

1/2 027 UNCLASSIFIED PROCESSING DATE--020CT70
 TITLE--REACTIONS OF BIS(TRIFLUOROMETHYL) NITROXIDE. VI. POLYMERIZATION OF
 TETRAFLUOROETHYLENE IN THE PRESENCE OF AN INITIATOR, SUCH AS
 AUTHOR--(04)-MELNIKOV, A.V., PARANAYEV, M.K., MAKAROV, S.P., ENGLIN, M.A.
 COUNTRY OF INFO--USSR
 SOURCE--ZH. VSES. KHIM. DSSHCHEST. 1970, 15(1) 117-18
 DATE PUBLISHED-----70
 SUBJECT AREAS--CHEMISTRY
 TOPIC TAGS--POLYTETRAFLUOROETHYLENE, POLYMERIZATION, NITROGEN OXIDE,
 CHEMICAL REACTION MECHANISM, ORGANIC NITRO COMPOUND
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAME--1992/1413 STEP NO--UR/0063/70/015/001/0117/0118
 CIRC ACCESSION NO--AP0112407
 UNCLASSIFIED

2/2 027
CIRC ACCESSION NO--AP0112407

UNCLASSIFIED

PROCESSING DATE--02OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE POLYMN. OF C SUB2 F SUB4 WAS INITIATED BY 1-30PERCENT (CF SUB3) SUB2 NO (I) AT 240-50DEGREES TO GIVE A SOLID POLYMER (WHEN I CONC. WAS 1-3PERCENT) OF MOL. WT. 2 TIMES 10 PRIME4. A REACTION MECHANISM WAS PROPOSED. THE PROPAGATION RATE CONST. WAS SIMILAR TO 25.5 L.-MOLE MIN AND THE TERMINATION RATE CONST. WAS SIMILAR TO 3,000.

1/2 013 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--USE OF SLIME WATERS AND WATER FROM THE WASHING OF AN OXIDATE DURING
THE TREATMENT OF ACID WATERS FROM SYNTHETIC FATTY ACID PRODUCTION -U-
AUTHOR--(04)--BOCHKAREV, YU.A., MAKAROV, S.V., KUDRYASHOV, A.I., RYABYKH,
L.N.
COUNTRY OF INFO--USSR
SOURCE--KHM. PROM. (MOSCOW) 1970, 46(1), 16-17
DATE PUBLISHED--70
SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, CHEMISTRY
TOPIC TAGS--SLIME, WASTE WATER CONVERSION, WATER, FATTY ACID, CHEMICAL
SEPARATION, AIR PURIFICATION EQUIPMENT, WATER RECOVERY, ORGANIC ACID
CENTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/1063 STEP NO--UR/0064/70/046/001/0016/0017
CIRC ACCESSION NO--AP0124720
UNCLASSIFIED

272 013

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSIGN NO--AP0124720

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE VARIOUS SLIME AND WASHING WATERS FROM THE MANUFG. OF SYNTHETIC FATTY ACIDS CONTAIN 2.3-12.8PERCENT NONVOLATILE SUBSTANCES; THESE SUBSTANCES ARE SPED. AS A RESIDUE BY HEATING TO 130-40DEGREES UNDER 2-8 ATM. THE PRODUCT CONSISTS OF A MIXT. OF FREE ACIDS, LACTONES, LACTIDES, AND NA, K, FE, AND MN SALTS OF ORG. ACIDS. AFTER SEPN. OF THE RESIDUE, THE WATER MAY BE USED FOR THE WASHING OF INCOMING AIR AND FOR THE RECOVERY OF VOLATILE ORG. ACIDS.

UNCLASSIFIED

USSR

UEC 669.1:539.166

NIKOLAYEV, I. N., MAKAROV, V. A., FUZEY, I. M., and PAVLYUKOV, L. S., Moscow Engineering Physics Institute, Institute of Precision Alloys, and Central Scientific Research Institute of Ferrous Metallurgy imeni I. P. Bardin

"Mössbauer Effect in Fe-Ni-Mn Invar Alloys"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 35, No 6, June 73, pp 1305-1307

Abstract: The Mössbauer effect was studied for nuclei of Fe^{57} in five samples $Fe_{65.5}(Ni_{1-x}Mn_x)_{34.5}$ in the interval $0.2 < x < 0.8$. After melting, the samples were annealed for five hours at $1000^{\circ}C$ and hardened. The resulting alloys were rolled into foil and annealed again for 0.5 hours at $700^{\circ}C$. Geometry of transmission was used in two modes of spectra measurements: constant velocities and constant accelerations. The method of spectra interpretation was done by determining the positions of centers of gravity of all samples at temperatures above $100^{\circ}K$ with an accuracy of ± 0.006 mm/sec. A $Co^{57}(Cr)$ was used at room temperature while sample temperature was varied from 4.2 to $370^{\circ}K$. A diagram of the magnetic states of the alloys was produced from the temperature relationship of the Mössbauer spectra, which revealed alloys

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USSR

NIKOLAYEV, I. N., et al., Fizika Metallov i Metallovedeniye, Vol 35, No 6, Jun 73, pp 1305-1307

$Fe_{65.5}Ni_{5.5}Mn_{29}$, $Fe_{65.5}Ni_{26}Mn_{8.5}$, and $Fe_{65.5}Ni_{28}Mn_{5.5}$. The first alloy above was antiferromagnetic and is a doublet with a relatively small average and super-thin magnetic field. An anomaly was noted in the behavior of $\chi(T)$ which was explained by the fact that the relative shift in the spectrum is compensated by a chemical shift that decreases the total shift with reduced temperature. In this case the decrease in isomeric chemical shift signifies an increase in the density of s-electrons in Fe^{57} nuclei and that there is a change in the electron configuration of the iron atoms during the transition from the paramagnetic to the ferromagnetic state. YE. G. PONYATOVSKIY and G. T. DUBOVKA rendered assistance in this work. 2 figures, 5 bibliographic references.

2/2

Free Radicals

USSR

UDC 541.127:541.117

MAKAROV, V. A., PILATOV, E. S., Moscow State University imeni M. V. Lomonosov, Moscow, Ministry of Higher and Secondary Specialized Education RSFSR

"Disproportionation and Recombination Reactions of Cyclohexyl Radicals at Low Temperatures"

Moscow, Khimiya Vysokikh Energiy, Vol 4, No 5, Sep-Oct 70, pp 467-468

Abstract: The article describes results of a study of disproportionation and recombination reactions of cyclohexyl radicals in the 77-145° K range for purposes of elucidating the effect of temperature on solid-phase processes. The radicals were obtained by the Klein-Scheer method. The results indicate that the yield of bicyclohexyl increases with temperature elevation and rises sharply (two orders of magnitude) when the transformation temperature of cyclohexene ($T_t \approx 139^\circ \text{K}$) is crossed, while there is little change in the ratio of cyclohexene and cyclohexane yields.
1/1

1/2 007 UNCLASSIFIED PROCESSING DATE--23OCT70
 TITLE--GEOCHRONOLOGY OF PRECAMBRIAN FORMATIONS IN THE URALS -U-
 AUTHOR-(04)-TUGARINOV, A.I., BIBIKOVA, YE.V., KRASNOBAYEV, A.A., MAKAROV,
 V.A.
 COUNTRY OF INFO--USSR M
 SOURCE--GEOKHIMIYA 1970, (4), 501-9
 DATE PUBLISHED-----70
 SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY
 TOPIC TAGS--GEOCHRONOLOGY, PRECAMBRIAN TIME, ABSOLUTE AGE, MAGMA,
 METAMORPHIC ROCK, ZIRCON, EARTH CRUST AGE
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAE--1997/0136 STEP NO--UR/0007/70/000/004/0501 .509
 CIRC ACCESSION NO--AP0119132
 UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--23OCT70

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CIRC ACCESSION NO--AP0119132

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

ABSTRACT. THE ABS. AGES OF VARIOUS
PRECAMBRIAN MAGNETIC AND METAMORPHIC ROCKS WERE DTD. FROM ZIRCONS BY
THE ISOTOPIC METHOD. THE AGE DETNS. INDICATED THE PRESENCE OF 2 STAGES
OF EFFUSIVE ROCK FORMATION IN THE BASHKIR ANTICLINORIUM (SOUTHERN
URALS). THE ANCIENT TARATASHSK INTRUSIONS, WHICH TERMINATED THE LOWER
PROTEROZOIC CYCLE AND WERE ACCOMPANIED BY INTENSE REGIONAL METAMORPHISM,
HAVE ABS. AGE OF 2000-200 MILLION YR. THE BERDYANSHSK PLUTON (1430
MILLION YR OLD) AND GUBENSK AND RYABINOVSK INTRUSIONS (1350 MILLION YR)
BELONG TO SUCCESSIVE INTRUSIVE PHASE. THIS PHASE COINCIDED WITH LARGE
INTERRUPTION IN SEDIMENT ACCUMULATION AND WAS DENOTED BY DISCONFORMITY
BETWEEN THE BURZYANSK AND YURMATINSK SERIES INDICATING AN INTENSE
DEVELOPMENT IN URALS OF THE STRATA HAVING A VERY LIMITED DISTRIBUTION IN
THE EARTH. FACILITY: V. I. VERNAOSKII INST. GEOCHEM. ANAL.
CHEM., MOSCOW, USSR.

UNCLASSIFIED

AA0040662

UR 0482

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

241963 COLD SPOT WELDING of springy materials using a punch (1) and die (2) having a cylindrical recess (3) in which is a tapered rod (5). During welding the material is pressed into the recess, forming a pear shaped weld, resulting in increased weld strength.

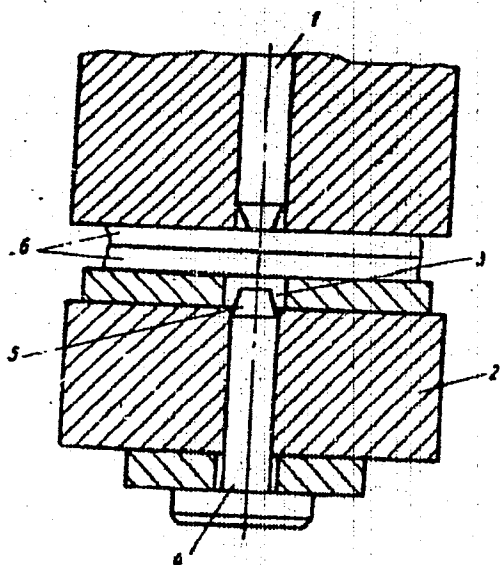
6.2.63 as 818427/25-27. E.F.RASTRIGINA & V.A.MAKAROV.
(5.9.69) Bul 14/18.4.69. Class 49B. Int.Cl.B 23K.

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18

19750253

AA0040662



19750254

USSR

UDC: 621.386.6-181.48

SADCHIKOV, P. I., NOVOKRESHCHENOVA, O. Ye., MAKAROV, V. A.

"Strength of Contact Joints in Hybrid Thin-Film Circuits"

Elektron. prom-st'. Nauch.-tekhn. sb. (Electronics Industry, Scientific and Technical Collection), 1972, No 1, pp 64-66 (from RZh-Radiotekhnika, No 8, Aug 72, Abstract No 8V275)

Translation: The effect of the welding process on the physicomechanical (strength) properties of contact joints in hybrid microcircuits is considered. The causes of development of defective joints are determined. Resumé.

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UDC 678.06-419.8:677.521.019.34

USSR

MAKAROV, V. G., YARTSEV, M. G., and KGSACHENKO, T. K.

