPTH.

UNCLASSIFIED

USSR

UDC 541.67

GORDEYEV, A. D., KOZLOV, E. S., AND SOYGER, G. B., Perm' State University
Perm' and Institute of Organic Chemistry, Academy of Sciences UkrSSR, Kiev

"The Nuclear Quadrupole Resonance of ^{35}Cl in Dimeric Trichlorophosphazene-
methane"

Moscow, Zhurnal Strukturnoy Khimii, Vol 14, No 5, Sep-Oct 73, pp 934-935

Abstract: The study of compounds of pentavalent P by the method of nuclear quadrupole resonance of ^{35}Cl was continued in the instance of $(\text{MeNPCl}_2)_2$, the molecular geometry of which is known. It follows from the crystallographic structure of this compound that all axial Cl atoms are crystallographically equivalent, while two nonequivalent positions for the equatorial Cl atoms must exist. One must there expect in the nuclear quadrupole resonance spectrum three lines of equal intensity, two of which $(\nu_{\text{P-Cl}}^{\text{eq}})$ must differ considerably with respect to the frequency from the third $(\nu_{\text{P-Cl}}^{\text{ax}})$. The experimental data confirmed this conclusion. The resonance frequencies of the Cl nuclei in the axial and equatorial positions were considerably lower than those for PCl_5 , but the difference between them was practically the same.

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UDC 669.017:620.172

USSR

PRESNYAKOV, A. A., ~~SOZMIN~~ SOZMIN, N. YA., and AUBAKIROVA, R. K., Alma-Ata

"True Superplasticity"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 1, Jan 71, pp 106-108

Abstract: The change in strength characteristics of Al-Zn eutectic alloy, type A-85 technical aluminum, and type S2 technical zinc during the process of extension was studied. Flow curves were constructed in the coordinates "flow stress -- elongation." Cylindrical specimens with a gauge portion diameter of 5×20 mm were held for 15 minutes at the experimental temperature, then subjected to tension directly in the furnace. With an elongation of about 110%, the deformation resistance drops to values of less than 0.025 kg/mm^2 . Further flow of the material occurs at strength levels too low to be measured by the available instruments. Analysis of the experimental material indicates that true superplastic flow is a rather common phenomenon

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USSR

PRESNYAKOV, A. A., et al., Izvestiya Akademii Nauk SSSR, Metally, No 1, Jan 71, pp 106-108

during plastic deformation of metals and alloys. It is determined that the appearance and development of true superplastic flow of metals and alloys results from the influence of a significant number of factors, depending on which the phenomenon may occur or may not. The nature of development of true superplastic flow (the moment of its appearance and its duration) is determined by the effects of such factors as preliminary and present deformation experimental temperature, and other which facilitate its appearance.

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UDC 621.383.4/.51

USSR

SOZINA, N. N.

"Study of Frequency Characteristics of Photoconducting Materials"

Izv. Leningr. elektrotekhn. in-ta (Bulletin of Leningrad Electrical Engineering Institute), 1970, Issue 94, pp 39-41 (from RZh--Elektronika i yeye primeneniye, No 5, May 1971, Abstract No 5B209)

Translation: A study is made of certain short light pulses from the point of view of their possible use during an investigation of the kinetics of photoconduction. The 3LK-1 electron-beam tube with a screen of a "fact" luminophor based on gehlenite made it possible to obtain pulses with a minimum duration of 25-30 nsec with a radiation density ~ 0.13 watt/cm². The relaxation characteristic of the photoconductivity of Ge:Sb was investigated with the aid of an electron-beam tube. The characteristics of Ge photoresistors and Si photogalvanic elements were studied with the aid of light diodes with pulse durations in the limits of 5-400 microsec. 1 ill. 2 ref. N. S.

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UDC 539.3:354.231.1

USSR

SAGOMONYAN, A. YA., SOZONENKO, YU. A.

"Longitudinal Impact on a Thin-Walled Cylinder with a Rigid Bottom" V sb. Vopr. mekhaniki (Problems of Mechanics--collection of works), Vyp. 7, Tashkent, "Fan", 1969, pp 124-136 (from RZh-Mekhanika, No 3, March 1970, Abstract No 3V209)

Translation: The transient wave process of axisymmetric elastic deformation of a semi-infinite thin circular cylindrical shell caused by longitudinal forces acting on the bottom is examined. The shell is regarded as an absolutely rigid body exhibiting mass. Based on equations from the theory of elasticity, the authors have derived a system of two approximal equations. This system differs from the system of equations derived in the zero-moment theory in that in the radial direction equilibrium equation there is an additional member -- a second derivative of the longitudinal coordinate with respect to radial displacement. This added member is also retained in the course of further simplifications. This results in conversion of the first equation into an ordinary wave equation for independent calculation of the longitudinal displacement. Based on this simplified system and using the Legendre transformation, a closed solution is constructed for the case of longitudinal arbitrary action. An example is considered.

U. K. Nigul

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UDC 8.74

USSR

SPALVIN, A. P.

"Selection of Scales in Grid-Digital Computation Systems"

V sb. Vychisl. tekhn. i krayevyye zadachi (Computer Engineering and Boundary Problems — collection of works), vyp. 11, Riga, 1971, pp 21-31 (from RZh-Kibernetika, No 7, Jul 72, Abstract No 7V589)

No abstract

1/1

1/2 047 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--SETUP FOR FATIGUE STRENGTH TESTING OF POLYMER MATERIALS IN VACUUM
AT LOW AND HIGH TEMPERATURES -U-
AUTHOR-(04)-SOSHKO, A.I., SPAS, YA.M., KALININ, N.G., TYNNY, A.N.
COUNTRY OF INFO--USSR
SOURCE--FIZIKDKHIMICHESKAIA MEKHANIKA MATERIALOV, VOL. 6, NO. 1, 1970, P.
84-86
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, CHEMISTRY, PHYSICS
TOPIC TAGS--FATIGUE STRENGTH, PLASTIC DEFORMATION, LOW TEMPERATURE EFFECT,
HIGH TEMPERATURE EFFECT, VACUUM, CRYOGENIC EFFECT, POLYMER, FATIGUE
TEST, CYCLIC LOAD TEST
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1995/1246 STEP NO--UR/0369/70/006/001/0084/0086
CIRC ACCESSION NO--AP0116708
UNCLASSIFIED

Pulse Technique

UDC: 621.374.33(088.8)

USSR

BOKHUA, A. V., SPARSIASHVILI, P. D., KORENETSKIY, G. B., PODLUENYY, G. I.,
Special Design Office of Tachometry

"A Time Interval Expander"

USSR Author's Certificate No 270795, filed 7 Mar 68, published 11 Aug 70
(from RZh-Radiotekhnika, No 2, Feb 71, Abstract No 2G326 P)

Translation: This Author's Certificate introduces a device for stretching the time interval between two pulses. The device contains two Kipp oscillators and circuits for isolating the leading and trailing edges of pulses. To improve the accuracy of extension of the time interval between pulses, the outputs of the Kipp oscillators are connected to the inputs of an AND circuit whose output is connected to the circuit for isolating the trailing edge of the pulses, and to the input of an OR circuit whose output is connected to the input of the circuit for isolating the leading edge of the pulses.

2/2 047

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0116708

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DEVELOPMENT OF A SETUP FOR STUDYING THE FATIGUE STRENGTH AND DEFORMABILITY OF POLYMER MATERIALS IN VACUUM, AIR, AND GAS ATMOSPHERES AT LOW AND HIGH TEMPERATURES. A STRUCTURAL DIAGRAM AND DETAILED DESCRIPTION OF THIS SETUP ARE PRESENTED. SAMPLES CAN BE SUBJECTED TO CYCLIC LOADING AT FREQUENCIES RANGING FROM 500 TO 1400 CPM AND TEMPERATURES RANGING FROM MINUS160 TO PLUS300 C. FACILITY: AKADEMIIA NAUK UKRAINSKOI SSR, FIZIKO-MEKHANICHESKII INSTITUT

UDC 615.217.24.092:616-003.922.1.04

USSR

KORABLEV, M. V., LUKIYENKO, P. I., and SPAS, V. V., Chairs of Pharmacology and Hospital Surgery, Grodno Medical Institute, Grodno

"The Antihypoxic Activity of Apressin"

Moscow, Eksperimental'naya Khirurgiya i Anesteziologiya, No 1, Jan/Feb 73, pp 72-75

Abstract: Apressin (1-hydrazinophthalazine HCl), on being injected to rats and mice subcutaneously 60 min before the experiment, protected the animals from death resulting from hypoxia on reduction of the air pressure in a chamber to a level at which all control animals died. Injections of apressin increased by 43% the rate of survival of rats with circulatory hypoxia of the brain produced by tying up the carotid arteries. Apressin in a dose of 6 mg/kg increased the resistance of the heart and brain of rabbits to hypoxia produced by stopping for 5 minutes artificial respiration that was applied on exclusion of natural respiration by the administration of diplacin. The bioelectric activity of the brain was preserved in the experimental animals for a length of time greater by 52% than that for control animals. On being administered prophylactically per os to patients with gastrointestinal ulcers subjected to surgery, apressin prevented in 57% of cases the development of hypoxia during 1/2

USSR

KORABLEV, M. V., et al., Eksperimental'naya Khirurgiya i Anesteziologiya, No 1,
Jan/Feb 73, pp 72-75

endotracheal ether-oxygen anesthesia. Under the effect of the drug, the concentrations of lactic and pyruvic acids in the blood of the patients decreased.

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Acc. Nr **AP0053888**

Abstracting Service:
CHEMICAL ABST. 6-70

Ref. Code

6180058

116182b Zirconyl chloride hydrates. Spasibenko, T. P.;
Kobycheva, S. A. (USSR). *Zh. Neorg. Khim.* 1970, 15(2),
347-9 (Russ). The n_γ , n_α , and qual. crystallo-optical descrip-
tions of $ZrOCl_2 \cdot nH_2O$, where $n = 8, 7.5, 7, 6.5, 6, 5.5, 4.5$, and
4, are given. HMJR ...

pc

REEL/FRAME
19830965

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UDC 8.74

USSR

SPASIBUKHOV, A. YA.