"Destruction of Fiberglass Based on Phenolic Resins by the Action of Temperature and an Aggressive Medium"

Moscow, Plasticheskiye Massy, No 2, 1973, pp 63-64

Abstract: Experimental results are reported for the study of the kinetics of the destruction of phenolic fiberglass in a wide temperature range under the influence of an aggressive medium. Fiberglass based on the phenolic binder FSM, FSK, FSP, and KAST-V in 45% solution of hydrochloric acid was investigated. It was established that the decrease in mechanical strength of the fiberglass is a heterogeneous process of the first order. The temperature of the aggressive medium determines the extent of its course. The kinetic equation for the destruction processes of fiberglass was shown to hold for a wide range of temperatures.

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USSR

UDC: 621.375.82

BABENKO, V. P., MAKAROV, V. I., NAPERSTAK, Yu. A., RUBINCHIK, B. Ya.,
TYCHINSKIY, V. P.

"A Laser apparatus With Preset Control for Cutting Materials"

Moscow, Kvant. elektronika--sbornik (Quantum Electronics--collection of works),
No 1(13), "Sov. radio", 1973, pp 132-133 (From RZh-Fizika, No 8, Aug 73,
abstract No 8D1174 by the authors)

Translation: An automatic apparatus has been developed for gas-laser cutting
of materials. The unit includes a carbon dioxide laser with power of about
500 w and a series-produced coordinate indexer with preset control (EM-703).
The basic parameters of the apparatus and results of technological tests are
given.

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UDC 621.762.001

USSR:

MAKAROV, V. I., MEL'NIKOV, V. A., GALAT, N. I., and KUKOZ, F. I.

"Magnetic Properties of Powders and Their Electrochemical Activity"

Tr. Novocherk. politekhn. in-ta (Works of the Novocherkassk Polytechnical Institute), 1970, 208, pp 100-103 (from RZh-Metallurgiya, No 11, Nov 70, Abstract No 11G296)

Translation: A study is made of the dependence of electrochemical properties (capacity) of electrodes, prepared from iron-nickel active masses (AM), on the imperfections of the crystalline structure of the AM components. The magnetic characteristics of AM (magnetic susceptibility $\chi_{\partial \phi \phi}$, coercive force H_c and residual magnetization I_R) are used as parameters which determine the degree of structural imperfections. The results of measurements reveal the presence of magnetic-electrochemical characteristics of AM relation. The higher the values of $\chi_{\partial \phi \phi}$ and I_R , the more imperfect is the crystal lattice of the AM components and the higher the AM quality. The possibility exists of determining the AM quality on the basis of the results of magnetic measurements. V. Kvln

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1/2 009 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--MAGNETOMETRIC STUDIES OF THE IRON ELECTRODE OF AN ALKALINE BATTERY.
II. MAGNETOMETRIC DETERMINATION OF CURRENT EFFICIENCY DURING THE CHARGING
AUTHOR--KUKOZ, F.I., MAKAROV, V.I., SOROKINA, S.F. M
COUNTRY OF INFO--USSR
SOURCE--ELEKTROKHIMIYA 1970, 6(2), 195-8
DATE PUBLISHED-----70
SUBJECT AREAS--ENERGY CONVERSION (NON-PROPULSIVE)
TOPIC TAGS--BATTERY ELECTRODE, IRON
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1988/0254 STEP NO--UR/0364/70/006/002/0195/0198
CIRC ACCESSION NO--AP0105328
UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0105328

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. LAMINAR FE ELECTRODES (CONTG. TOTAL FE EQUALS 83.7 AND METALLIC FE EQUALS 46.9PERCENT AND CONTG. THE STD. ADDITIVES OF S AND NI) WERE CYCLED AT 100 MA DISCHARGE TO 0.75 V RELATIVE TO THE HGO REFERENCE ELECTRODE AND 125 MA CHARGE FOR PERIODS SMALLER THAN OR EQUAL TO 8 HR. THE MAGNETIC SUSCEPTIBILITY (X) WAS FOLLOWED. RESULTS FOR THE 25TH AND 26TH RECHARGE CYCLE SHOWED THAT THE VALUE OF X BECAME CONST. WHEN THE CURRENT EFFICIENCY BEGAN TO DECREASE SIGNIFICANTLY FROM THE PRIMARY CHARGING REACTION. THUS, THE END OF THE RECHARGE PERIOD COULD BE DETD. BY DETG. X.

UNCLASSIFIED

USSR

UDC 621.791.75:669.721.5

MAKAROV, V. I., and SKACHKOV, Yu. N.

Svarka Magniyevykh Splavov (Welding of Magnesium Alloys), Moscow, Izdatel'stvo "Mashinostroyeniye," 1972, 121 pp

Translation of Introduction: Magnesium alloys have been used in industry for the last 30-40 years. The aviation industry is the main user of these alloys because they can compete in many instances with aluminum alloys. Magnesium alloys possess high chemical stability with respect to many aggressive media, can carry high impact loads because of their low elasticity modulus, and they can be easily machined. This in addition to their good mechanical properties makes these alloys a desirable light structural material.

In comparison with aluminum alloys, magnesium alloys are more stable in aqueous carbonate solutions, and are not affected by gasoline, kerosene, benzene, toluene, phenol, rubber, oil, and greases that contain neither acids nor water.

However, magnesium alloys are less corrosive-resistant than aluminum alloys when subjected to mineral acids and their salts (with the exception of fluorides), organic acids, aqueous and alcohol solutions of certain organic

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USSR

MAKAROV, V. I., and SKACHKOV, Yu. N., Svarka Magniyevykh Splavov, Moscow, Izdatel'stvo "Mashinostroyeniye," 1972, 121 pp

halogens (chloromethyl, chloroethyl), and methyl alcohol. Magnesium alloys are unsuitable for application in fresh water and sea water, as well as in water vapors. Special corrosion-protective coatings (surface oxide films and paint-varnish coatings) make it possible to extend the life and area of application of these alloys.

Magnesium alloys are used for manufacturing items designed to function under various environments. The aviation, automobile, and electrical industries are the largest users of these alloys. They are also used for the building of cranes because of their light weight and ease in handling.

However, the application of magnesium alloys as structural materials would have been impossible without the development of machining methods and welding technology. With increased production of magnesium and its alloys, the application of welding in a protective atmosphere has found wider use for joining light metals and alloys. Contact welding -- such as spot, seam, and flash welding -- is also used quite frequently.

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USSR

MAKAROV, V. I., and SKACHKOV, Yu. N., Svarka Magniyevykh Splavov, Moscow, Izdatel'stvo "Mashinostroyeniye," 1972, 121 pp

As a rule, the contact welding of structural parts made of stamped sheet metal stock of small thickness (up to 4 mm) presents no difficulties. However, in order to protect the inside surfaces of lap joints from corrosion, spot welding should be carried out with the use of special cementing material. Blanks of different profiles or rods made of magnesium alloys can be joined successfully by contact welding. Gas welding (acetylene-oxygen) and plasma welding can also be used for the welding of magnesium alloys.

Nevertheless the weldability of magnesium alloys has been studied insufficiently compared with aluminum alloys. For many years much attention was paid to the production of high-strength alloys with good structural properties. As a result, the alloying technology aimed at the production of serviceable alloys did not consider the welding requirements. Therefore, only a small part of industrial magnesium alloys were deemed suitable for welding.

The metallurgy and technology of welding, as well as properties of welds produced by deformed magnesium alloys that are used for the production of

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USSR

MAKAROV, V. I., and SKACHKOV, Yu. N., Svarka Magniyevykh Splavov, Moscow, Izdatel'stvo "Mashinostroyeniye," 1972, 121 pp

structural parts have been studied insufficiently. This book considers problems of the weldability of magnesium alloys during fusion welding in protective gases. This method is most widely used for welding structural parts made of light metals.

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USSR

MAKAROV, V. I., and SKACHKOV, Yu. N., Svarka Magniyevykh Splavov, Moscow, Izdatel'stvo "Mashinostroyeniye," 1972, 121 pp

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Molecular Biology

UDC 576.858:615.28

USSR

ORLYANKIN, B. G., KOSHELEVA, R. V., SERGEYEV, V. A., Doctor of Biological Sciences, and MAKAROV, V. V., Candidate of Biological Sciences (Communicated by KOVALENKO, Ya. R.), All-Union Research Institute of Veterinary Virology and Microbiology

"The Effects of Inhibitors of Macromolecular Synthesis on the Reproduction of Aujeszky's Disease Virus"

Moscow, Doklady Vsesoyuznoy Ordena Lenina Akademii Sel'skokhozyaystvennykh Nauk imeni V. I. Lenina, No 2, 1973, pp 35-36

Abstract: Since little information is available on the effects of various antimetabolites and antibiotics on the multiplication of Aujeszky's disease virus (ADV), studies were undertaken to determine the effects of 5-bromo-2-deoxyurine (BDU) (100 μ g/ml), mitomycin C (5 μ g/ml), aurantin (an unpurified preparation of actinomycin D, 0.1 μ g/ml), puromycin (1 μ g/ml) and cyclhexamide (10 μ g/ml) on the reproduction of ADV in chick embryo tissue culture. Each preparation was found to significantly inhibit viral replication during the latent period. If administered after 8 h (6 h in the case of BDU), no inhibition was obtained since the synthesis of the viral building blocks had been completed.

USSR

UDC: 521.372.837(083.8)

M
YAMBERSKIY, M. V., ABRAMOV, V. P., MAKAROV, V. K.

"A Ferrite Strip Switch"

USSR Author's Certificate No 250232, filed 19 May 67, published 16 Jan 70 (from RZh-Radiotekhnika, No 7, Jul 70, Abstract No 7B183 P)

Translation: The proposed switch is based on a five-arm strip circulator with one input arm and four output arms. One pair of output arms is isolated, and the other pair divides the input signal into two parts with a phase shift of 180° in one arm as compared with the other. In the ferrite discs of conventional Y-circulators, the distribution of the electric and azimuthally magnetized fields is such that in addition to the field minimum lying in the region of the isolated arm, there is another minimum diametrically opposite from the first. Diametrically opposite from the output arm is an electric field with the same value as the field in this arm, which is in phase with the input value of the field and 180° out of phase with the output value. This makes it possible to connect two additional arms to the conventional Y-circulator at an angle of 60° to the axis of the input arm. This design extends the functional possibilities of the channel. Two illustrations. A. K.

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USSR

UDC: 51

MAKAROV, V. L., TITOV, V. V., and SHEYKHETOV, B. M.

"A Model for Designing the Production Program for an Industrial Enterprise"

Sb. tr. In-t mat. Sib. otd. AN SSSR (Collection of Works, Institute of Mathematics, Siberian Division, Academy of Sciences, USSR) No 7(24), 1972, pp 61-70
(from RZh--Matematika, No 7, 1973, Abstract No 7V569)

Translation: In this model for designing the production program of an industrial enterprise, one of the steps in the operation model for the enterprise, the existing practice of computing the production problem is formalized. Authors' abstract.