"S-Rings"

Samoletostr. i tekhn. vozd. flota. Resp. mezhved. temat. nauch.-tekhn. sb.
(Aircraft Building and the Technical Air Fleet. Republic Interdepartmental
Thematic Scientific and Technical Collection), 1972, vyp. 27, pp 85-90 (from
RZh-Kibernetika, No 9, Sep 72, Abstract No 9V610)

Translation: The concept of a new alphabetic construction -- the symbolic ring -- is introduced. A definition of a subring (including simple) and a ring pursuit function is presented. The principles of giving the origin and the direction of reckoning the positions on the S-rings are formulated. The address substitution operation is defined. Examples are presented of assigning certain characteristic subrings, and descriptions of elementary transformations of this information using address substitutions are presented. It is indicated that in certain problems when describing the transformations of data encoded by the S-rings, the number of address substitutions drops by comparison with the number of ordinary substitutions defined for layers of finite length.

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- 66 -

UDC 547.963.32'854.81

USSR

SVERDLOV, YE. D., SPASOKUKOTSKAYA, T. N., and BUDOVSKIY, E. I., Institute of the Chemistry of Natural Compounds imeni M. M. Shernyakin, Academy of Sciences USSR, Moscow

"The Mechanism of the Mutagenic Action of Hydroxylamine. The Syntheses of Cytidine Di- and Triphosphates Modified with Hydroxylamine and O-Methylhydroxylamine"

Riga, Khimiya Geterotsiklicheskih Soyedineniy, No 5, 1972, pp 700-704

Abstract: The mutagenic effects of hydroxylamine (I) and O-methylhydroxylamine (II) are known to be primarily due to their modification of the cytosine nucleus. Since it is known that the modification of the nucleotides is influenced by the pH, concentration of I or II, and the temperature, in the present study these conditions were appropriately modified to achieve the synthesis of 1- β -D-ribofuranosyl-4,6-dihydroxylamino-5,6-dihydro-2-pyrimidinone-5'-triphosphate (III), 1- β -D-ribofuranosyl-4,6-di(O-methylhydroxylamino)-5,6-dihydro-2-pyrimidinone-5'-triphosphate (IV), the 5'-diphosphate (V) and the 5'-triphosphate (VI) of 1- β -D-ribofuranosyl-4-hydroxylamino-2-pyrimidinone, and the 5'-diphosphate (VII) and the 5'-triphosphate (VIII) of 1- β -D-ribofuranosyl-4-(O-methylhydroxylamino)-2-pyrimidinone. For the synthesis of III 0.5 ml of an aqueous solution of 0.2 M CTP was incubated with 2.5 ml of 8 M I, pH 6.5, for 1/2

USSR

SVERDLOV, YE. D., et al., Khimiya Ceterotsiklicheskikh Soyedineniy, No 5, 1972, pp 700-704

6 hr. at 20°C, following which I was removed by chromatography on Sephadex G-10, and the nucleotides were separated by ionexchange chromatography on AG 1X8 and DEAE-Sephadex A-25. The yield of III was in the 35-40% range. The nucleotides were determined from their absorbancies in the UV region. IV was produced by incubating 0.2 ml of 1 M CTP with 2.5 ml of 5 M II, pH 6, for 5 hr. at 34°C; the yield was in the 35-40% range. Syntheses of V and VI were attained by the incubation of 0.5 ml of 2 M CDP or CTP, respectively, with 2.5 ml of 1 M I, pH 5, for 6 hr. at 54°C; the yields varied from 25-30%. VII and VIII were formed by the reaction of 0.2 ml of 1 M CDP or CTP, respectively, with 1.5 ml of 1 M II, pH 5, for 7-8 hr. at 54°C, and the yields obtained were 20-25% of the starting cytosine nucleotides. Data were also obtained which indicated that the higher concentrations of I and II led to degradation of the pyrophosphate group to a limited extent. Evaluation of the spectral characteristics of the triphosphates showed that III had an absorption maximum at 225 nm at pH 7, while that of IV was at 230 nm. At pH 7 VI had absorption maxima at 235 and 270 nm, and VIII had maxima at 242 and 272 nm.

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- 10 -

1/2 019 UNCLASSIFIED PROCESSING DATE--020CT70
 TITLE--MECHANISM OF COLORING GELATIN LAYERS. VII. DIFFUSION OF DYES. INTC
 GELATIN LAYERS OF MATRIX RELIEFS -U-
 AUTHOR--(02)-VELICHKO, G.V., SPASOKUKOTSKIY, N.S. S
 COUNTRY OF INFO--USSR
 SOURCE--ZH. NAUCH. PRIKL. FOTOGK. KINEMATOGR. 1970, 15(2), 135-42
 DATE PUBLISHED-----70
 SUBJECT AREAS--METHODS AND EQUIPMENT
 TOPIC TAGS--COLOR, DYE, GEL, DIFFUSION COEFFICIENT, ADSORPTION,
 PHOTOGRAPHIC EMULSION/(U)SF10 SPECTROPHOTOMETER
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED STEP NO--UR/0077/70/015/002/0135/0142
 PROXY REEL/FRAME--1992/1957
 CIRC ACCESSION NO--AP0112925 UNCLASSIFIED

PROCESSING DATE--02OCT70

UNCLASSIFIED

2/2 019

GIRC ACCESSION NO--AP0112925
ABSTRACT/EXTRACT--(U) GP-0-

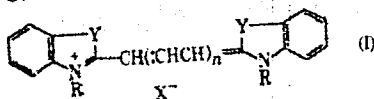
ABSTRACT. THE DIFFUSION OF DYES INTO STRONGLY TANNED LAYERS OF MATRIX RELIEFS WAS STUDIED WITH ACIDIC RED 2. THE WT. OF THE TANNED GELATIN ON THE AREA OF THE FRAME OF 3.36 CM PRIME2 WAS 7.86 TIMES 10 PRIME NEGATIVE4 G. MEASUREMENTS WERE MADE ON AN SF-10 SPECTROPHOTOMETER. THE DIFFUSION COEFF. INCREASED WITH THE CONCN. OF THE DYE, BUT ABOVE A CONCN. OF 0.175PERCENT THE INCREASE WAS LOW. INCREASE IN PH RAISED THE DIFFUSION COEFF., ESP. BETWEEN PH 4.27 AND 5.0. ANALOGOUS EFFECTS WERE OBSD. IN GELATIN GEL. ADDN. OF ELECTROLYTES TO THE SOLN. STRONGLY REDUCED THE DIFFUSION COEFF. THE DIFFUSION COEFF. INCREASED WITH RISING TEMP. BUT THE TEMP. EFFECT WAS LESS PRONOUNCED THAN THE EFFECT OF THE OTHER PARAMETERS. THE EFFECT OF THE TEMP. ON THE DYEING RATE CAN BE EXPRESSED BY DETG. THE ACTIVATION ENERGY OF THE PROCESS. THE CALCD. APPARENT DIFFUSION COEFF. OF 10 PRIME NEGATIVE9-10 PRIME NEGATIVE10 CM PRIME2-SEC IS CONSIDERABLY LOWER THAN THE LITERATURE DATA (10 PRIME NEGATIVE6-10 PRIME NEGATIVE7) WHICH IS DUE TO THE MORE COMPACT STRUCTURE OF THE STRONGLY TANNED GELATIN.

UNCLASSIFIED

Acc. Nr. **AP0041900** Abstracting Service: CHEMICAL ABST. **4/90 S**

Ref. Code **UR0368**

89619r Coloring of cyanine dyes and polarizability of groups in the heterocyclic residues. Spasokukotskii, N. S.; Vompé, A. E. (USSR). *Zh. Prikl. Spektrosk.* 1970, 12(1), 97-101 (Russ). Differences in color of π -isoelectronic cyanine dyes contg. heterocyclic rings are, in part, explained by different polarizabilities of atoms or functional groups in the heterocyclic ring which do not possess π -electrons and cannot take part in the conjugation with the rest of the mol. The validity of this conclusion is shown for a series of carbocyanine and oxanine dyes, e.g. I. The mol. refraction coeff., MR_D , is a measure of the polarizability of the group Y (Y = a group forming a part of the heterocyclic ring) and the higher the value of MR_D , the higher



the exptl. value of λ . Thus, the following values were found for I (R = Et, n = 1) (Y, MR_D , and λ in $m\mu$ given): O, 1.6, 484; NMe, 5.3, 490; CMe₂, 7.3, 548; S, 7.8, 559; CH:CH, 10.0, 603; Se, 10.8, 572. C. Parkanyi

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REEL/FRA
19751785

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1/2 022 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--COMPARATIVE SEROLOGICAL CHARACTERISTICS OF ANTIHEPATOCYTOTOXIC SERA
OBTAINED BY MEANS OF IMMUNIZATION OF ANIMALS WITH ISOLATED MITOCHONDRIA
AUTHOR--(03)-SPASOKUKOTSKIY, YU.O., ALEKSEEVA, I.M., GALENKO, T.I.

COUNTRY OF INFO--USSR

SOURCE--FIZIOLOGICHNIY ZHURNAL, 1970, VOL 16, NR 3, PP 341-344

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--RABBIT, IMMUNOLOGY, LIVER, MITOCHONDRION, ANTIGEN, PROTEIN,
IMMUNE SERUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1994/1137

STEP NO--UR/0238/70/014/003/0341/0344

CIRC ACCESSION NO--AP0115156

UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0115156

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DATA ARE CITED ON THE COMPARATIVE SEROLOGICAL CHARACTERISTIC (ACCORDING TO THE COMPLEMENT FIXATION TEST) OF HEPATOCYTOTOXIC SERA OBTAINED BY MEANS OF RABBIT IMMUNIZATION WITH ISOLATED MITOCHONDRIA OF THE LIVER CELLS AND EXTRACTS OF THE WHOLE LIVER TISSUE UNDER STRICTLY ANALOGOUS CONDITIONS BY SIMILAR QUANTITIES OF ANTIGEN ACCORDING TO PROTEIN. IT IS SHOWN, THAT ANTIHEPATOCYTOTOXIC SERUM OBTAINED BY MEANS OF IMMUNIZATION WITH ISOLATED MITOCHONDRIA OF THE LIVER CELLS IS LESS ORGANOSPECIFIC, THAN THE SERUM OBTAINED BY IMMUNIZATION WITH THE EXTRACT OF THE WHOLE LIVER TISSUE AND ACCORDING TO IMMUNOLOGICAL ACTIVITY IN THE TEST OF COMPLEMENT FIXATION WITH HOMOGENATE OF THE LIVER IT DOES NOT ESSENTIALLY DIFFER FROM THE LATTER. FACILITY: DEPARTMENT OF EXPERIMENTAL THERAPEUTICS, THE A. A. BOGOMOLETZ INSTITUTE OF PHYSIOLOGY, ACADEMY OF SCIENCES, UKRAINIAN SSR.

UNCLASSIFIED

Acc. Nr: AP0052305

Ref. Code: UP0238

PRIMARY SOURCE: Fiziologichniy Zhurnal, 1970, Vol 16, Nr 1, pp 24-28

CHANGE IN GONADOTROPIC FUNCTION OF HYPOPHYSIS IN YOUNG AND OLD RAT MALES UNDER CONDITIONS OF ADMINISTRATING DIFFERENT DOSES OF ANTITESTICULAR CYTOTOXIC SERUM

Yu. G. Spasokukotskiy, T. M. Zelenska, O. V. Mishchimenko
Department of Experimental Therapy, the A. A. Bogomoletz Institute of Physiology,
Academy of Sciences, Ukrainian SSR, Kiev.

Summary

In 142 young and 122 old rat males gonadotropic function of hypophysis was studied in norm and with administration of different doses of antitesticular cytotoxic serum (ATCS). The animals of the same age without serum injection were taken as control. The results obtained testify to the fact that the content of gonadotropins in hypophyses of old rat males with age hypofunction of testicles is higher than that in young animals, that coincides with literary data. When administrating the young males

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high (inhibitory) doses of ATCS, an increase is observed in the gonadotropins content in hypophysis of rats. When administrating the old males with age hypofunction of testicles small (reactivating) doses of ATCS, the initial rise in the gonadotropin content is found with a subsequent considerable drop. Thus ATCS small doses, affecting the specialized cellular elements of testicles, can cause normalization of hormonal status of an organism by "feedbacks" and support homeostasis.

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19820875

722

USSR

UDC 53(09)

PREDVODITELEV, A. S., SPASSKIY, B. I.

"The Development of Physics in Russia. (An Outline). Vol. 1. From the beginning of the XVIII Century to the Great October Socialist Revolution"

Razvitiye fiziki v Rossii. (Ocherki). T. 1. Ot nachala XVIII v. do Velikoy Oktyabr'skoy sotsialisticheskoy revolyutsii (cf. English above), Moscow, "Prosveshcheniye", 1970, 415 pp, ill., 2 r. 30 k. (from RZh-Fizika, No 1, Jan 71, Abstract No 1A3K)

Translation: The first volume covers the history of the development of physics in Russia from the beginning of the XVIII century to the Great October Socialist Revolution. The articles of the first volume were written on the basis of recent studies and the collection of much previously unknown material and tell of the life and activity of the eminent physicists of this country who had various destinies and interests and different styles and methods of scientific work; the essence and meaning of discoveries and inventions made by them are examined against the background of world-wide physical science. A courageous creative approach to the solution of problems facing them, their deep desire to relate the

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USSR

PREDVODITELEV, A. S., SPASSKIY, B. I., Razvitiye fiziki v Rosii. (Ocherki).
T. 1. Ot nachala XVIII v. do Velikoy Oktyabr'skoy sotsialisticheskoy revolyut-
sii, Moscow, "Prosveshcheniye", 1970, 415 pp, ill., 2 r. 30 k.

achievements of physical science to technical progress and the enlightenment of the people, and a firm materialistic tradition in the understanding of nature are common to them all. The first volume has four sections. The first section covers the leading role of the Petersburg Academy of Science and Moscow University. The second section contains outlines in which are discussed the role of Russian universities in the first half of the XIX century in the development of physical science and in the training of scientific and teaching cadre. The third section publishes notes on the life and activity of eminent Russian physicists of the second half of the XIX century: A. G. Stoletov, D. I. Mendeleev, N. A. Umov, P. N. Lebedev, A. S. Popov, A. A. Eykhenval'da, K. N. Pirogov, and others. The fourth section discusses areas in the physical sciences that were developed in the second half of the XIX century.

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1/2 017 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--POLYMERIZATION OF ALLYL COMPOUNDS -U-
AUTHOR--(03)-VOLODINA, V.I., TARASOV, A.I., SPASSKIY, S.S.
CCUNTRY OF INFO--USSR
SOURCE--USP. KHIM. 1970, 39(2), 276-303
DATE PUBLISHED--70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--POLYMERIZATION, ALLYL HALICE, AMINE, ALCOHOL, CYCLIC GROUP
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/2035 STEP NO--UR/0074/70/039/002/0276/0303
CIRC ACCESSION NO--AP0125623
UNCLASSIFIED

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CIRC ACCESSION NO--AP0125623

UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. POLYMN. OF ALLYL ETHERS, ESTERS,
AMINES, ALCS., AND HALIDES, ALLYLAROMATIC COMPS., AND OTHER ALLYL
COMPS., THE MECHANISMS OF ALLYL POLYMN. BY RADICAL, RADICAL COMPLEX,
RADIATION, AND IONIC MEANS, AND CYCLOPOLYMN. OF GEM DIALLYL COMPS. ARE
REVIEWED WITH 386 REFS. FACILITY: INST. KHIM. SVERDLOVSK, USSR.

UNCLASSIFIED

Steels

USSR

UDC 669.15.018.44:620.186

SPASSKIY, V. V., POPOV, V. I., GLINKIN, A. S., KRAVTSOVA, T. K., BOBYLEV, F. K.,
MESHCHERYAKOV, A. S., TROSHKIN, G. N.

"Effect of Phase Composition on the Properties of Austenitic Chromium-Nickel
Steels in Castings and Welded Parts"

Liteyn. proiz-vo (Casting Production), 1970, No 11, pp 29-30 (from RZh-Metal-
lurgiya, No 4, Apr 71, Abstract No 4I649)

Translation: A study is made of EI572 heat-resistant steel containing (in %) C 0.28-0.33, Mn 1.08-1.27, Si 0.60-0.80, Cr 18.20-20, Ni 8.1-9.7, W 1.48-1.50, Mo 1.20-1.35, Ti 0.22-0.78, Nb 0.26-0.50. The castings were austenitized at 1,160°, and they were cooled in water before aging at 650-820° for 15 hours. The δ-ferrite content in the samples was determined after austenitization and aging. Increasing the Cr, Ni, and Ti content increases the δ-ferrite content. With an increase in the content of C > 0.30%, the amount of M₂₃C₆ carbides increased along the grain boundaries. The cooling rate of the casting has a noticeable effect on the amount of δ-ferrite in the steel: in the case of accelerated cooling of the casting in water (4°/second) the amount of δ-ferrite was about twice that obtained with ordinary cooling in the air (0.15°/second). Castings made of EI572 steel for welding must contain 3-5%

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SPASSKIY, V. V., et al., Liteyn. proiz-vo, 1970, No 11, pp 29-30

δ -ferrite. This is somewhat higher than for the same steel during hot working. The required amount of δ -ferrite is insured by a 0.3-0.45% Ti content in steel.

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- 64 -

Acc. Nr:

APO040329

Ref. Code: UR 0481

PRIMARY SOURCE: Eksperimental'naya Khirurgiya i Anesteziologiya,
1970, Nr 1, pp 16-19

ON THE INTEGRAL RHEOGRAPHY OF THE CHEST

A. I. Spektor

True rheogram of the pulmonary artery is difficult to record due to the influence of the bloodflow in the aorta. Rheograms described reflect the total bloodflow and are integral rheograms of the chest. Synchronous recording of ECG, phonocardiogram and rheogram and central sphygmogram enables to obtain by a bloodless method the true tension of the right ventricle.

REEL/FAME
19741760

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1/2 023 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--REMOVAL OF ARSENIC DURING THE REDUCTION OF KERCH TOBACCO (COLORED)
ORE -U-
AUTHOR--(02)-SPEKTOR, A.N., YUSFIN, YU.S.
COUNTRY OF INFO--USSR
SOURCE--IZV. VYSSH. UCHEB. ZAVED., CHERN. MET. 1970, 13(1), 22-5
DATE PUBLISHED-----70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, MATERIALS

TOPIC TAGS--COAL, ARSENIC, CHEMICAL SEPARATION, ORE, CHEMICAL REDUCTION,
IRON, IRON OXIDE, SILICON OXIDE, ALUMINUM OXIDE, CALCIUM OXIDE,
MAGNESIUM OXIDE, SULFUR, VANADIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1988/0950

STEP NO--UR/0145/70/013/001/0022/0025

CIRC ACCESSION NO--AT0105819

UNCLASSIFIED

2/2 023 UNCLASSIFIED PROCESSING DATE--13NOV70
CIRC ACCESSION NO--AT0105819
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CHEM. COMPN. OF THE ORE WAS FE
38.50PERCENT, FEO 5.32PERCENT, SIO 21.0PERCENT, AL SUB2 O SUB3
7.24PERCENT, CAO 2.40PERCENT, MGO 0.86PERCENT, S 0.16PERCENT, P SUB2 O
SUB5 2.34PERCENT, AS 0.12PERCENT, V 0.085PERCENT, AND OTHERS
11.30PERCENT. ANTHRACITE AND COAL DC WERE USED AS REDUCING AGENTS, AND
CHEM. PURE CAO AS A FLUX. THE REMOVAL OF AS WAS DETD. AS A FUNCTION OF
THE AMT. OF COAL DC IN THE PELLETS, AT 1000DEGREES FOR 30 MIN, WITH
DIAM. OF PELLETS 8 MM AND THE COMPN. OF GASEOUS MEDIUM 20PERCENT CO SUB2
AND 80PERCENT N, AND AS A FUNCTION OF TEMP. AT 700-1100DEGREES FOR 20
MIN, WITH 20PERCENT ANTHRACITE, GASEOUS MEDIUM N, CONSUMPTION 0.21.-MIN,
DIAM. OF THE PELLETS 4-6 AND 15-18 MM. THE MOST SUITABLE METHOD FOR THE
REMOVAL OF AS WAS THE USE OF GASEOUS POTENTIAL; I.E., THE REMOVAL WAS
STATED AS A FUNCTION OF THE POTENTIAL OF THE GAS PHASE AND THE TEMP.
THE TESTS WERE CARRIED OUT AT 900DEGREES FOR 30 MIN, WITH A GASEOUS
MEDIUM OF 70PERCENT CO SUB2 AND 30PERCENT H; AND DIAM. OF THE PELLETS 8
MM. THE AS REMOVAL WAS 90PERCENT.