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USSR

GROSS, YE. F., KREYNGOL'D, F. I., MAKAROV, V. L., Leningrad State University
imeni A. A. Zhdanov

"Resonance Interaction Between Ortho- and Paraexcitons in a Cu_2O Cuprous Oxide
Crystal With the Participation of Phonons"

Moscow, Pis'ma v Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol. 15,
No. 7, 5 Apr 72, pp 383-386

Abstract: The exciton luminescence spectra of Cu_2O was studied to determine the frequencies of all optical phonons, including vibrations of Γ_{25}^+ active in Raman scattering. It is noted that in addition to the triple degenerate exciton state $n = 1$ of the "yellow" series with symmetry Γ_{25}^+ (orthoexciton), there should also exist in the Cu_2O crystal a nondegenerate state $n = 1$ with symmetry Γ_2^+ (paraexciton). Transitions only to levels of the orthoexciton Γ_{25}^+ which were resolved in the quadrupole approximation can be observed in luminescence and absorption spectra. The transition to the Γ_2^+ state is forbidden in the dipole and quadrupole approximation and therefore this state has not been observed up until this time. Several bands arising due to annihilation of the exciton with simultaneous excitation or disappearance of phonons are observed in the luminescence spectrum of Cu_2O along with resonance radiation of the exciton Γ_{25}^+ . Transition

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USSR

GROSS, YE. F., et al, Pis'ma v Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol. 15, No. 7, 5 Apr 72, pp 383-386

to the Γ_{25}^+ level with the participation of Γ_{25}^- , Γ_{12}^- , Γ_2^- , and Γ_{15}^- phonons is permissible in the dipole approximation. A table is given showing the frequency of optical phonons of cuprous oxide measured on the basis of luminescence spectra. In addition to phonon repetitions the table shows an additional radiation band which is located at a distance of about 180 cm^{-1} from the line of the orthoexciton and which has the characteristic shape of phonon repetition of the free exciton. The dependence of the luminescence intensity of this band on temperature is sharply different from the temperature dependence of the remaining phonons. It is also noted that phonon repetition with a frequency of 180 cm^{-1} is never encountered in the radiation spectrum of bound excitons of cuprous oxide. It is suggested that this band arises from the interaction of a phonon with another (not Γ_{25}^+) exciton state. Although the authors knew where the paraexciton level should be located, it could not be observed either in absorption or in luminescence. It was observed only in crystals subjected to deformation, and the new line appeared in the luminescence spectrum of Cu_2O under compression of the crystal along the C_4 axis of symmetry. It is concluded that the rise of the paraexciton line in the spectrum of cuprous oxide under deformation is due to resonance scattering of the orthoexciton through the level of the paraexciton with excitation of a phonon and subsequent radiative transition to the ground state.

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USSR

UDC: 51

MAKAROV, V. L., MARSHAK, V. D., FEPELOV, V. F.

"An Algorithm for Formulating Optimum Dynamic Expenditure/Output Models"

V sb. Algoritmy i programy realizatsii narodnokhoz. modeley (Algorithms and Programs for Realization of National Economic Models--collection of works), Novosibirsk, 1971, pp 116-133 (from RZh-Kibernetika, No 5, May 72, Abstract No 5V437)

[No abstract]

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UDC: 51

USSR

MAKAROV, V. L.

"Existence of a Main Line in a Model With Discount"

Sb. tr. In-t mat. Sib. Otd. AN SSSR (Collected Works. Institute of Mathematics, Siberian Department of the Academy of Sciences of the USSR), 1971, vyp. 2(19), pp 109-113 (from RZh-Kibernetika, No 4, Apr 72, Abstract No 4V476)

Translation: The author considers a dynamic model of economics with consumption. Conditions are stated under which a stationary optimum trajectory exists. V. Malinnikov.

1/1

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USSR

UDC 517.948.330.115

KANTOROVICH, L. V. and MAKAROV, V. L.

"Differential and Functional Equations Arising in Models of Economic Dynamics"

Moscow, Sibirskiy Matematicheskiy Zhurnal (Siberian Mathematical Journal), Vol 11,
No 5, Sept-Oct 1970, pp 1046-1059

Abstract: The behavior of an economic system over discrete or continuous time is described by trajectories in the phase space of the system, which is universally represented as a non-negative vector in an n-dimensional Euclidean space. Basic methods are examined for determining the vectors of an economic system in phase space related to extremal problems and equations. Results are given, without proof, that indicate the nature of the mathematical problems involved: e.g., identification of the actual trajectory of a system or the one which it should follow (in the case of a controlled system) and determination of its properties. Four classes of extremal problems are considered: 1) finding the (c,T)-optimum effective trajectory, 2) finding the effective or infinitely-optimum trajectory, 3) finding the (u, λ)-optimum trajectory, or 4) finding the effective Malenkov trajectory. The economic state is considered as a collection of products that can be labor or natural resources, production capabilities, services, or various products. The vector c_t is a flow of consumable product in time t. The method

1/2

-USSR

KANTOROVICH, L. V., et al, Sibirskiy Matematicheskiy Zhurnal, Vol 11, No 5,
Sept-Oct 1970, pp 1046-1059

given is best suited for small-dimension models, taking into account raw materials, capital investment, and product consumption. The single-product model is treated at length, emphasizing the two production factors of capital and labor. Optimum vectors are determined from price vectors and the distribution of labor and capital funds. Specific cases are examined in which the capital investment is 1) time limited and 2) allocated and committed. A general model of economic equilibrium in the form of noncoalition game among several players is examined. The stability of the model is tested in terms of demand, supply, and pricing. Orig. art. has 15 refs.

2/2

1/2 023 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--THERMAL BREAKDOWN OF RUBBER IN SUPERHEATED WATER VAPOR AT
ATMOSPHERIC PRESSURE -U-
AUTHOR--(05)-MAKAROV, V.M., EPSHTEYN, V.G., ZAKHAROV, N.O., MAKAROV, M.M.,
KALOSHINA, A.V.
COUNTRY OF INFO--USSR
SOURCE--KAUCH. REZINA 1970, 29(2), 25-7
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--THERMAL DECOMPOSITION, STYRENE, WEAR RESISTANCE, SYNTHETIC
RUBBER/(U)SKMS5OARKM15 STYRENE RUBBER
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1993/0387 STEP NO--UR/0138/70/029/002/0025/0027
CIRC ACCESSION NO--AP0113305
UNCLASSIFIED

M

2/2 023

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0113305

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE STRAIN RELAXATION PARAMETERS (V. M. MAKAROV, 1969) OF SYNTHETIC RECLAIMED RUBBER SRMS-30-ARKM-15 SHOWED THAT THE OPTIMUM TEMP. AND TIME OF RECLAIMING WITH SUPERHEATED STEAM (M. M. MAKAROV, ET AL., 1962) WERE 300DEGREES AND 180 SEC WHEN 15PERCENT PETROLEUM OIL (MAZUT) WAS ADDED TO THE RUBBER. THE PRESENCE OF MAZUT SLOWED THE CROSSLINKING OF THE RECLAIMED RUBBER WITHOUT AFFECTING THE DEVULCANIZATION RATES. THE RECLAIMED RUBBER OBTAINED BY THIS METHOD HAD BETTER HEAT STABILITY, WEAR RESISTANCE, AND FATIGUE RESISTANCE THAN OTHER RECLAIMED RUBBERS. FACILITY: YAROSLAV. TEKHNOL. INST., YAROSLAVL, USSR.

UNCLASSIFIED

USSR

UDC: 621.791.754

MAKAROV, V. N., Engineer, and GRUZDEV, B. L., Candidate of Technical Sciences

"The Effect of an External Magnetic Field on the Structure and Properties of Refractory Nickel Alloy Joints"

Kiev, Avtomaticheskaya Svarka, No 9, Sep 73, pp 72-73

Abstract: The authors study the effect of the electromagnetic influence on the molten bath during welding. A series of specimens were welded at the Ufa Aviation Institute imeni S. Ordzhonikidze from the VZh98 and EI602 alloys with the aim of evaluating the effect of an external magnetic field on the structure and properties of joints. The welding was done on the ADVS-2 automaton with the IPP-300P power source. In order to set up the external magnetic field a coil was fixed to the torch nozzle. The coil is fed with constantly pulsating current. The coil had 2250 turns of ϕ 0.32 mm wire. The distance between the coil and the specimen was 10 mm. The welding was carried out with and without the magnetic field. Current had to be increased 15-20 percent with the magnetic field. The metallographic study showed that welding with a pulsating field of more than 3000 ampere-turns resulted in more disoriented and finer seam metal structure. The disorientation and the finer grains result in improving the mechanical properties of the joints. The improvements are explained by the formation of a structure with a lower density of defects in the crystal lattice.

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UDC: 621.385.6

USSR

MARIN, V. P., MAKAROV, V. N.

"An Amplifier of the Magnetron Type"

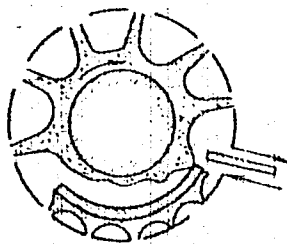
Moscow, Otkrytiya, Izobreneniya, Promyshlennyye Obratzsy, Tovarnyye Znaki,
No 7, Mar 72, Author's Certificate No 329597, Division G, filed 15 Jun 70,
published 9 Feb 72, pp 208-209

Translation: This Author's Certificate introduces an amplifier of the magnetron type which contains an open decelerating system wound into a ring with the ends connected to the input and output of the device, a cylindrical cathode placed concentrically inside the decelerating system, forming an interaction space together with the decelerating system. As a distinguishing feature of the patent, the amplification factor is increased by introducing an auxiliary electrode into the interaction space which forms a drift region in combination with the cathode. The surface of the electrode which faces the decelerating system is coated with an emitting material.

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USSR

MARIN, V. P., MAKAROV, V. N., USSR Author's Certificate No 329597



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USSR

UDC 535.21

RYKALIN, N. N., UGLOV, A. A., and MAKAROV, N. I., Moscow

"Calculation of Heating of Films by Laser Radiation"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 2, Mar-Apr 71, pp 3-8.

Abstract: A number of problems are studied on the heating of 2-layer materials by a local surface heat source, such as a laser beam. For thin films, the solution of the problem is found using integral transforms with respect to time and coordinates and a limit transfer as λ_1 and $a_1 \rightarrow \infty$ (λ_1 and a_1 are the heat conductivity and temperature conductivity coefficients of the upper layer), since when this condition is fulfilled the temperature through the thickness of the upper plate will be unchanged. In particular, the two-dimensional problem of heating of a 2-layered plate is studied on the assumption that the upper plate is thin, and a solution of the one-dimensional problem of heating of a film is found, considering heat emission from the surface.

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USSR

UDC 621.385.6

MARIN, V. P., MAKAROV, V. N., SMIRNOV, N. A.

"Study of Debunching of Electron Stream in Drift Space of Type M Amplifier"

Elektron. tekhnika. Nauchno-tekhn. sb. Elektron. SVCh (Electronic Technology. Scientific-Technical Collection. Microwave Electronics), 1971, Issue 1, pp 132-133 (from RZh--Elektronika i yeye primeneniya, No 5, May 1971, Abstract No 5A142)

Translation: The results are presented of an experimental study of the effect of the length of the drift space of Type M backward wave amplifiers with a cathode in the interaction space at the debunching of the electron stream. It is shown that with the length of the drift space more than $3 \lambda_3$, grouping of the electrons is not complete. 2 ref. Author's Abstract.

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1/2 009 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--STRUCTURE AND SOME PROPERTIES OF SILICA, REVIEW -U-

AUTHOR-(02)-MAKAROV, V.N., POSTNIKOV, V.S.