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172 014

UNCLASSIFIED

PROCESSING DATE--13NOV70

TITLE--BEHAVIOR OF IRON ORE MATERIALS DURING REDUCTION -U-

AUTHOR--(05)--POKHVISNEV, A.N., SPEKTOR, A.N., YUSFIN, YU.S., BAZILEVICH,
T.N., PYRIKOV, A.N.

COUNTRY OF INFO--USSR

SOURCE--STAL' 1970, 30(2), 97-105

DATE PUBLISHED-----70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, MECH., IND., CIVIL AND
MARINE ENGR

TOPIC TAGS--IRON ORE, CHEMICAL REACTION MACHANISM, THERMAL EFFECT,
CHEMICAL REDUCTION, SINTERING FURNACE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/1951

STEP NO--UR/0133/70/030/002/0097/0105

CIRC ACCESSION NO--AP0115759

UNCLASSIFIED

272 014

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0115759

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FLUXED AND NONFLUXED PLAIN AND DOUBLE LAYER PELLETS AND SAMPLES OF SINTER, BOTH EXPTL. AND COM., FROM MANY SOVIET, JAPANESE, AND AUSTRIAN SOURCES, WERE HEATED ISOTHERMALLY AT 600-1200DEGREES IN H, CO, AND CO-CO SUB2-N MIXT., OR WERE HEATED BY GRADUALLY INCREASING THE TEMP. FROM 300 TO 1200DEGREES IN 4 HR AND PERIODICALLY CHANGING THE GAS COMPN. TREATED SAMPLES WERE TESTED FOR VOL. AND STRENGTH CHANGES, MICRO AND MACROSTRUCTURE VARIATIONS, AND FOR POROSITY. THE RESULTS ARE DESCRIBED AND PRESENTED IN DIAGRAMS. REDN. WITH H AND CO LOWERS THE STRENGTH OF ALL MATERIALS TESTED. THE CRUSHING STRENGTH AND ABRASION RESISTANCE OF PELLETS ARE, HOWEVER, LOWER THAN THOSE OF SINTER, WHILE THE VOL. OF PELLETS SHOWS A GREATER INCREASE. A MAX. VOL. INCREASE AND STRENGTH DROP OCCUR WHEN HEMATITE BEGINS TO TRANSFORM INTO MAGNETITE. THE VOL. INCREASE OBSD. DEPENDS LARGELY ON THE STRUCTURE AND STRESS OF SAMPLES, RATHER THAN ON C PPTN. A 1.5 FOLD LOWER SWELLING ON H REDN. IS CAUSED BY THE DIFFERENT REDN. MECHANISM INVOLVED. FACILITY: MOSK. INST. STALI SPLAVOV, MOSCOW, USSR.

UNCLASSIFIED

USSR:

UDC 669.15'26:[620.193+539.531]1669.296

SVECHNIKOV, V. N., and SPEKTOR, A. TS., Institute of the Physics of Metals, Academy of Sciences USSR

"Effect of Zirconium on High-Temperature Hardness and Heat Resistance of Iron Chromium Alloys"

Metallofizika. Resp. mezhved. sb. (The Physics of Metals. Republic Inter-departmental Collection of Works), 1970, vyp. 20, pp 94-98 (from RZh-Metallurgiya, No 3, Mar 71, Abstract No 3I777 by authors)

Translation: The ternary alloys of Fe-Cr and Cr-Zr sides containing Zr 3% were studied at elevated temperatures (up to 1000°) and hot-hardness curves were constructed. Heat resistance was studied in two series of alloys: Fe-rich (up to 30% Cr) and Cr-rich (up to 40% Fe). Alloying of Fe-Cr alloys with zirconium significantly increases the hardness of the alloys, especially low-chromium alloys (up to 11% Cr). With a constant quantity of Zr the maximum hardness is found in alloys containing ~20% Fe. In the 800-1000° range the best hot-hardness values are obtained for alloys with about 20% Fe and 20-35% Zr, i.e., alloys containing a significant quantity of eutectic or a mixture of beta phase and eutectic. Additions of Zr markedly improve heat resistance.

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USSR.

SVECHNIKOV, V. N., et al., Metallofizika, Resp. mezhved. sb., 1970, vyp. 29, pp 94-98

Among alloys of Cr-Ar-side those with additions of 20-30% Fe, 10-20% Zr may be of the greatest interest. Six illustrations. Bibliography with two titles.

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USSR

UDC 669.017.11

SVECHNIKOV, V. N., and ^KSPEKTOR, A. TS., Institute of Metal Physics, Academy of Sciences ~~Ukr SSR~~

"The Effect of Zirconium on the Polymorphic Region $\alpha - \gamma - \delta$ in the Triple Iron-Chromium-Zirconium System"

Kiev, Metallofizika, No 32, 1970, pp 33-38

Translation: This study shows the basic features of the emergence of a polymorphic region of the $\alpha - \gamma - \delta$ type near the iron-zirconium side of the triple iron-chromium-zirconium system and its experimental determination. The alloys were prepared from electrolytic iron drawn out in hydrogen and remelted in vacuum, electrolytic refined chromium, and zirconium iodide in an electric arc furnace with a nonconsumable tungsten electrode on a water-cooled copper bottom in an atmosphere of purified argon. The oxygen content in the alloys after the melting did not exceed 0.06%. The basic research methods used were the microstructural, x-ray structural, dilatometric, differential-thermal, and magnetometric. It was established that in the triple iron-chromium-
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USSR

SVECHNIKOV, V. N., and SPECTOR, A. TS., Metallofizika, No 32, 1970, pp 33-38

zirconium system a closed surface, which differentiates the polynorphic region $\alpha - \beta - \delta$ from the remaining space, appears near the iron-zirconium side.

The results of this study can be extended to the triple systems $F_e - C_r - M$, where the third component is the element which in alloys with iron forms a system with the so-called reverse peritectic transformation.

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- 84 -

Acc. Nr:
AP0051119

Abstracting Service:
CHEMICAL ABST. 5-76

Ref. Code:
HR 0138

101596r Effect of the vulcanization of latexes on the biological stability of films obtained from them. ~~Saekov, M.; Gutman, A. M.; Kondrat'eva, E. N.; Gusev, M. V. (Mosk. Ges. Univ. im. Lomonosova, Moscow, USSR). *Kauch. Rezina* 1970, 29(1), 15-16 (Russ).~~ S vulcanization of butadiene-styrene SKS-65GP latex (I) produced increased biol. stability and fungicidal properties of I films. Nairit L-7 latex films had higher resistance to molds than I films. Vulcanization of L-7 films also had a favorable effect on their fungus resistance. I and L-7 films inhibited bacterial growth.

CKJR]

MS.

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REEL/FRA
19811162

6

Thermomechanical Treatment

USSR

UDC: 621.785.79

SPEKTOR, Ya. I., GORELIK, S. S., SPEKTOR, E. N., BOKOVA, T. V., Moscow Institute of Steel and Alloys

"Effect of Preliminary Thermomechanical Treatment on the Structurally Sensitive Characteristics of Construction Steel"

Moscow, Izvestiya VUZov: Chernaya Metallurgiya, No 11, 1972, pp 135-138

Abstract: The purpose of this work was investigation of the influence of different preliminary thermomechanical treatment schedules and individual stages of heat treatment on resistance to small and large plastic deformations, grain orientation and the fine structure of cold-rolled air-quenched structural steel grade KVK42 (0.42% C, approximately 1% Cr, Mn and Si). It was found that the elastic limit of the steel after heat treatment increases with the temperature of intermediate (pre-recrystallization) annealing before quenching in the preliminary thermomechanical treatment cycle, and with the rate of heating prior to quenching. Intermediate annealing before quenching also intensifies the grain orientation as compared with that of steel rolled immediately after quenching. The elastic limit is appreciably increased by intermediate annealing, which is especially noticeable for a higher reduction during rolling.

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1/2 007
UNCLASSIFIED
PROCESSING DATE--18SEP70
TITLE--SEPARATION OF SODIUM SULFATE FROM CONCENTRATED SULFATE BRINES BY
HEATING -U-
AUTHOR--(05)-BORODULINA, YE.K., GORELOVA, V.A., SPEKTOR, I.E., FURMAN,
A.A., VOROPANOV, V.S.
COUNTRY OF INFO--USSR
SOURCE--KHIM. PROM. (MOSCOW) 1970, 46(1), 38-40
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--CHEMICAL SEPARATION, SODIUM HYDROXIDE, SODIUM CHLORIDE, SODIUM
SULFATE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1985/1642
STEP NO--UR/0064/70/046/001/0038/0040
CIRC ACCESSION NO--AP0101697
UNCLASSIFIED

2/2 007

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0101697

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CONCD. SULFATE BRINES FROM ELECTROLYTIC NAOH MANUFG. PLANTS CONTAIN NA CL 22.0 TO 2.5, NA SUB2 SO SUB4 6 TO 7, AND NAOH 0.5 TO 1.5PERCENT; AS A RESULT OF EVAPN. OF 5 TO 7.5PERCENT OF THE H SUB2 O (BY HEATING TO 100PERCENT) UP TO 40PERCENT OF THE NA SUB2 SO SUB4 IS PPTD. AS A SOLID (CONTG. NO NA CL). EVAPN. OF A LARGER FRACTION OF THE H SUB2 O RESULTS IN A HIGHER DEGREE OF EXTN. OF NA SUB2 SO SUB4 WITH THE PPT. BUT IN THAT CASE THE PPT. CONTAINS SUBSTANTIAL AMTS. OF NA CL. EVAPN. OF

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UNCLASSIFIED

1/2 024 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--RESONANT PARTICLES IN ELECTRON CYCLOTRON HEATING OF PLASMA -U-
AUTHOR--(03)-IVANOV, A.A., SPEKTOR, M.D., FRANKKAMENETSKIY, D.A.
COUNTRY OF INFO--USSR
SOURCE--JETP LETTERS (USA), VOL. 11, NO. 2, P. 136-8 (JAN. 1970)
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--PLASMA HEATING, CYCLOTRON, ELECTRON, HIGH ENERGY PARTICLE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/1084 STEP NO--US/0000/70/011/002/0136/0138
CIRC ACCESSION NO--AP0136504
UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0136504

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A NUMBER OF INVESTIGATIONS OF ELECTRON CYCLOTRON PLASMA HEATING HAVE REVEALED THE PRESENCE OF A GROUP OF HIGH ENERGY ELECTRONS (SEVERAL TIMES 10 KEV), EXCEEDING BY MANY ORDERS OF MAGNITUDE THE AVERAGE ENERGY OF THE PLASMA ELECTRONS. THE AUTHORS BELIEVE THE ORIGIN OF THE HOT ELECTRONS TO BE RESONANT PARTICLES, WHOSE DOPPLER SHIFTED FREQUENCY COINCIDES WITH THE CYCLOTRON FREQUENCY $\Omega \approx \Omega_{UH}$. THEY SHOW, USING THE DISPERSION EQUATION FOR THE ELECTRON CYCLOTRON WAVES, THAT THIS ASSUMPTION LEADS DIRECTLY TO A CORRECT ESTIMATE OF THE ENERGY OF THE HOT ELECTRONS.

UNCLASSIFIED

USSR

UDC: 632.95

SHAMSHURIN, A. A., SPENTOR, V. I., and KRIMER, M. Z.

"Method of Producing 2,3-Dichloro-5-oxy-1,4-naphthoquinone (Dichlorojuglone)"

USSR Author Certificate No 239933, filed 31/10/67, published 7/08/69 (from Referativnyy Zhurnal--Kimiya, No 2, 1970, Abstract No 2 N773 P)

Translation: 5 g juglone (5-oxy-1,4-naphthoquinone) is suspended in 100 ml of concentrated HCl (acid), then at 20° with agitation of the bath for 4-6 hours, Cl₂ is passed through (2-5 l per hour), and the reaction mass is separated by filtering or decantation, and is dried, producing dichlorojuglone (I), C₁₀H₃O₃Cl₂, yield 99%. I is used as a fungicide.

V. M. Shsheglova

1/1

Thermomechanical Treatment

USSR

UDC: 621.785.79

SPEKTOR, Ya. I., GORELIK, S. S., SPEKTOR, E. N., BOKOVA, T. V., Moscow Institute of Steel and Alloys

"Effect of Preliminary Thermomechanical Treatment on the Structurally Sensitive Characteristics of Construction Steel"

Moscow, Izvestiya VUZov: Chernaya Metallurgiya, No 11, 1972, pp 135-138

Abstract: The purpose of this work was investigation of the influence of different preliminary thermomechanical treatment schedules and individual stages of heat treatment on resistance to small and large plastic deformations, grain orientation and the fine structure of cold-rolled air-quenched structural steel grade KVK42 (0.42% C, approximately 1% Cr, Mn and Si). It was found that the elastic limit of the steel after heat treatment increases with the temperature of intermediate (pre-recrystallization) annealing before quenching in the preliminary thermomechanical treatment cycle, and with the rate of heating prior to quenching. Intermediate annealing before quenching also intensifies the grain orientation as compared with that of steel rolled immediately after quenching. The elastic limit is appreciably increased by intermediate annealing, which is especially noticeable for a higher reduction during rolling.

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USSR

UDC 538.561

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KATYSHEV, Ye. G., PANASYUK, V. S., PANKRATOV, S. G., ROMANOVSKIY, V. F.,
SAMOSHENKOV, Yu. K., SOKOLOV, A. A., SPEKTOR, Ya. M., STEPANOV, B. M.

"Investigation of Electromagnetic Emission of a Modulated Electron Beam"

Leningrad, Zhurnal Tekhnicheskoy Fiziki, Vol 42, No 11, Nov 72, p 2446

Abstract: The paper gives a block diagram and the parameters of an installation for studying velocity-modulated emission of an electron beam, as well as the results of measurements. The beam energy was 33 keV, beam current in the pulse 0.25 A, pulse duration 4 μs, pulse repetition rate 25 Hz, frequency of the modulating rf field 482 MHz, length of the emission region 55 cm, and pressure in the system 10⁻⁴ mm Hg. It was found that the emission power received by an antenna with effective area of 750 sq. cm at a distance of 2.5 m from the beam is 1 mW. The vector of intensity of the modulating electric field lies in a plane which passes through the axis of the beam. The ratio of emission intensity on the second harmonic to that on the first harmonic is approximately 5%.

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1/2 024 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--STRUCTURE OF MOLTEN NICKEL AND IRON -U-

AUTHOR--SPEKTOR, YE.Z. S

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(6) 1322-4

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, MATERIALS

TOPIC TAGS--FERROUS LIQUID METAL, NONFERROUS LIQUID METAL, NICKEL, CRYSTAL LATTICE STRUCTURE, IRON, X RAY DIFFRACTION ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/1577

STEP NO--UR/0020/70/190/006/1322/1324

CIRC ACCESSION NO--AT0107997

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UNCLASSIFIED

2/2 024

CIRC ACCESSION NO--AT0107997
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--11SEP70

ABSTRACT. THE STRUCTURE OF NI AND FE, CONTG. 0.010PERCENT C, AT 30-40DEGREES ABOVE THE M.P. WAS DETD. BY X RAY DIFFRACTION. THE INTERAT. DISTANCE (R SUB1) OF FE IS GREATER THAN THAT OF NI. FOR THE SAME TYPE OF PACKING, THE CONST. A IN THE EQUATION R SUB1 EQUALS A-S SUB1 IS THE SAME IN FE AND IN NI. THE DIFFERENCE R SUB1 EQUALS R SUB1 SUBFE MINUS R SUB1 SUBNI IS 0.10 ANGSTROM. THE DIFFERENCE IN POSITION OF THE 1ST MAX. (S SUB1) IN THE INTENSITY CURVE COULD BE ASCRIBED TO THE DIFFERENCE OF THE FCC. AND THE BCC. STRUCTURES. BUT, THIS IS NOT SUPPORTED BY THE I(S) CURVE. IT IS POSSIBLE THAT IN MOLTEN FE THERE ARE REGIONS CLOSE TO BOTH PACKING TYPES.

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UNCLASSIFIED

USSR

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UDC: 621.373.531.1

AGIZIM, A. M., SPEKTOR, Yu. I.

"A Braked Multivibrator Based on Transistors of Different Conductivity Types"

Ctbor i peredacha inform. Resp. Mezhved. sb. (Information Selection and Transmission. Republic Interdepartmental Collection), 1970, vyp. 23, pp 82-85 (from RZh-Radiotekhnika, No 7, Jul 70, Abstract No 7G288)

Translation: The authors consider the circuit of a slave multivibrator based on PNP and NPN transistors. Relationships are found which can be used for optimum calculation of the circuit elements. Bibliography of five titles. Resumé.

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USSR

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UDC 621.396.961

BELENKIY, Ya. Ye., YEREMENKO, V. K., SPEKTOR, Yu. I.

"Error in Determining the Velocity Vector of Moving Objects in the Case of Two-Point Direction Finding by the Doppler Effect"

Otbor i peredacha inform. Resp. mezhved. sb. (Information Sorting and Transmission. Republic Interdepartmental Collection), 1970, vyp. 24, pp 130-125 (from RZh-Radiotekhnika, No 8, Aug 70, Abstract No 8G6)

Translation: This article contains an investigation of the problem of calculating the error in determination of velocity by the Doppler effect in the case of two-point direction finding with respect to a target. It is demonstrated graphically that when determining the velocity with a given error, doubling the measurement error of the angular coordinate leads to a sharp decrease in the region in which the radiated target is located. There are three illustrations and a two-entry bibliography.

USSR

SPEKTOROV, L. A.

UDC 533.95:538.4

"On the Diagnostics of a Nonequilibrium Low-Temperature Plasma With Respect to Relative Population of Energy Levels of the Atoms"

Tr. Kirg. un-ta. Ser. fiz. n. (Works of Kirgiz University. Physical Sciences Series), 1972, No. 1, pp 51-55 (from RZh-Fizika, No 11, Nov 72, Abstract No 11G98)

Translation: The basic properties in the population of metastable (3P_0 and 3P_2) and hyperresonance (n^3S_1) levels of Cd atoms in a low-temperature nonequilibrium plasma are analyzed, and equations for the relative population of these levels were obtained on the basis of the balance equations. Formulas for calculating electron concentrations and temperatures were obtained by conversion of these equations on the basis of known relative populations of the levels, their energy parameters, and excitation or deactivation cross sections by electron impact. V. Ye. Skurat.

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UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--CONCERNING THE CEREBRAL VASCULAR COMPLICATIONS IN AN ACUTE AND SUBACUTE PERIODS OF THE MYOCARDIAL INFARCTION -U-
AUTHOR--(02)-LEONOV, YE.P., SPEKTOROVA, S.YA.

COUNTRY OF INFO--USSR

SOURCE--ZDRAVCKHRAENIYE BELORUSSII, 1970, NR 4, PP 49-51

DATE PUBLISHED--70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BRAIN, BLOOD VESSEL, MYOCARDIUM, NEUROLOGY, BLOOD CIRCULATION, REFLEX, BLOOD COAGULATION, GERONTOLOGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3003/0132

STEP NO--UR/0477/70/000/004/0049,0051

CIRC ACCESSION NO--AP0129388

UNCLASSIFIED

2/2 024

CIRC ACCESSION NO--AP0129388
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT. 45 PATIENTS WITH MYOCARDIAL INFARCTION HAVE BEEN INVESTIGATED. THE NEUROLOGIC SYMPTOMATICS HAS NOT BEEN FOUND IN 29 OF THEM, IN 9 PATIENTS IT HAS BEEN VAGUELY EXPRESSED, 9 HAVE HAD SEVERE DISTURBANCES OF THE CEREBRAL BLOOD CIRCULATION. MORE FREQUENTLY SUCH COMPLICATIONS HAVE OCCURRED IN OLDER AGE GROUPS AND IN CASES OF TRANSMURAL MYOCARDIAL INFARCTIONS AND APPARENTLY THEY HAVE BEEN CAUSED BY MORE MARKED ALTERATIONS OF THE BRAIN VESSELS, BY DISTURBANCES IN THE COAGULATION AND ANTICOAGULATION BLOOD SYSTEM AND ALSO BY ADDING THE PATHOLOGICAL REFLEX MECHANISMS. FACILITY: OKRUZHNOY VOYENNY GOSPITAL.