COUNTRY OF INFO--USSR

SOURCE--FIZ. KHIM. OBRAB. MATER. 1970, (2), 93-108

DATE PUBLISHED-----70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--SILICA, EPR SPECTRUM, BIBLIOGRAPHY, QUARTZ

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FAME--1998/0945

STEP NO--UR/0472/70/000/002/0093/01.08

CIRC ACCESSION NO--AP0121547

UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121547
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE STRUCTURES OF CRYST. AND GLASSY QUARTZ ARE DISCUSSED. THERE ARE 2 TYPES OF DEFECTS IN THESE STRUCTURES: IMPURITY ATOMS, AND OPEN RINGS OF Si_3O TETRAHEDRA AND HOLES. THE DEFECTS, ALTHOUGH PRESENT IN SMALL CONCNS., GREAT AFFECT THE PHYS. PROPERTIES OF SiO_2 . DIELEC. AND MECH. LOSSES AND OPTICAL AND EPR SPECTRA ARE DISCUSSED AS METHODS OF DETG. THE TYPE OF DEFECT PRESENT.

UNCLASSIFIED

USSR -

UDC 621.791.011:669.715

MAKAROV, V. P., KOZLOV, I. T., IGNAT'YEV, V. G., NAZARENKO, A. N.

"Mechanical Properties of the Base Metal and Welded Joints of Alloys 01915 and AMg6 at Below-Freezing Temperatures"

Avtomaticheskaya Svarka, No 12, 1971, pp 62-63.

ABSTRACT: The new aluminum-zinc-magnesium alloy type 01915 has better characteristics for use in railroad car building than the traditional aluminum alloy AMg6. The new alloy is stronger, has a higher yield point and better pressing properties. Pressed shapes of 01915 alloy are approximately 10% less expensive than shapes of AMg6 alloy. Studies of the mechanical properties of base metal and welded joints of 01915 alloy were performed at +20, -20, -40 and -60°C. A table of the test results is presented. The results showed that the mechanical properties of the base metal and welded joints of both alloys remain practically unchanged in the temperature interval tested. The mechanical properties of welded joints of both alloys are lower than those of the base metal. The yield point of joints of 01915 alloy is 20 to 24% higher than that of joints of AMg6 alloy. The relative elongation is

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USSR

MAKAROV, V. P, et al., Avtomaticheskaya Svarka, No 12, 1971, pp 62-63

greater for AMg6 joints. The impact toughness of joint metal made by semi-automatic welding is lower than that of the base metal, while the impact toughness of joint metal produced by manual welding is higher than that of the base metal.

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- 31 -

1/2 025 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--DETERMINATION OF THE MONOTONIC BENDING OF CRYSTAL LATTICES BY X RAY
DIFFRACTION TOPOGRAPHY -U-
AUTHOR-(02)-MAKAROV, V.P., MOLOTILOV, B.V. *M*
COUNTRY OF INFO--USSR
SOURCE--ZAVOD. LAB., 1970, 36, (2), 187-189
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS, MATERIALS
TOPIC TAGS--CRYSTAL LATTICE DEFORMATION, X RAY DIFFRACTION ANALYSIS,
TOPOGRAPHY, CRYSTAL SURFACE, X RAY MEASUREMENT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3003/0312 STEP NO--UR/0032/70/016/002/0187/0189
CIRC ACCESSION NO--AP0129544

UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0129544

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN IMPROVED METHOD OF DETERMINING THE MONOTONIC BENDING OF METALLIC LATTICES, BASED ON THE SCHULZ X RAY TOPOGRAPHICAL TECHNIQUE, IS DESCRIBED. A STRAIGHT WIRE IS STRETCHED OVER THE CRYSTAL AND THE IMAGES OF THIS WIRE FORMED BY X RAY DIFFRACTION CORRESPOND TO THE BENDING OF THE CRYSTAL PLANES. A FORMULA REPRESENTING THE RELATIONSHIP BETWEEN THE SHAPE OF THE WIRE IMAGE AND THE CURVATURE OF THE LATTICE IS DERIVED. THE FORMULA ENABLES A DISTINCTION TO BE MADE BETWEEN THE ACTUAL BENDING OF THE PLANES AND ASPERITIES ON THE CRYSTAL SURFACE.

UNCLASSIFIED

1/2 026 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--X RAY DIFFRACTION CONTRAST IN FERROMAGNETIC DOMAINS OF THE FE PLUS
3.5PERCENT SI ALLOY -U-
AUTHOR--(02)--MAKAROV, V.P., MOLOTILOV, B.V.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, SER. FIZ. 1970, 34(2), 361-6
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--X RAY DIFFRACTION, IRON ALLOY, SILICON STEEL, FERROMAGNETIC
DOMAIN, METAL SINGLE CRYSTAL, METAL CRYSTALLIZATION, CRYSTAL GROWING
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1995/0200 STEP NO--UR/0048/70/034/002/0361/0366
CIRC ACCESSION NO--AP0115904
UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0115904

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SINGLE CRYSTALS OF THE ALLOY FE PLUS 3.5PERCENTSI WERE GROWN FROM A MELT WITH CRYSTN. RATE 0.12 MM PER MIN AND TEMP. GRADIENT IN SOLID PHASE 50DEGREES PER CM. THE MAGNETIC STRUCTURE WAS EXAMD. SIMULTANEOUSLY BY POWDER AND X RAY DIFFRACTION TOPOGRAPHIC TECHNIQUES. THE X RAY PHOTOGRAPHS WERE TAKEN BY THE SENSITIVE SHULZ METHOD. THERE ARE 3 KINDS OF DIFFRACTION CONTRAST: DYNAMIC (A), EXTINGTIAL (B), AND DISCRETE EXTENSION OF A CRYSTAL LATTICE (C). THE A IS THE RESULT OF A DISTORSION OF H A WAVE FIELD GENERATED IN THE "THICK" CRYSTAL (MUT APPROXIMATELY EQUAL TO 10, WHERE MU EQUALS LINEAR ABSORPTION COEFF., T EQUALS THICKNESS OF THE CRYSTAL) WHEN THE LAUE TYPE PHOTOGRAPH IS TAKEN. IT DECREASES THE INTENSITY OF THE DIFFRACTED BEAM. THE B OCCURS IN THE "THIN" CRYSTALS (MUT APPROXIMATELY EQUAL TO 1) ON THE LAUE PHOTOGRAPHS OR IN THE "THICK" CRYSTALS ON THE PHOTOGRAPHS TAKEN WITH REFLECTION (BRAGG METHOD). THE C IS A RESULT OF EXTENSION OF TWO ADJACENT REGIONS OF SIZE 10 PRIME NEGATIVE:1 MM OR LARGER. THE BORDER BETWEEN THESE REGIONS OCCURS ON A PHOTOGRAPH AS LIGHT OR DARK STREAKS. THE B IS OBSERVABLE IN THE PLACES OF GREAT DISTORTIONS ON TOPODIAGRAMS TAKEN BY SHULZ METHOD. FACILITY: TSNIIGHM IM. BARDINA, MOSCOW, USSR.

UNCLASSIFIED

USSR

MAKAROV, V. P. M

"Statistical Analysis of Non-Ideal Cylindrical Shells"

Moscow, Mekhanika Tverdogo Tela, No 1, 1970, pp 97-104

Abstract: Further development of the theory of stochastic problems of stability and their applications has been hindered by the absence of sufficiently detailed statistical information on the properties of the input and the output parameters characterizing the random behavior of structures. This work suggests a method for experimental study of random fields of displacements at points on circular cylindrical shells with initial irregularities. Complete statistical analysis of the initial deviations of the mean surface from the ideal form and displacements of the shell in axial compression is performed. Types of wave formation at the moment of loss of stability are investigated. The possibility is demonstrated of producing statistical characteristics required for prediction of precritical and postcritical displacements and the distribution of critical forces.

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USSR

UDC: 621.335.5

LIKHTSINDER, M. Ya., ~~MAKAROV, V. P.~~, CHEPURNOV, V. V.

"A Device for Multiplying and Dividing Slowly Changing Signals"

Nauch. tr. VNI kibernet. (Scientific Works of the All-Union Scientific Research Institute of Cybernetics), 1971, vyp. 4, pp 66-70 (from EZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 7, Jul 72, Abstract No 7B488)

Translation: A device is described for analog multiplication and division of several variables represented by square bipolar voltage pulses. The device incorporates a sawtooth voltage generator, a null indicator, a phase-sensitive rectifier, an AC amplifier, a comparison circuit, synchronous filters, and pulse dividers. The error of executing the operations is one percent or less. Two illustrations, bibliography of four titles. V. R.

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USSR

UDC: 621.362.2

MAKAROV, V. S., KOLOMOYETS, N. V., CHERKASSKIY, A. Kh.

"A Thermoelectromagnetic Pump"

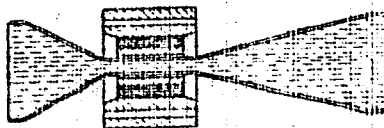
Moscow, Otkrytiya, Izobreneniya, Promyshlennyye Obratzysy, Tovarnyye Znaki, No 11, Apr 72, Author's Certificate No 333646, Division H, filed 25 Nov 70, published 21 Mar 72, p 213

Translation: This Author's Certificate introduces a thermoelectromagnetic pump which contains P and N semiconductors, hot and cold commutation buses, a channel with liquid metal coolant, a cooling system, and a magnetic system with permanent magnets. As a distinguishing feature of the patent, the length of the working gap of the magnetic system is reduced and the efficiency of the pump is increased by making the cold commutation bus in the form of a polepiece of the magnetic system with cooling channels inside.

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USSR

MAKAROV, V. S. et al., USSR Author's Certificate No 333646



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USSR

UDC 621.762.002.5(088.8)

UDACHIN, I. V., MAKAROV, V. S., TIMOSHIN, D. Ya., GAYEV, O. B., and GRIN, L. T.

"Device for Processing Powdered Materials With Liquids"

USSR Author's Certificate No. 268610, Filed 1/07/68, Published 3/08/70
(Translated from Referativnyy Zhurnal-Metallurgiya, No. 2, 1971, Abstract
No. 2 G472 P).

Translation: The device includes a container, the base of which is equipped with a drainage aperture and a perforated barrier. In order to eliminate oxidation of the powder near the bottom of the container as it is dried, an automatic valve is mounted coaxially with the drainage aperture for drainage of the liquid.

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MAKAROV, V.V.

SPKS 59208

C-73

XI-10. EFFECT OF THE GROWTH CONDITIONS ON THE PERFECTION OF CAP CRYSTALS
Article by T. I. Ol'khovlova, A. P. Ierina, V. V. Makarov, F. R. Ruzhnikov,
Novosibirsk, III Simposium on Progress in Solid State Physics, F. R. Ruzhnikov,
Krasnaya 111 Street, Novosibirsk, 12-17 June 1977, p. 131

The methods of x-ray diffraction topography (Lawson and Lang) were used
to perform a systematic study of the degree of perfection of single crystal
phosphoric crystals obtained by drawing from a melt by the Czochralski method.
It was demonstrated that the unalloyed CAP crystals obtained from the
flux layer have, as a rule, high dislocation density. In addition, there are
apparently growth and stress bands in them frequently leading to cracking of the
bar.

In this paper the problem of improving the technological process of
obtaining single crystals are discussed, and results are presented from a
study of the structure of the defects in them.

USSR

GUZHAVIN, V. V., IVANENKO, I. P., MAKAROV, V. V.

"Effect of the Geomagnetic Field on the Angular Distribution of Particles in an Electromagnetic Cascade"

Moscow, Yadernaya Fizika, Vol 14, No 5, 1971, pp 1006-1013

Abstract: The particles discussed in this paper are charged particles falling in a cascaded shower in the atmosphere and deflected by the earth's magnetic field. This deflection leads to the asymmetry of the shower's three-dimensional characteristics with respect to the axis of the shower. The paper derives the basic equations of the theory accounting for the effect of the earth's magnetic field on the particles, with an approximation of small angles of multiple dispersion, and computes the angular distribution function of the shower without taking the ionization losses into account. This latter computation is done by the method of moments.

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USSR

UDC: 621.372.852.1

MAKAROV, V. V.

"Peculiarities in the Design of Tunable Strip Waveguide Filters"

V sb. Tonkiye magnitn. plenki, vychisl. tekhn. i radiotekhn. T. 1 (Thin Magnetic Films, Computer Technology and Radio Engineering. Vol. 1), Krasnoyarsk, 1970, pp 29-31 (from RZh-Radiotekhnika, No 2, Feb 71, Abstract No 2B197)

Translation: The author discusses the possibility of constructing tunable strip filters based on filters with a maximally flat response with quarter-wave connections (use of the latter makes it possible to reduce requirements for accuracy in the tuning mechanism). N. S.

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1/2 035 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--PROPERTIES OF HIGH RESISTANCE GALLIUM ARSENIDE CONTAINING A
TITANIUM IMPURITY -U-
AUTHOR--(05)-VOROBYEV, V.L., GONTAR, V.M., YEGIAZARYAN, G.A., IZERGIN,
A.P., MAKAROV, V.V.
COUNTRY OF INFO--USSR
SOURCE--FIZ. TKEH. POLUPROV. 1970, 4(5), 995-7
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--SINGLE CRYSTAL GROWTH, GALLIUM ARSENIDE, TITANIUM, CRYSTAL
LATTICE DISLOCATION, CRYSTAL IMPURITY, MANGANESE, IRON, ALUMINUM,
MAGNESIUM, NICKEL, COBALT, BISMUTH, CHROMIUM, TIN, SEMICONDUCTOR
MATERIAL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3003/0146 STEP NO--UR/0449/70/004/005/0995/0997
CIRC ACCESSION NO--AP0129402
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0129402

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. GAAS SINGLE CRYSTALS WERE GROWN BY THE CZOCHRALSKI METHOD FROM POLYCRYST. GAAS WITH AN ADDN. OF METALLIC TI. THE DISLOCATION D, WAS SMALLER THEN OR EQUAL TO 2 TIMES 10 PRIME4-CM PRIME2, AND THE TI CONTENT WAS SIMILAR TO 10 PRIME18-CM PRIME3. THE CONTENTS OF FE, AL, MG, NI, CO, BI, CR, SN, AND MN WERE 10 PRIME NEGATIVE5-10 PRIME NEGATIVE4 WT. PERCENT, AND THAT OF SE WAS SIMILAR TP 10 PRIME NEAGTIVE3 WT. PERCENT. THE MATERIAL WAS P TYPE, WITH AN ELEC. RESISTIVITY OF SIMILAR TO 10 PRIME2 OHM CM, A FREE CARRIER CONCN. OF 10 PRIME14-10 PRIME15-CM PRIME3, AND A MOBILITY OF 10-100 CM PRIME2-V SEC AT ROOM TEMP. TWO WNERGY LEVELS WERE DETD. FROM THE TEMP. DEPENDENCE OF THE HALL CONST. AND OF THE ELEC. COND. AS 0.35 AND 0.22 EV, RESP.; THE LATTER LEVEL WAS DUE TO THE GA VACANCY. DIODES OF THE P-PI-N TYPE WERE PREPD. FROM THE CRYSTAL, USING SN AS THE INJECTING CONTACT AND AG AS THE NONRECTIFYING ONE. THE AREA OF THE PN JUNCTION WAS 5 TIMES 10 PRIME NEGATIVE3-10 PRIME NEGATIVE2 CM PRIME2. THEIR CURRENT VOLTAGE CHARACTERISTICS AT ROOM TEMP. EXHIBITED A REGION OF NEG. RESISTIVITY, WHICH DISAPPEARED ABOVE 80-90DEGREES AND (OR) IN MAGNETIC FIELDS LARGER THAN OR EQUAL TO 3 KOE. THE NEG. RESISTIVITY IS EXPLAINED AS DUE TO A CHANGE IN THE SCREENING RADIUS OF THE CHARGED IMPURITIES DURING THE IIIJECTION.

USSR

UDC:537.226+537.311.35]:539.16.04

MAKAROV, V. V.

"Excitation of Electrons and Formation of Radiation Defect Upon Bombardment of Silicon Carbide Monocrystals by Hydrogen Ions"

Tr. Leningr. Politekhn. In-ta [Works of Leningrad Polytechnical Institute], No. 311, 1970, pp. 130-138 (Translated from Referativnyy Zhurnal Fizika, No. 11, 1970, Abstract No. 11 Ye 1078 by A. Shub)

Abstract: Cathode luminescence and ion luminescence of SiC monocrystals were studied at energies of exciting particles (electrons and H_1^+ , H_2^+ , H_3^+ ions) of up to 20 KeV. Consideration of surface phenomena permitted quantitative estimation of the effectiveness of excitation of electron-hole pairs and formation of radiation defects during ion bombardment. It was determined that the energy of formation of a pair of non-equilibrium carriers by protons is 7.5 ± 2.5 eV. The number of defects created by protons in the material studied is independent of their initial energy in the 5-20 KeV energy range.

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USSR

M UDC: 621.397.233

KATAYEV, S. I., UL'YANOV, V. N., ZUBAREV, Yu. B., MAKAROV, V. V., KHITROVO, N. G.,
Moscow Electrical Engineering Institute of Communications

"A Device for Transmitting a Television Image and Accompanying Audio Signals"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obrabotki, Tovarnyye Znaki, No 19,
1970. Author's Certificate No 272354, filed 19 Nov 68, p 39

Abstract: This author's certificate introduces a device for transmitting a television image and accompanying audio signals within the limits of the video signal frequency spectrum. The unit contains a sound signal source, a phase shifter, two pulse modulators, a combined video signal shaper, a driven selsyn, and a special synchronixture shaper. As a distinguishing feature of the device, combination distortions are reduced by inserting a series-connected electronic key and memory element between the output of the sound signal source and the input of one of the pulse modulators, as well as inserting the same combination (series-connected electronic key and memory element) between the input of the other pulse modulator and the phase shifter. Voltage from a cadence pulse generator is sent to both electronic keys.

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1/2 028 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--LINEAR LUMINESCENCE OF ALUMINUM DOPED SILICON CARBIDE -U-
AUTHOR-(03)-SOKOLOV, V.I., MAKAROV, V.V., MOKHOV, YE.N.
COUNTRY OF INFO--USSR M
SOURCE--FIZ. TVERD. TELA 1970, 12(1), 285-6
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, MATERIALS, PHYSICS
TOPIC TAGS--LUMINESCENCE SPECTRUM, SILICON CARBIDE, CRYSTAL, DOPED ALLOY,
ALUMINUM CONTAINING ALLOY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1984/0223 STEP NO--UR/0181/70/012/001/0285/0286
CIRC ACCESSION NO--AP0055019

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0055019

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. LUMINESCENCE SPECTRA WERE INVESTIGATED BY USING A CAMERA OF 270 MM. FOR SMALL DS. OF ELECTRONIC CURRENT, WEAK LINES WERE OBSD. CHANGING INTO A CONTINUUM. WITH INCREASING C. D. TOTAL INTENSITY OF THE LUMINESCENCE INCREASES AND REDISTRIBUTION TAKES PLACE OF THE RELATIVE INTENSITIES OF THE MAX. WHICH INCREASES IN COMPARISON WITH THE BACKGROUND. PHOTOMICROGRAPHS ARE GIVEN OF THE SHORT WAVELENGTH PART OF THE LUMINESCENCE SPECTRUM OF CRYSTALS OF THE 6H MODIFICATION OF SIC AT MAX. D. OF EXCITATION AND AT 80DEGREE SK.

UNCLASSIFIED

Acc. Nr: AP0044852 ^M

Ref. Code: UR0531

PRIMARY SOURCE: Khirurgiya, 1970, Nr 1, pp 101-104

THE EFFECTIVENESS OF ANTIBIOTIC THERAPY IN SURGERY

G. I. Kharchenko, V. V. Makarov

Etiotropic therapy with antibiotics should be carried out with special consideration of the features peculiar to their irregular distribution between the blood and different tissues, differences in the concentration and rate of excretion of the antibiotic from the organism depending on the type of its administration. In experiments on rabbits the authors established that in intracardiac administration of penicillin and chlortetracycline the blood concentration was 3-60 times higher in comparison with that after intramuscular introduction. These data point to the participation of individual fractions of serum proteins in the molecular process of transportation and distribution of antibiotics in the organism. In connection with the features specific to the circulation of antibiotics in the organism in localized inflammatory processes in surgery it is deemed expedient to employ them locally.

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REEL/FRAME
19771707

Veterinary Medicine

USSR

UDC 576.858:591.2

SERGEYEV, V. A., Doctor of Biological Sciences, ORLYANKIN, B. G., and MAKAROV, V. V., Candidates of Biological Sciences, All-Union Scientific Research Institute of Veterinary Virology and Microbiology

"The Effects of Culture Temperature on Replication of Aujeszky's and Newcastle Disease Viruses"

Moscow, Doklady Vsesoyuznoy Ordena Lenina Akademii Sel'skokhozyaystvennykh Nauk imeni V. I. Lenina, No 11, 1971, pp 44-45

Abstract: Virulent and attenuated strains were grown in chick embryo medium at various temperatures. Growth was fastest at temperatures ranging from 31 to 40°C. No growth was recorded at 24 and 42°C. The growth rate was slow at 28 to 30°C. The thermal sensitivity of the three types of viruses studied is expressed in figures representing (in proper order) the optimum temperature yielding maximum growth and the suboptimum and supraoptimum temperatures causing 90 percent inhibition of growth: attenuated Aujeszky's disease virus -- 37, 30, and 40°C; virulent Aujeszky's disease virus -- 40, 32.5, and 41.5°C; and Newcastle disease virus -- 39, 33, and 39.5°C.

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USSR

IMSHENNIK, V. K., AFANAS'YEV, A. M., GOL'DANSKIY, V. I., MAKAROV, Ye. F.,
PLACHINDA, A. S., SUZDALEV, I. P., Institute of Chemical Physics, USSR
Academy of Sciences

"Investigation of the Dynamic and Static Distortions of Complexes by Using
Gamma-Resonance Spectroscopy"

Leningrad, Fizika Tverdogo Tela, Vol 15, No 9, Sep 73, pp 2656-2660

Abstract: Gamma-resonance spectroscopy is used to study dilute paramag-
netics -- a frozen aqueous solution of FeCl_3 (0.1 M FeCl_3 and 8.3 M HCl)
and a hydrated iron-containing sulfocresin at a temperature of 90°K
in an external magnetic field of 450 oersteds. A computer was used to
separate three relaxation times τ_{S_z} corresponding to the Kramers doublets,
 $S_z = \pm 5/2, \pm 3/2, \pm 1/2$, and also to determine the parameter λ describing
departure of the crystal field from the axially symmetric. An attempt is made
to relate the quantity λ to static distortion of the complex. From the
fact that the three relaxation times are related through two parameters
 P_1 and P_2 , it is concluded that spin-lattice relaxation is a two-phenon

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USSR

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IMSHENNIK, V. K. et al., Fizika Tverdogo Tela, Vol 15, No 9, Sep 73, pp
2656-2660

phenomenon. It is also shown that the relation between P_1 and P_2 gives
information on the anisotropy of oscillations of the ligands in the complex.
The authors thank Yu. F. Krupyanskiy for valuable advice and comments.