UNCLASSIFIED

АНСКАЯ А. А.

Hydrometeorology

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Source: SPAN 11/23/51
25 Feb 52
Hydrometeorology

ARTICLE BY Candidate of Physical and Mathematical Sciences Ye. P. Anisimova
Leningrad State University, Moscow, U.S.S.R.
Leningrad, U.S.S.R.
1972, number 21, pp. 271-273

... and air currents, it is very important to isolate the specific conditions under which the laws of turbulent motion defined in experimental and theoretical hydrodynamics can be used.

At the present time, the results of studying the characteristic features of the temperature and velocity fields in fresh bodies of water the surface of which is covered with ice are discussed.

The measurements of the mean values and interrelations of the water temperature and flow velocity were taken on the ice of the reservoir. At the same time, a hole is made in the ice through which a rod is dropped with a probe of sensors attached to it. The rod was balanced in the water by a float. The arrangement of the sensors and the method of measurement of the data for the arrangement of the resistors and recording device of the

Acc. Nr. **AP0054890**

Abstracting Service: **CHEMICAL ABST.**

6-70

Ref. Code

UR0363

115362y Bismuth sesquioxide-tungsten trioxide system.
 Speranskaya, E. I. (Inst. Obshch. Neorg. Khim. im. Kurnakova,
 Moscow, USSR). *Izv. Akad. Nauk SSSR, Neorg. Mater.* 1970,
 6(1), 149-51 (Russ). In the title system, five compds. form
 with WO_3 - Bi_2O_3 ratios of 1:6, 1:3, 1:2, 1:1, and 2:1. Bi_6WO_{13}
 melts congruently at 1040°; at 900°, it undergoes a reversible
 phase transformation, accompanied by significant vol. changes.
 Sample cracking is obsd. during cooling. Bi_2WO_6 melts congru-
 ently at 1070-1080°; at 900°, it has a reversible phase transition.
 There is a slight (1-1.5%) soly. of WO_3 in Bi_2WO_6 . $Bi_2W_2O_9$
 melts incongruently at 880°. The compds. $2Bi_2O_3 \cdot WO_3$ and
 $6Bi_2O_3 \cdot WO_3$ exist within the solid state region. The 1st is
 stable $\leq 875^\circ$ and the 2nd is stable $\leq 770^\circ$. The max. possible
 WO_3 content in the soln. is 18% at 1000°. With decreasing
 temp., the soly. of WO_3 decreases to 5% at 715°. At this temp.,
 the β -solid soln. changes into the α -solid soln. according to the
 eutectic type.
 S. A. Mersol]

C.K.

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REEL/FRA
19840093

USSR

UDC 539.3

AL'TSHULER, L. V., RYAZANOV, V. T., SPERANSKAYA, M. P., Moscow

"Influence of Heavy Impurities on Detonation Mode of Condensed Explosives"

Zhurnal Prikladnoy Mekhaniki i Tekhnicheskoy Fiziki, No 1, 1972, pp 122-125.

Abstract: The influence of heavy metal additives on the detonation modes of condensed explosives was studied. A significant reduction in detonation pressure was noted. This effect is explained by the development of modes with increased detonation velocities, not satisfying the Chapman-Jouguet condition. An additional reduction in pressures was noted for compositions with a high content of metal, caused by the cooling influence of the impurities. The experimental results are compared with calculations performed in the additive approximation. The author's concentrate on the influence of the addition of heavy metal additives to the parameters of detonation waves, ignoring the gas dynamics of the detonation products.

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Pharmacology and Toxicology

USSR

UDC 615.214.2.015:612.825.1-019

BUROV, Yu. V. and SPERANSKAYA, N. P., Institute of Pharmacology, USSR Academy of Medical Sciences, Moscow

"Effect of Psychotropic Agents on One Form of Intraspecies Behavior"

Moscow, Farmakologiya i Toksikologiya, No 3, 1973, pp 266-268

Abstract: The effect of different groups of psychotropic agents (chlorpromazine, haloperidol, benactyzine, librium, amphetamine, butyrophenone, meprobamate, etc.) on the avoidance reaction of rats was studied in experiments where one group of animals ("viewers") given the tranquilizers were allowed to watch other animals ("victims") receive an electric shock. Benactyzine, meprobamate, and librium inhibited the avoidance reaction in relatively low doses but had virtually no effect on the conditioned defense reflex, while neuroleptics of the phenothiazine series (chlorpromazine, trifluoperazine) inhibited both reflexes in the same doses. In contrast, butyrophenone intensified the reaction of the "viewers" to the behavior of the "victims."

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UNCLASSIFIED

PROCESSING DATE--04DEC70

TITLE--ELECTROLYSIS OF MOLYBDENUM, VI, WITH A MERCURY CATHODE IN THE PRESENCE OF NICKEL AND COBALT -U-
AUTHOR--(03)-SPERANSKAYA, YE.F., MERTSALOVA, V.YE., KISELEVA, A.G.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43 (4), 896-8
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, MATERIALS
TOPIC TAGS--ELECTROLYSIS, MERCURY, NICKEL, COBALT, ELECTRODEPOSITION, AMALGAM, NICKEL COMPOUND, COBALT COMPOUND, CITRIC ACID

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/0975

STEP NO--UR/0080/70/043/004/0896/0898

CIRC ACCESSION NO--AP0131560
UNCLASSIFIED

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CIRC ACCESSION NO--AP0131560
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--04DEC70

ABSTRACT. THE EFFECT OF NI(II) OR CO(II) ON THE ELECTRODEPOSITION OF MO(VI) ON A HG CATHODE IN CITRIC ACID SOLNS. AT 70DEGREES WAS INSIGNIFICANT. NO SIGNIFICANT INCREASE OF MO IN THE TERNARY AMALGAM WAS FOUND OVER THAT FOUND IN THE BINARY AMALGAM. THE REASON FOR THIS LACK OF INCREASE IN MO DEPOSITED WAS DUE TO SELF DISSOLN. OF THE FRESHLY DEPOSITED MO. THE DISSOLN. OF THE TERNARY AMALGAMS IN N KOH YIELDED THE HYDROXIDES OF NI OR CO AND MOLYBDATE ION.

UNCLASSIFIED

1/2 018 UNCLASSIFIED PROCESSING DATE--04DEC70
 TITLE--ROLE OF HORMONES IN REGULATING THE ACTIVITY OF THE CHOLINERGIC
 STRUCTURES OF VEGETATIVE GANGLIA -U-
 AUTHOR-(02)-SPERANSKAYA, YE.N., PUSHKAREV, YU.P.
 COUNTRY OF INFO--USSR
 SOURCE--VESTN. LENINGRAD. UNIV. BIOL. 1970, (1), 108-13
 DATE PUBLISHED-----70
 SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
 TOPIC TAGS--EPINEPHRINE, NOREPINEPHRINE, SEROTONIN, GANGLION,
 ACETYLCHOLINE, MEDICAL EXPERIMENT
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAE--3001/1906
 CIRC ACCESSION NO--AP0127307
 UNCLASSIFIED
 STEP NO--UR/9074/70/000/001/0108/0113

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UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0127307

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ADRENALINE (0.1-1.0 MU G), NORADRENALINE (0.5-2 MU G), AND SEROTONIN (0.2-3.0 MU G) INJECTED INTO THE BLOOD VESSELS OR PERFUSING FLUIDS OF AUTONOMIC GANGLIA OF CATS INCREASED THE REACTION OF GANGLIA TO ACETYLCHOLINE. THE LARGEST DOSES SUDDENLY REDUCED THE SENSITIVITY OF THE CHOLINORECEPTOR RESPONSE TO ACETYLCHOLINE. INSULIN (3-20 UNITS+KG) AND THYROXINE (300 MU G OR MORE) DECREASED THE REACTIVITY OF CHOLINORECEPTORS TO ACETYLCHOLINE; SMALLER CONCNS. OF THE HORMONES SHOWED IN GHE GANGLIA A POS. TROPIC EFFECT, INCREASING THEIR SENSITIVITY TO ACETYLCHOLINE. OPTIMAL CONCNS. OF GLUCOSE IN THE BLOOD OR IN THE DRINKING WATER WIDENED THE EFFECTIVE RAGNE OF THE HORMONES AND NEUROTROPIC AGENTS ON CHOLINORECEPTORS IN THE AUTONOMIC GANGLIA.

UNCLASSIFIED

USSR

UDC 542.91+661.718.1

YARMUKHAMEDOVA, D. Kh., SPERANSKAYA, Z. G., KUDRYAVTSEV, B. V., and YERMAKOVA, Institute of Organic and Physical Chemistry imeni A. Ye. Arbuzov, USSR Academy of Sciences

"Monothio- and Dithiophosphonacetylphenothiazines and Phenoxazines"

Moscow, Izvestiya Akademii Nauk SSR, Seriya Khimicheskaya, No 4, 1971, pp 802-806

Abstract: Because of their marked biological properties, esters of monothio- and dithio- acids of phosphorus during the past few years have been the object of research, leading to the discovery of new compounds, among other results.

In the present study of the reactions of chloroacetylphenothiazine with salts of the monothiophosphoric acids, the following new compounds were discovered: 10-[(0,0-dialkylphosphonothio)acetyl]phenothiazines (alkyl: ethyl, propyl, 1-propyl, butyl, 1-butyl), 10-methyl(ethyl)-3-[(0,0-diethylthionophosphothio)acetylamino]phenothiazines, [(0,0-diethyldithio-phosphono)acetyl]phenothiazine, 10-(0,0-diethylphosphonothioacetyl)phenoxazine, 10-[(0,0-dialkyldithiophosphono)acetyl]phenoxazines (alkyl:

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USSR

YARMUKHAMETOVA, D. Kh., et al., Izvestiya Akademii Nauk SSR, Seriya
Khimicheskaya, No 4, 71, pp 802-806

ethyl, propyl, i-butyl), and 2, 10-bis-[0,0-diethyldithiophosphono]acetyl]
phenothiazine.