2/2

1/2 025 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--THERMAL CONVERSION OF DELTA-FeOOH TO ALPHA-Fe SUB2 O SUB3 STUDIED
BY MOESSBAUER SPECTROSCOPY AND X RAY DIFFRACTION METHODS -U-
AUTHOR--(05)-VLASOV, A.YA., LOSEVA, G.V., MAKAROV, YE.F., MURASHKO, N.V.,
PETUKHOV, E.P.
COUNTRY OF INFO--USSR

SOURCE--FIZ. TVERD. TELA 1970, 12(5), 1499-503

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, CHEMISTRY

TOPIC TAGS--MOSSBAUER EFFECT, SPECTROSCOPY, CRYSTAL STRUCTURE, X RAY
DIFFRACTION, IRON OXIDE, HEMATITE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3005/0953 STEP NO--UR/0181/70/012/005/1499/1503

CIRC ACCESSION NO--AP0133039

UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0133039

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CRYSTAL STRUCTURE OF SYNTHESIZED DELTA-FeOOH AT THE TEMP. OF TRANSFORMATION INTO ALPHA-Fe SUB2 O SUB3 WAS STUDIED BY MOESSBAUER SPECTROSCOPY AND X RAY DIFFRACTION. INVESTIGATIONS WERE CARRIED OUT AT ROOM TEMP. USING SPECIMENS PREVIOUSLY HEATED FOR 30 MIN AT 23-650DEGREES. AT 23-155DEGREES DELTA-FeOOH EXISTS IN THE SUPERPARAMAGNETIC STATE. THE MOESSBAUER PARAMETERS ARE: ISOMER SHIFT DELTA EQUALS 0.64 PLUS OR MINUS 0.06 MM-SEC RELATIVE TO NA NITROPRUSSIDE AND QUADRUPOLE SPLITTING 2 EPSILON EQUALS 0.48 PLUS OR MINUS 0.06 MM-SEC. THE LATTICE CONSTS. ARE A EQUALS 2.546 PLUS OR MINUS 0.005 AND C EQUALS 4.57 PLUS OR MINUS 0.05 ANGSTROM. THE TRANSFORMATION OF DELTA-FeOOH INTO HEMATITE OCCURS AT 155-225DEGREES WITH A SHARP DECREASE IN THE MAGNITUDE OF THE EFFECT, A JUMP IN THE ISOMER SHIFT, AN INCREASE IN THE WIDTH OF THE MOESSBAUER LINES, AND MAX. BROADENING OF THE X RAY POWDER DIAGRAM. HEMATITE FORMED AT 225-650DEGREES HAS A EQUALS 5.032 PLUS OR MINUS 0.005 AND C EQUALS 13 PLUS OR MINUS 0.1 ANGSTROM. THE EFFECTIVE FIELD ON THE NUCLEUS IN HEMATITE VARIES FROM H SUBEFF EQUALS 409 PLUS OR MINUS 30 TO 515 PLUS OR MINUS 10 KOE AT CONST. DELTA EQUALS 0.61 PLUS OR MINUS 0.06 MM-SEC AND 2 EPSILON EQUALS 0.34 PLUS OR MINUS 0.06 MM-SEC. FACILITY: INST. FIZ., KRASNOYARSK, USSR.

UNCLASSIFIED

1/2 - 031 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--MOSSBAUER STUDY OF THE THERMOMAGNETIC TREATMENT OF TICONAL ALLOYS #
-U-
AUTHOR--(05)-POVITSKY, V.A., GRANOVSKY, YE.B., FRIDMAN, A.A., MAKAROV,
YE.F., PASHKOV, P.P.
COUNTRY OF INFO--USSR
SOURCE--FIZIKA METALLOV I METALLOVEDENIE, FEB. 1970. 29, (2), 247-251
DATE PUBLISHED----FEB 70
SUBJECT AREAS--MATERIALS, PHYSICS
TOPIC TAGS--ALLOY, MOSSBAUER EFFECT, MOSSBAUER SPECTRUM, SPECTROSCOPIC
ANALYSIS, MAGNETIC PROPERTY, METAL HEAT TREATMENT, X RAY
ANALYSIS/(U)TICONAL ALLOY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3003/0212 STEP NO--UR/0126/70/029/002/0247/0251
CIRC ACCESSION NO--AP0129468
UNCLASSIFIED

2/2 031

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0129468

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

ABSTRACT. THE EFFECTS OF THERMOMAGNETIC TREATMENT (ISOTHERMAL QUENCHING IN A MAGNETIC FIELD) ON THE STRUCTURE AND PROPERTIES OF TWO TICONAL ALLOYS WERE STUDIED BY A TECHNIQUE BASED ON THE MOSSBAUER EFFECT. MOSSBAUER SPECTROSCOPY WAS EMPLOYED IN CONJUNCTION WITH X RAY DIFFRACTION TO TRACE THE BEHAVIOUR OF THE ALLOYS AT VARIOUS STAGES OF HEAT TREATMENT. IN THE FIRST STAGE OF AGEING AFTER QUENCHING IN A MAGNETIC PHASES OF THE ALLOY TOOK PLACE; IN THE SUBSEQUENT STAGE THE DEGREE OF ORDER OF THE WEAKLY MAGNETIC PHASE STARTED INCREASING.

UNCLASSIFIED

1/2 026 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--ON POLARIZATION PHENOMENA, ABSOLUTE PROBABILITIES AND ANISOTROPY OF
THE MOSSBAUER EFFECT IN SIDERITE -U-
AUTHOR-(04)-GOLDANSKIY, V.I., MAKAROV, YE.F., SUZDALEV, I.P., VINOGRADOV,
I.A.
COUNTRY OF INFO--USSR
SOURCE--ZHURNAL EKSPERIMENTAL'NOY I TEORETICHESKOY FIZIKI, 1970, VOL 58,
NR 3, PP 760-765
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--LIGHT POLARIZATION, ANISOTROPY, MOSSBAUER EFFECT, PROBABILITY,
GAMMA QUANTA, IRON ISOTOPE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1986/1733

STEP NO--UR/0056/70/058/003/0760/0765

CIRC ACCESSION NO--AP0103497

UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0103497

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXPERIMENTS WHICH ARE SIMILAR TO OPTICAL POLARIZATION EXPERIMENTS HAVE BEEN CARRIED OUT FOR THE FIRST TIME WITH MOSSBAUER GAMMA QUANTA FROM FE PRIME57; UNIAXIAL SIDERITE (FECO SUB3) SINGLE CRYSTALS SERVED AS THE POLARIZER AND ANALYZER. ASYMMETRY OF THE TWO QUADRUPOLE DOUBLET PEAKS WAS FOUND TO DEPEND ON THE AZIMUTHAL ANGLE (A) OF ROTATION OF THE CRYSTAL AXIS OF THE ANALYZER RELATIVE TO THE POLARIZER. ON THIS BASIS THE ABSOLUTE MAGNITUDE OF THE PROBABILITY FOR THE MOSSBAUER EFFECT, F PRIME, IN FECO SUB3 AT ROOM TEMPERATURE AND FOR AN ANGLE BETWEEN THE SIDERITE CRYSTAL AXIS AND THE GAMMA QUANTUM BEAM THETA EQUALS 90DEGREES HAS BEEN DETERMINED. FOR THETA EQUALS 15, 30, 45 AND 90DEGREES THE PROBABILITIES F PRIME WERE ALSO DETERMINED FROM ASYMMETRY OF THE DOUBLETS AND ON BASIS OF THE TOTAL AREA OF THE TWO GAMMA RESONANT ABSORPTION SPECTRUM PEAKS.

UNCLASSIFIED

USSR

UDC 629.4.013:539.431

MAKAROV, Ye. G., Leningrad

"Estimate of Sensitivity of Materials to Stress Concentration Under Cyclical Loading"

Kiev, Problemy Prochnosti, No 8, Aug 73, pp 19-22.

Abstract: The equation for the cyclical deformation curve of a material is used to produce the dependence between theoretical and effective stress concentration factors during extension-compression and bending of flat and cylindrical specimens. A new notch-sensitivity criterion is suggested, simple to determine and independent of the shape of specimen and parameters of stress concentrator.

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USSR

UDC 681.11.033.1

GRANKIN, V. K., MAKAROV, YU. S., RONZHIN, O. V., KOZYREV, L. S., and YEGOROV, A. YE.

"An Information Display Device"

USSR Author's Certificate No 372566 kl G 06 k 15/18, filed 17 Sep 70, published 27 Apr 73 (from RZh Avtomatika Telemekhanika i Vychislitel'naya Tekhnika, No 11, Nov 73, abstract No 11 A406P)

Translation: An apparatus is proposed for information display, containing indicators and current conductors. To improve the reliability and visibility of the apparatus, its indicators are in the form of lighted edges located along the outline of geometric figures, with the current conductors at the vertices. One illustration.

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USSR

UDC: 621.397.61

SIDORKIN, N. A., MAKAROV, Yu. S., MAYOROV, V. N., ZAYTSEV, G. N., KUDRYAV-TSEV, V. A.

"A Stereoscopic Television Camera"

Moscow, Otkrytiya, izobreneniya, promyshlennyye obratzy, tovarnyye znaki, No 3, Jan 71, Author's Certificate No 291377, Division H, filed 31 Mar 69, published 6 Jan 71, p 162

Translation: This Author's Certificate introduces a stereoscopic television camera for inspection of wells, pipelines, etc. The device contains two television transmitting tubes, scanning devices, an optical system containing two identical reflecting truncated cones located on a single optical axis with the objective lenses, and a receiver. As a distinguishing feature of the patent, the unit is designed for more detailed inspection of individual sections of the surrounding space. Between each of the reflecting truncated cones and the transmitting camera lens is a flat mirror with a hinged device set at an angle to the optical axis of the objective lenses and connected by a rod and speed reducer to the focusing system of the objective lenses. The hinged device of the mirror is connected to an electrical interlock system which is coupled to the inverse stage of the scanning device.

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USSR

UDC 621.3.049.774.002.5

DADAMYAN, Z. M., DEGTYAREV, A. P., KOKHANOV, B. T., MAKAROV, Yu. Ye.

"A Method of Making Printed Circuits"

Moscow, Otkrytiya, izobreneniya, promyshlennyye obraztsy, tovarnyye znaki, No 2, Jan 71, Author's Certificate No 290494, division H, filed 13 Sep 68, published 22 Dec 70, p 170

Translation: This Author's Certificate introduces a method of making printed circuits based on making an electrostatic image of the printed circuit on a foil-coated dielectric board, and etching the blank sections. As a distinguishing feature of the patent, the method is simplified by covering the foil-coated board with a dielectric layer such as lacquer with a polyvinyl alcohol base before applying the electrostatic image of the circuit.

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USSR

UDC 576.851.31.06



MARAMOVICH, A. S., VEYDE, A. A., SARDAR, Ye. A., MAKAROVA, A. P., SHVETSOVA, R. I., and URBANOVICH, L. Ya., Irkutsk Antiplague Institute of Siberia and the Far East

"Determination of the Cholerogetic Properties of Vibrios in Newborn Rabbits"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 10, 1972, pp 59-64

Abstract: Study of 65 vibrio strains from different sources in newborn rabbits (considered a suitable model for testing the pathogenicity of a given cholera vibrio strain for man) showed that all the cholera strains could produce the typical syndrome of cholerogeticity, whereas the nonagglutinable vibrios could not do so except for occasional strains (Heiberg's group 1) isolated from human beings in cholera foci. The main signs of cholerogeticity are marked dilatation of the lumen of the large intestine filled with a light transparent fluid and marked hyperemia of the small intestine containing a viscous yellow fluid throughout. Cholerogeticity was regularly observed after intra-intestinal infection of 9-to 12-day-old rabbits with doses ranging from 10^3 to 10^6 vibrios/100 g of weight. Smaller doses generally failed to elicit any reaction.