Tests for larvacidal and antifungus properties have been started on these
new compounds but have thus far showed no positive results.

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USSR

UDC 542.91:547.1'118

YARUKHAMEDOVA, D. KH., SPERANSKAYA, Z. G., KUDRYAVTSEV, B. V., Institute of Organic and Physical Chemistry imeni A. Ye. Arbusov of the USSR Academy of Sciences

"10-(0,0-dialkylphosphonformyl)-phenoxazines and phenothiazines"

Moscow, Izvestiya Akademii Nauk SSSR -- Seriya Khimicheskaya, No 11, 1972, p pp 2624-2625

Abstract: A series of new 10-(0,0-dialkylphosphonformyl)-derivatives of phenoxazine and phenothiazine were synthesized. The reaction of the corresponding 10-(chloroformyl)-derivatives with dialkylphosphite proceeds by the Arbuzov regrouping scheme. In the infrared spectra of the compounds obtained there is 1,640 cm^{-1} band characteristic of the CO group and a 1,280 cm^{-1} band characteristic of the P=O group. The precipitated 10-(0,0-dialkylphosphonformyl)-phenoxazines and phenothiazines are white crystals soluble in organic solvents but insoluble in water. The toxicity of the compounds for warm blooded animals is low; LD_{50} is 1,000 mg/kg. The antihelminth activity of 10-(0,0-dialkylphosphonformyl)phenothiazines is lower than for the corresponding dialkylphosphonacetyl-derivatives. The anticholinesterase properties of 1/2

USSR

SPERANSKIY, A., Professor, Head of the Chair of Physical Therapy, Central Institute of Advanced Training for Physicians

"Magnetic Fields"

Moscow, Meditsinskaya Gazeta, 5 May 73, p 3

Abstract: During recent years increased attention has been paid to work on the biological effects of magnetic fields. This work has been advanced by the development of equipment that is capable of generating low-frequency magnetic fields with definite characteristics. Some results indicate that non-uniform fields are more effective than uniform ones, but this requires clinical verification. Centers for the study of the biological action of magnetic fields have been created at the Tomsk, Perm', Kuybyshev, Izhevsk, and other medical institutes. Among data pertaining to the therapeutic action of magnetic fields, those related to effects on the liquid components of the organism are of particular interest. It has been established that the over-all activity of oxygen increases in magnetized water. However, attempts to prescribe to patients baths of magnetized sea water are premature; the action of magnetized water should be first studied in animal experiments. The data on the effects of magnetic fields obtained in the field of experimental oncology are contradictory.

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USSR

SPERANSKIY, A., Meditsinskaya Gazeta, 5 May 73, p 3

At the Laboratory of Higher Nervous Activity, Academy of Sciences USSR, Prof. Yu. Kholodov et al established that a continuous sinusoidal magnetic field of moderate intensity has a predominantly sedative and inhibiting effect on the organism. Its action is accompanied by an increase in the number of slow waves and spindles on the EEG as well as an increase in the level of gamma-butyric acid in the brain. USSR scientists observed stimulation of the phagocytic activity of leukocytes, an increase in the work capacity of an isolated frog muscle, and more rapid conduction of nerve impulses under the action of moderate magnetic fields. Electron-microscopic studies of the central nervous system carried out at the Izhevsk Medical Institute disclosed transient changes in mitochondria and membrane structures under the effect of magnetic fields which resembles those observed at the author's laboratory in experiments on the action of decimeter-length waves on structures of the spinal cord. The Moscow Scientific Society of Physiotherapists and Balneologists held recently two conferences at which progress in magnetotherapy was reviewed. Clinicians at the All-Union Scientific Research Institute of Obstetrics and Gynecology obtained initial results which indicated beneficial effects of magnetotherapy in cases of aggravated chronic inflammation of the uterus, chronic metroendometritis with an exudation component, and chronic recurrent

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USSR

SPERANSKIY, A., Meditsinskaya Gazeta, 5 May 73, p 3

colitis. According to preliminary results obtained at the Central Scientific Research Dermato-Venerological Institute, Ministry of Health USSR, magnetic fields exert a beneficial effect in itching dermatites. Magnetotherapy expedited the healing of trophic ulcers in some patients. It did not produce harmful side effects even in patients with atherosclerosis and hypertension. At the Neurological Department of the Moscow Oblast' Scientific Research Clinical Institute imeni M. F. Vladimirovskiy, magnetotherapy is used successfully in the treatment of vegetative polyneurites with a spastic component. The regions of sympathetic ganglia, hands, and feet are subjected to the action of magnetic fields. The experience on the Kiev Scientific Research Institute of Orthopedics in applying magnetic fields for the treatment of patients with severe pathological states (post-surgery edemas, pain, infiltrations) of the support and motor apparatus indicates the value of this method. At the Vascular Department of the Sanitarium "Rodina" near Moscow, good results were obtained by applying magnetotherapy in cases of endarteritis and atherosclerotic occlusions of blood vessels of the legs. Magnetic treatment of pronounced post-thrombophlebitic syndromes and of moderately severe trophic ulcers led to encouraging results. This was confirmed by clinical observations made at the Izhevsk and Kuybyshev medical institutes. In about 50% of patients subjected

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USSR

SPERANSKIY, A., Meditsinskaya Gazeta, 5 May 73, p 3

to magnetotherapy during the past two years, considerable improvement that lasted up to one year or longer was obtained. Magnetic fields of low intensity exert analgesic, sedative, spasmolytic, neurotrophic, and anti-inflammation effects. They have a regulatory effect on the vegetative nervous system and promote resorption of infiltrates. The application of magnetic fields with an intensity of 80-100-200 Oe and a length of action of 10-20 min can be recommended. Series production of equipment for magnetotherapy ought to be considered at this time.

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USSR

UDC 615.83:061.22.055.1(476) "1970"

SPERANSKIY, A. P., and SHEINA, A. N.

"Conference on the Therapeutic and Diagnostic Use of Ultrasound"

Moscow, Voprosy Kurortologii, Fizioterapii, i Lechebnoy Fizicheskoy Kul'tury, No 3, May/Jun 71, pp 281-282

Abstract: At the November 1970 conference it was noted that a new use for ultrasound in surgery for osteosynthesis and reduction of bone defects, and for cutting soft tissue has emerged. In the report "Ultrasound and Problems of Inflammation, Dystrophy, and Regeneration," A. P. Speranskiy summarized how ultrasound stimulated the organism's life activities; which conditions were most benefited; and where ultrasound was contraindicated. M. I. Antropova discussed the beneficial effect of ultrasound on facial nerve neuritis, using ultraphonophoresis of hydrocortisone initially. E. N. Popova reported on ultrasound therapy of trigeminal nerve neuritis. L. V. Zobina used hydrocortisone ultraphonophoresis on certain eye conditions. Z. S. Kuleshova reported on ultrasound used for vascular conditions in older patients; it has a regulatory effect on blood coagulatory and anti-coagulatory systems, and stimulates heparin production. A. N. Sheyina spoke of ultrasound effect

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SPERANSKIY, A. P., and SHEINA, A. N., *Voprosy Kurortologii, Fizioterapii, i Lechebnoy Fizicheskoy Kul'tury*, No 3, May/June 71, pp 281-282

on rheumatoid arthritis; it is associated with increased tissue oxidation processes. I. N. Alferova et al spoke of its positive effect on stages I and II of silicosis. L. I. Maksimova reported on ultrasound used as anti-bacterial therapy in destructive forms of pulmonary tuberculosis, described treatment procedures, and advised earlier ultrasound treatment. L. P. Danilova and L. I. Alenitskaya used ultrasound in treating genital pruritis, chronic and subacute inflammations of uterus and adnexi uteri, and lactation mastites. A. P. Speranskiy, E. S. Svyatenko, and V. A. Matyushkin reported on the effect of ultrasound on membrane structure of myelinated spinal cord axons; their evidence casts doubt on the general opinion concerning the mild effect of pulsed ultrasound. A. V. Polyakov's report outlined the method of ultrasound bone "welding" for osteosynthesis and defect compensation; any slides were used to illustrate the discussion. Ultrasound in diagnosis was a particularly interesting subject for conference participants. T. P. Makarenko, Yu. N. Bogin, and A. V. Bogdanov described ultrasound location of organs and demonstrated ultrasound apparatus. YU. N. Bogin discussed the significance of the new "thermal vision" method in the evaluation of pathological process,
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SFERANSKIY, A. P., and SHEINA, A. N., *Voprosy Kurortologii, Fizioterapii, i Lechebnoy Fizicheskoy Kul'tury*, No 3, May/June 71, pp 281-282

and noted advances in ultrasound biolocation of chest cavity organs. A. V. Uprev and Yu. N. Bogin reported on the echoplenograph plus ultrasound in determining spleen topography, size, pathological change. A. G. Gol'dman applied the ultrasound biolocation method in determining the morphological condition of liver tissue in tuberculosis patients. G. I. Shul'tsev, Yu. N. Bogin, N. N. Arkhipov reported on ultrasound biolocation in kidney disease, demonstrating its higher diagnostic accuracy. T. A. Finikova used this method in thyroid disease diagnosis while at the same time employing radioisotope scanning; she reports ultrasound helps determine nodular forms of goiter, and can determine the localization, sizes and even the quantity of nodules. The conference attracted a multi-discipline audience, and resulted in plans for a problem commission on clinical applications of ultrasound.

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Acc. Nr: APO052087

Ref. Code: UR0346

PRIMARY SOURCE: Zhurnal Nevropatologii i Psikhatrii imeni
S. S. Korsakova, 1970, Vol 70, Nr 3 ,
pp 382-388

ELECTROMYOGRAPHIC STUDIES IN PATIENTS
WITH INJURIES OF THE PERIPHERAL NERVES
DURING ULTRASOUND TREATMENT

A. P. Speransky, M. I. Antropova

The authors have studied by electromyographic method the bioelectrical muscle activity in 124 patients with sequelae of different peripheral nerve injuries of the extremities. The characteristics of the electromyogramms in the initial stage and during treatment, under singular ultrasound influence is being given. The authors report of the technique in ultrasound therapy. The achieved results are compared with the degree of the trauma and paresis of the extremities.