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1/2 027

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--INDUCTION OF DNA SYNTHESIS AND MITOSES BY POLYOMA VIRUS IN STEADY STATE CELL CULTURES -U-

AUTHOR--(02)-MAKAROVA, G.F., IRLIN, I.S.

COUNTRY OF INFO--USSR

SOURCE--TSITCLOGIYA 1970, 12(3), 357-65

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--TISSUE CULTURE, EMBRYOLOGY, TUMOR, VIRUS, AUTORADIOGRAPHY, TRITIUM, CHEMICAL LABELLING, DNA, MITOSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--3001/2229

STEP NO--UR/9053/70/012/003/0357/0365

CIRC ACCESSION NO--AP0127591

UNCLASSIFIED

2/2 027

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0127591

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PATTERNS OF PROLIFERATION OF NORMAL EMBRYONIC HAMSTER AND MOUSE STEADY STATE CULTURE AND THAT INFECTED WITH POLYOMA VIRUS WERE STUDIED BY RADIOAUTOGRAPHY USING THYMIDINE H PRIME3. IN THE INFECTED CULTURES A STIMULATION OF MITOTIC ACTIVITY WITH DNA SYNTHESIS WAS OBSD. IN THE INFECTED CULTURE OF HAMSTER CELLS, THE MITOTIC CYCLE IS REDUCED AND THE PROLIFERATION POGL IS HARPLY INCREASED, SUGGESTING THAT THE POLYOMA VIRUS IS ABLE TO INDUCE DNA SYNTHESIS. THE INCREASED NO. OF MITOSES INVOLVING CELLS WHICH ALREADY COMPLETED DNA SYNTHESIS SHOWS THAT THE INDUCTION OF MITOSES BY POLYOMA VIRUS INFECTION IS INDEPENDENT OF THE INDUCTION OF DNA SYNTHESIS. FACILITY: LAB. KARVOL., INST. MOL. BIOL., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 576.858.75.095.18:615.373

HEKLYUDOVA, L. I., MAKAROVA, G. I., and ORLOVA, N. G., Institute for Advanced Training of Physicians and Institute of Epidemiology and Microbiology imeni N. F. Gamaleya, Moscow

"The Effect of Antineuraminidase Sera on the Enzymatic Activity and Reproduction of Influenza A2/Hong Kong Virus"

Moscow, Voprosy Virusologii, No 5, Sep/Oct 72, pp 599-602

Abstract: Serum antitoxic to cholera vibrio and serum antitoxic to influenza virus were obtained in rabbits. Through repeated adsorption, all types of antibodies (hemagglutinating, complement-fixing, and antitissue) except those with antineuraminidase activity were completely removed. Both purified sera effectively inhibited influenza virus neuraminidase. Similarly, both sera inhibited reproduction of influenza virus in 10-day old chick embryos and in the lungs of immune mice, though the antiviral serum was more powerful than the antivibrio serum. The findings suggest that individuals who have had cholera are more immune to influenza.

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USSR

MAKAROVA, G. I.

"The Etiology of the 1970 Influenza Epidemic and Some Properties of Isolated Strains"

Moscow, Voprosy Mediko-Biologicheskikh Issledovaniy. Materialy Konferentsii Molodykh Nauchnykh Rabotnikov Mediko-Biologicheskogo Fakul-teta (Aspects of Biomedical Research. Materials of a Conference of Young Scientific Workers of the Biomedical Faculty), Ministerstvo Zdravookhraneniye SSSR, 1970, 93 pp, pp 9-11

Abstract: A comparative study was made of the properties of two influenza virus strains -- A-2 Moscow/72 and A-2 Moscow/42, obtained from patients during the height of the influenza epidemic in January-February 1970. The capacity of the strains to hemagglutinate erythrocytes of rams, guinea pigs, mice, and chicks was tested. Both strains actively agglutinated erythrocytes of all of the test animals, with the highest hemagglutination titer obtained with chick erythrocytes, and lowest with ram erythrocytes. Further tests established that strain A-2 Moscow/42 is more thermostable than strain A-2 Moscow/72, and that both
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USSR

MAKAROVA, G. I., Voprosy Mediko-Biologicheskikh Issledovaniy.
Materialy Konferentsii Molodykh Nauchnykh Rabotnikov Mediko-
Biologicheskogo Fakul-teta, 1970, 93 pp, pp 9-11

strains are fully adsorbed on chick erythrocytes at a temperature of +4°C, but differ in the rate of elution. All mice intranasally infected with strain A-2 Moscow/72 perished by the 6th day after the infection, while only a few perished when infected with strain A-2 Moscow/42. The results obtained confirmed the earlier published data that different strains of Hong Kong influenza virus type A-2 vary in their biological properties.

2/2

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USSR

UDC: 621.319.4

RACHKOV, S. P., MAKAROVA, I. A., YEVDOKIMOV, V. P.

"A Device for Assembling Electrolytic Capacitors"

USSR Author's Certificate No 268548, filed 10 Jan 69, published 10 Sep 70
(from RZh-Radiotekhnika, No 5, May 71, Abstract No 5V339 P)

Translation: This Author's Certificate introduces a device for assembling electrolytic capacitors. The unit contains a rotating table carrying die molds, a mechanism for pouring the electrolyte into the capacitors, a rolling mechanism, and a mechanism for removing the finished capacitors. To simplify the design of the device and improve its operational reliability, the pouring mechanism is made in the form of a rotating batcher which carries a pinion connected to a gear sector resting on a lug of the die mold, which is equipped with floating female dies; the rolling mechanism is fitted with a hydraulic cylinder whose rod is connected to the male die, and the mechanism for removing the capacitors is made in the form of a clamp fastened to the rod of a second hydraulic cylinder.

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USSR

UDC 8.74

BIKMUKHAMEDOV, A. Z., MAKAROVA, I. P.

"A problem of Optimal Data Allocation in a Large Memory"

V sb. Metody i modeli upr. Vyp. 1 (Control Methods and Models. Vyp. 1--collection of works), Riga, 1971, pp 62-67 (from RZh-Kibernetika, No 12, Dec 72, Abstract No 12V447)

Translation: A study was made of the problem of optimal allocation of data on the magnetic tapes or magnetic discs for the criteria of minimum mean time and access time (the access statistics are considered constant) in the model of a memory comprising a magnetic disc module or a magnetic tape module. In all in memory there are n files of different length. The information search is realized in two directions, and reading, in one direction. For magnetic tapes the reading direction remains coincident with the numbering direction of the locations of the information files.

For one model studies were made of two basic problems: 1) find the arrangement of the memory files minimizing the mean access time in memory; 2) find the arrangement of the memory files minimizing the maximum weighted access time to memory.

Problems 1 and 2 belong to the class of extremal combinatory problems,

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USSR

BIKMUKHAMETOV, A. Z., et al., Metody i modeli upr. Vyp. 1, Riga, 1971, pp 62-67

the approximate solution of which is found on the basis of the exact solution for a special case.

It is stated that the optimal solution of problems 1 and 2 under the condition that the probabilities of access to the information files are equipped

with weighted proportional coefficients $v_{\gamma} / \sum_{\gamma=1}^n v_{\gamma}$ where v is the length of

the γ -th information file, $\gamma = 1, 2, \dots, n$ is the exact solution for the special case where the references to the information file are independent, and the sizes of the information files are equal.

In the case of determining the information distribution in various search memory devices, for example, on magnetic tapes and magnetic discs, the statement remains in force after selecting the volume of information for each type of memory.

The problem of optimal allocation arises not only for optimization of the arrangement of the information in the digital computer memory. Other interpretations of the presented mathematical model are also possible.

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USSR

UDC 632.4:633.11:582.285.2

MAKAROVA, L. A., All-Union Institute of Plant Protection, Leningrad

"Agroclimatic Factors Affecting the Development of Stem Rust of Wheat"

Leningrad, Mikologiya i Fitopatologiya, No 4, 1972, pp 334-340

Abstract: The amount of precipitation falling during the period between the phase of milky ripeness of the grain and harvest time is the principal climatic factor controlling the spread of stem rust of wheat in the USSR, frequency of epiphytotics, possibility of infection of the plants, and nature of the development of the disease. The temperature level determines the intensity with which susceptible plants are affected. A comparison of long-term meteorological data with crop records showed that in years marked by severe epiphytotics, 60% of the days were marked by rain and more than 90% by rain, dew, and drizzle while the rainfree periods did not last more than 3 or 4 days. In the years with moderate development of the disease, it rained on 40 to 60% of the days and the rainfree periods lasted 4 to 6 days. And in years with weak development of the disease, there was rain on no more than 40% of the days and the rainfree periods ranged from 9 to 12 days or longer.

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1/2 021 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--FILTRATION OF A CELLULOSE ACETATE SOLUTION THROUGH A POROUS METAL
-U-
AUTHOR--MAYAROVA, L.B., KOSTROV, YU.A., LAKHTIN, V.P., PAVLOVSKAYA, YE.I.,
GORYACHEVA, Z.V.
COUNTRY OF INFO--USSR
SOURCE--KHIM. VOLOKNA 1970, (1), 35-7
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, CHEMISTRY
TOPIC TAGS--FILTRATION, CELLULOSE RESIN, ACETATE, TITANIUM, HYDRAULIC
PRESS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY PEEL/FRAME--1984/1807 STEP NO--UR/0183/70/000/001/0035/0037
CIRC ACCESSION NO--AP0100381
UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0100381

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. POWD. TI (GRANULES 0.4 MM DIAM.) WAS MIXED WITH A 40PERCENT GLYCEROL SOLN. IN ETOH AND PRESSED UNDER A HYDRAULIC PRESS AT 1000DEGREES UNDER AR (THE GLYCEROL SOLN. HAD BEEN REMOVED AT 400-50DEGREES) TO GIVE A FILTER MATERIAL (AV. POROSITY 115-25 MU) FOR THE FILTRATION OF CELLULOSE ACETATE. A CROSS SECTIONAL DIAGRAM OF THE FILTRATION APP. AND ITS MODE OF OPERATION ARE PRESENTED. THE FILTRATION THROUGH A TI POROUS FILTER WAS RAPID AND EFFECTIVE AND FILTRATION CAPACITY OF THE CLOGGED FILTER WAS RESTORED BY ULTRASONIC WASHINGS WITH ME. SUB2. CO.

UNCLASSIFIED

Organometallic Compounds

USSR

UDC 542.91:547.257.2:547.514.72:546.725

NESMEYANOV, A. N., MAKAROVA, L. G., and VINOGRADOVA, V. N., Institute of Metal Organic Compounds, Academy of Sciences USSR

"Synthesis of σ -Ferrocenyl and σ -Ferrocenoyl Derivatives of Iron and Tungsten Cyclopentadienylcarbonyls"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 12, Dec 73, pp 2796-2798

Abstract: Reaction of ferrocenyl lithium with π -cyclopentadienyliron-dicarbonyl bromide yields π -cyclopentadienyliron-dicarbonyl- σ -ferrocenyl (I). Ferrocenoyl chloride reacted with π -cyclopentadienyliron-dicarbonyl sodium gives π -cyclopentadienyliron-dicarbonyl- σ -ferrocenoyl. Respective tungsten derivatives were obtained in an analogous manner. Decarbonylation of the ferrocenyl-tungsten complex by heating yields cyclopentadienyl-tungstentricarbonyl- σ -ferrocenyl. The iron complex requires more drastic conditions and some decomposition takes place in this reaction.