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UDC 669.189

SHUL'TE, Yu. A., KORNEYCHUK, A. I., SHERSTYUK, A. A., and SPERANSKIY, B. S.

"Effect of Casting Temperatures on the Mechanical Properties and Cold Brittleness of G13L High-Manganese Steel"

Metallurgicheskaya i Gornorudnaya Promyshlennost', No 2, 1971, pp 48-50

Abstract: High-manganese steel with fine-grained structure has good mechanical properties and durability. The relation between the casting temperature and the mechanical properties of the steel were studied. The temperature of the metal was measured in the ladle directly in front of the casting form by a thermocouple and potentiometer setup. At lower casting temperatures, the mechanical properties were improved. The relation between impact strength a_K and casting temperature t is $a_K = 123 - 0.071 t$. The strength σ_B is related to the casting temperature t by $\sigma_B = 220 - 0.097 t$ and the specific elongation δ to casting temperature by $\delta = 123 - 0.062 t$. Chemical composition also affects the mechanical properties. Samples for mechanical testing were cast from metals of the same composition at temperatures of 1440 and 1385°C. They were cooled in alcohol-liquid N_2 mixtures and tested for impact strength from +100 to -100°C. Samples cast at the lower temperature had greater strength.

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UDC 577.4

USSR

SPERANSKIY, D. V.

"A Monitoring Experiment with an Automaton"

V sb. Tekhn. diagnostika (Technical Diagnostics --- collection of works),
Moscow, Nauka Press, 1972, pp 204-206 (from RZh-Kibernetika, No 7, Jul 72,
Abstract No 7V358)

Translation: A study was made of the problem of constructing a simple minimal conditionless experiment making it possible to monitor the proper operation of the output function of a finite initial Mealy automaton. The necessary and sufficient conditions of existence of this experiment are formulated, and the procedure for constructing it is presented.

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UDC 621.391:519.2

SPERANSKIY, V. S.

Tr. Mosk. Elektrotekhn. in-ta svyazi (Works of Moscow Electrotechnical Communications Institute), 1970, vyp. 1, pp 29-34 (from RZh-Radiotekhnika, No 9, Sep 70, Abstract No 9A39)

Translation: This article contains an investigation of a nonlinear correlation receiver for detecting a wideband signal with random initial phase against a background of interference of the type of white gaussian noise. The effect of input limiting of the signal on the probability of detection with respect to the side lobes by comparison with linear conditions of operation (without limitation) is estimated. The possibility of reducing the errors caused by the side lobes by selecting the narrow band filter characteristics is demonstrated. There are two illustrations and a four-entry bibliography.

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UDC 621.372.061

SPERANSKIY, V. S.

"Single-Channel Correlation Receiver of Phase-Manipulated Signals"

Tr. Mosk. elektrotekhn. in-ta svyazi (Works of Moscow Electrotechnical Communications Institute), 1970, vyp. 1, pp 26-29 (from RZh-Radiotekhnika, No 9, Sep 70, Abstract No 9A58)

Translation: This article contains an investigation of a single-channel correlation filtering system, the equivalent circuit with two quadrature channels designed for reception of wide-band phase-manipulated signals. The system consists of a preselector in the form of a wide-band filter a rigid limiter (for protection from pulse noise and stabilization of the probability of false detection), a reference voltage oscillator, a multiplier, a narrow-band filter, an envelope detector and a decision unit. Increased noise resistance of the given system with respect to pulse noise is noted. There is one illustration and a four-entry bibliography.

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1/2 021 UNCLASSIFIED PROCESSING DATE--20NOV70
 TITLE--THE FORMATION OF A COMPLEX OF GONADOTROPHIN WITH GAMMA GLOBULIN
 SERUM FRACTION OF PLACENTAL BLOOD -U-
 AUTHOR--(03)-SPERANSKIY, V.V., TERNOVDY, A.P., STRIGIN, V.A.
 COUNTRY OF INFO--USSR **S**
 SOURCE--BYULLETEN' EKSPERIMENTAL'NOY BIOLOGII I MEDITSINY, 1970, VOL 49,
 NR 6, PP 43-45
 DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
 TOPIC TAGS--GAMMA GLOBULIN, BLOOD SERUM, PLACENTA, CHEMICAL SEPARATION,
 CHROMATOGRAPHY, GONADOTROPIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
 PROXY RELL/FRAME--3004/0695 STEP NO--UR/0219/70/049/0066/0043/0045

CIRC ACCESSION NO--AP0131294
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UNCLASSIFIED

PROCESSING DATE--20NOV70

2/2 021

CIRC ACCESSION NO--AP0131294

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. GAMMA GLOBULIN, ISOLATED FROM THE SERUM OF PLACENTAL BLOOD BY MEANS OF THE COLD ALCOHOL TECHNIQUE, ION EXCHANGE AND DISTRIBUTION CHROMATOGRAPHY ON COLUMNS, POSSESSED IN ASHEIM ZONDER TEST ON IMPATURE MALE RATS GONADOTROPIC (FOLLICULOSTIMULATING) ACTIVITY. THE MOST ACTIVE PROVED TO BE GAMMA GLOBULIN OBTAINED ON A DEAE CELLULOSE COLUMN AND WITH THE AID OF COLD ALCOHOL METHOD, THEN FOLLOWED THAT OBTAINED BY MEANS OF COLUMN GEL FILTRATION WITH SEPHADEX G-100 AND, FINALLY, WITH DEAE SEPHADEX A 50. COMMERCIAL GAMMA GLOBULIN IN VITRO FORMED A COMPLEX WITH CHORIOGONIN, WHICH COULD NOT BE ISOLATED IN REPEATED COLUMN CHROMATOGRAPHY WITH GEL SEPHADEX G 200.

FACILITY: I. I. MECHNIKOV INSTITUTE OF VACCINES AND SERA, UFA.

UNCLASSIFIED

1/27 030
 UNCLASSIFIED
 TITLE--FEATURES OF GELATINATION IN POLY(VINYL ALCOHOL) -U-
 PROCESSING DATE--18SEP70
 AUTHOR--(04)-GEMBITSKIY, L.S., GUBENKOVA, YE.N., VERKHOTINA, L.N.,
 SPERANSKIY, V.V.
 COUNTRY OF INFO--USSR S
 SOURCE--VYSOKOMOL. SOEDIN., SER. A 1970, 12(2) 259-66
 DATE PUBLISHED-----70
 SUBJECT AREAS--CHEMISTRY
 TOPIC TAGS--GELATION, POLYVINYL ALCOHOL, GEL, PLASTIC FILM, GLYCEROL,
 ETHYLENE GLYCOL, CRYSTAL STRUCTURE, X RAY STUDY, THERMOMECHANICAL
 PROPERTY
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAE--1987/1196
 STEP NO--UR/0459/70/012/002/0259/0266
 CIRC ACCESSION NO--AP0104562
 UNCLASSIFIED

PROCESSING DATE--18SEP70

UNCLASSIFIED

2/2 030

CIRC ACCESSION NO--AP0104562
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE DEPENDENCE OF STRUCTURAL TRANSITIONS IN POLY(VINYL ALC.) (I) GELS AND FILMS ON TEMP., SOLVENT COMPN., AND CONC. WAS STUDIED. AQ. I SOLNS. DILD. WITH PPTG. ALCS. GLYCEROL, DIETHYLENE GLYCOL, AND ETHYLENE GLYCOL WERE HETEROGENEOUS, HAVING 0.6-0.8 MU PARTICLES. THE APPARENTLY FIRST ORDER SOLN. GEL TRANSITION WAS ACCOMPANIED BY ABRUPT VOL. CHANGES. THE OCCURRENCE OF CRYSTN. WITH HEATING AT 160-210DEGREES OBSD. BY THERMOMECH. BEHAVIOR AND BIREFRINGENCE, WAS CORROBORATED BY X RAY ANAL. ONE CRYST. STRUCTURE HAVING INTERPLANAR DISTANCE 4.37 ANGSTROM AND 2 THETA EQUALS 20DEGREES WAS DETD. IN I GEL, FILM. AND POWDER. ANOTHER WAS OBSD. ON HEATING I FILM ABOVE THE GLASS TRANSITION.

UNCLASSIFIED

Acc. Nr.: MO46349

Ref. Code: UR0004
JPRS 52052

Tashkent Deep Borehole Reaches Earthquake Focus

(Abstract: "Unique Experiment of Tashkent Scientists: Seismic Detector is Lowered into an Earthquake Focus," unsigned; Moscow, Znaniye-Sila, No. 1, 1970, p. 9)

A deep borehole has been drilled in Tashkent at the request of the Seismology Institute, Academy of Sciences Uzbek SSR. It is on the right bank of the Ankor Canal, where a mobile seismic station has been set up by the Institute of Physics of the Earth, Academy of Sciences USSR. Station chief is I. Spesivtsev. His assignment was to lower a seismic detector into the hypocenter, into the earthquake focus. The borehole holds a hollow metal tube about 15 cm in diameter. It extends for 2 1/2 kilometers into the earth. A "torpedo" was lowered to this depth; it was attached to a logging cable through which signals induced in the instruments by seismic waves are transmitted to the surface. This hole was drilled into one of the foci of repeated tremors (aftershocks) of the Tashkent earthquake. The movement of rocks in this part of the earth's crust caused the earthquake (force 7) of 4 June 1966. It was possible to recover a rock sample from the earthquake focus. This sample was a long gray-rose colored cylinder. A careful study of the sample reveals the

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magnitude of the stresses at which rocks are ruptured. It reveals the changes which occur in the crystal lattices of minerals under the influence of the forces generating earthquakes. It is advantageous to register seismic signals from great depths because there is virtually no hindrance from industrial and atmospheric interference which sometimes introduces considerable distortions into the records of surface seismic stations. At the working depth of the borehole, 2,100 m, the background caused by noise will be approximately 30 times less than at the surface. It is very important to register very weak tremors because these are precursors of strong underground tremors. Sonic waves are also generated at earthquake foci. Therefore, plans call for lowering a geophone to the bottom of the hole. Experiments of this type were carried out in Tashkent in the summer of 1966 when a geophone was lowered into a 500-m borehole which was situated beyond the limits of the epicenter of a local earthquake. Researchers postulate that warning noises occur in deep layers prior to onset of an earthquake. Study of such warning noise may be still another approach to earthquake prediction.

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