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USSR

UDC 542.957:547.559.77:547.559.78:547.1'118

NESMEYANOV, A. N., USTYNYUK, N. A., BOGATYREVA, L. V., and MAKAROVA, L. G.,
Institute of Element Organic Compounds, Academy of Sciences USSR

"Reactions of the Phenyl Derivatives of the Metal Carbonyls of Molybdenum
and Tungsten With Triphenylphosphine and Triphenyl Phosphite"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, 1, Jan 73, pp
62-67

Abstract: The products of the reaction of $C_5H_5W(CO)_3C_6H_5(I)$ with $P(C_6H_5)_3$
and $P(OC_6H_5)_3$ -- e.g., $C_5H_5W(CO)_2LC_6H_5+CO$; $C_5H_5W(CO)_2LCO C_6H_5$; or
 $W(CO)_3L_2+(C_5H_5) + (C_6H_5)$ -- depend on the condition. (L is either of
the P ligands). A series of C_{31} to C_{57} phospho derivatives of W and Mo
were prepared and characterized by physical data, elemental composition,
and spectral and NMR data. Stereochemistry, exchange of the ligands, and
the effects of a limited number of solvents were considered.

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USSR

UDC 541.124:541.57:541.49:547.514.72:546.72

NESMEYANOV, A. N., MAKAROVA, I. G., and POLOVYANYUN, I. V., Institute for Organic Elemental Compounds, Academy of Sciences USSR

"The Influence of the Nature of the Phosphorus Ligand on the Character of Interaction Between the Central Atom and the Surrounding Ligands in σ -Aryl Cyclopentadienyliron Carbonyl Complexes"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 3, 1972, pp 607-609

Abstract: During the study of the characteristics of σ -aryl cyclopentadienyl-iron carbonyl complexes, we examined the influence of the nature of the phosphorus ligand on the character of the interaction of the iron atom with the carbonyl and σ -aryl ligands. To do this, a series of fluorophenyl complexes of the type $C_5H_5Fe(CO)(L)C_6H_4F-m,p$ were synthesized where $L = (C_6H_5)_3P(OC_6H_5)_3$, and CO. The IR and nmr spectra were made. In the IR spectra ν_{CO} for the meta form is 1927; 1957; 1963 and 2018 for the above "L" series; and for the para form, 1925; 1949; 1961 and 2015. The nmr spectra of ν_{19} showed δ values of +4.47, +4.29, +2.35 for the meta form and +13.84, +13.10, and +10.95 for the para form. The carbonyl group can act as a donor through both induction and resonance. The aryl groups, however, participate only through induction. 1/1

USSR

MAKAROVA, L. G.

"Optimal Programming of Reactive Acceleration in Motion of a Point of Variable Mass"

Matematika i Mekhanika. Tezisy Dokl 4-y Kazakhstan. Mezhevuz. Nauch. Konf. Po Mat. i Mekh. Ch. 2. [Mathematics and Mechanics, Theses of Reports of 4th Kazakhstan Inter-University Scientific Conference on Mathematics and Mechanics. Part II -- Collection of Works], Alma-Ata, 1971, pp 54-55. (Translated from Referativnyy Zhurnal Mekhanika, No 1, 1972, Abstract No. 1A107).

Translation: The motion of a point of variable mass is studied. The flight time, initial velocity of the point, initial exhaust velocity, total mass and final velocity of the point are fixed. The problem is solved of determining the optimal characteristics of motion of the point, minimizing the functional

$$I_1 = \int_0^T a^2 dt$$

with the differential coupling

$$m\dot{v} + c\dot{m} = G$$

1/2

1/2 017
UNCLASSIFIED
PROCESSING DATE--23OCT70
TITLE--EFFECT OF THE REACTION CONDITIONS ON THE INTERACTION OF C SUB5 H
SUB5 FE(CO) SUB2 AR WITH PHOSPHINES AND PHOSPHITES -U--
AUTHOR--(03)-NESMEYANOV, A.N., MAKAROVA, L.G., PLODYYANYUK, I.V.
COUNTRY OF INFO--USSR
SOURCE--J. ORGANOMETAL. CHEM. 1970, 22(3), 707-12
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ORGANOIRON COMPOUND, PHOSPHITE, ORGANIC PHOSPHORUS COMPOUND,
PHOTOCHEMISTRY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1997/0615
STEP NO--NE/0000/TO/022/003/0707/0712
CIRC ACCESSION NO--AP0119527
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2/2 017

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PROCESSING DATE--230CT70

CIRC ACCESSION NO--AP0119527

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

ABSTRACT. THE REACTION OF C SUB5 H SUB5
FE(CO) SUB2 AR WITH PR SUB3 IN BENZENE IS INDEPENDENT OF THE NATURE OF
ARYL GROUP AND THE PHOSPHINE, BUT DEPENDS ON THE REACTION CONDITIONS;
THE PHOTOCHEM. REACTION GIVES C SUB5 H SUB5 FE(CO)(PR SUB3)AR, AND THE
THERMAL C SUB5 H SUB5 FE(CO)(PR SUB3)COAR. THE REACTION OF C SUB5 H
SUB5 FE(CO) SUB2 AR WITH P(OPH) SUB3 IS AGAIN INDEPENDENT OF THE NATURE
OF THE ARYL GROUP BUT DEPENDS ON THE REACTION CONDITIONS.
FACILITY: INST. ORG. ELEM. COMPO., MOSCOW, USSR.

UNCLASSIFIED

Acc. Nr: AP0052085

Ref. Code: DP24B

PRIMARY SOURCE: M
Zhurnal Nevropatologii i Psikhatrii imeni
S. S. Korsakova, 1970, Vol 70, Nr 3,
pp 370-376

CHANGES OF BRAIN ELECTRIC ACTIVITY IN FRIEDREICH'S DISEASE

L. G. Makarova, N. Z. Gurshava

The paper concerns a study of brain electric activity in 34 patients with Friedreich's disease (18 familial and 16 sporadic cases). «Spontaneous» EEG and bioelectrical brain reactions to a trigger photo stimulation were registered. In all cases there were changes in the development of electric process. They were expressed in different degrees of changed α -activity, in a weakening of β -activity, in unregular sharp waves and groups of slow waves of the θ -rhythm, or their paroxysmal discharges. The trigger photo stimulation stressed the changes displayed in a «spontaneous» EEG. The character of EEG disorders and the topographical distribution of pathological forms of activity permits to assume the involvement into the pathological process in cases of Friedreich's ataxia, the stem-diencephalic structures in the light of contemporary concepts of the cerebellar-cortical subcortical correlations.

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REF/FRAME
19820623

Organometallic Compounds

USSR

UDC 542.91:547.1'13:546:72

NESMEYANOV, A. N., MAKAROVA, L. G., and VINOGRADOVA, V. N., Institute of
Metalorganic Compounds, Acad. Sc. USSR

"Synthesis and Properties of π -Cyclopentadienylirondicarbonyl- σ -ferrocenyl"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 7, Jul 72,
pp 1600-1604

Abstract: Reaction of diferrocenylmercury with cyclopentadienylirondicarbonyl iodide yields π -cyclopentadienylirondicarbonyl- σ -ferrocenyl (I) -- a crystalline compound of orange color. In solid state it is stable in air, dissolves easily in organic solvents, but the solutions are less stable. The structure of (I) was proven by IR, PMR and NGR spectroscopy as well as by reactions with HCl, bromine, and mercuric chloride. Reaction of (I) with $(C_6H_5)_3P$ takes place without rearrangement, evidently one CO group being replaced by $(C_6H_5)_3P$.

1/1

USSR

UDC: 621.372.413(088.8)

STEKLOV, L. V., SUKAZOV, E. A. MAKAROVA, L. P.

"A Coaxial Tank Circuit"

USSR Author's Certificate No 265981, filed 2 Jan 68, published 2 Jul 70
(from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1B170 P)

Translation: A tank circuit is proposed which contains a movable shorting plunger, a ferrite tuning element and a solenoid. To increase the effectiveness of the control system, an additional ferrite core is included which is coaxial with the ferrite element in the space behind the plunger.

1/1

USSR

UDC:629.78.002.3

GERASIMENKO, G. I., AKSHENTSEVA, A. P., ZHDANOV, V. D., MAKAROVA, L. S.

"Two-Layer Metal Type 3 Steel Plus N70M27F for Welded Apparatus Used in Highly Corrosive Media"

Sb. Nauch. Tr. Vses. N.-I. i Konstrukt. In-t Khim. Mashinostr. [Collected Scientific Works of All-Union Scientific Research and Design Institute for Chemical Machine Building], 1973, No 6, pp 15-17 (Translated from Referativnyy Zhurnal Raketostroyeniye, No 10, 1973, Abstract No 10.41.156 from the resume)

Translation: A technology is developed for welding and pressure working of a two-layer metal consisting of type 3 steel plus N70M27F, and areas of its application are defined. An optimal heat-treatment mode is recommended and it is shown that heating to 700-850° C for 2-5 hours causes embrittlement of the cladding layer and reduces its corrosion resistance. 4 Figures; 2 Tables.

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USSR

UDC 517.55

~~MAKAROVA, L. Ya.~~ M

"On Supplementary Convex Envelopes"

Moscow, Sibirskiy Matematicheskiy Zhurnal (Akademiya Nauk SSSR, Sibirskoye otdel-
eniye), Vol XII, No 3, May-June 1970, pp 547-551

Abstract: In this paper the necessary and sufficient conditions are given in which a linearly convex domain does not possess a supplementary, linearly convex envelope, and also the sufficient condition in which an arbitrary domain also possesses a supplementary envelope. Using these theorems, the author determines sufficient conditions in which the space domain C^n does not possess a supplementary holomorphic envelope. 6 ref. Received by the editors, 13 June 68.

1/1

1/2 025 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--USE OF LASYX (FURZEMID) IN RENAL EDEMA -U-
AUTHOR--(02)-PALEYEVA, F.M., MAKAROVA, N.A. M
COUNTRY OF INFO--USSR
SOURCE--TERAPEVTICHESKIY ARKHIV, 1970, VOL 42, NR 3, PP 83-87
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--KIDNEY, EDEMA, NEPHRITIS, PROTEINURIA, BLOOD PLASMA, SODIUM,
POTASSIUM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1986/0817 STEP NO--UR/0504/70/042/003/0083/0087
CIRC ACCESSION NO--AP0102779
UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--02JCT70

CIRC ACCESSION NO--AP0102779

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHROS INVESTIGATED THE CLINICAL EFFICACY AND THE MECHANISM OF ACTION OF THE DRUG IN 68 PATIENTS WITH RENAL DISEASES AMONG WHOM 49 SUFFERED FROM DIFFUSE GLOMERULONEPHRITIS, 4 WITH PYELINEPHRITES, 4 WITH RENAL POLYCYSTOSIS, 5, AMYLOIDOSIS, 2 HYDROMEPHROSIS, 3 DIABETIC GLOMERULOSCLEROSIS. 12 PATIENTS HAD RENAL INSUFFICIENCY OF DIFFERENT DEGREE. PROTEINURIA FLUCTUATED FROM 33 TO 29PERCENT. TOTAL BLOOD PROTEIN WAS ESPECIALLY SHARPLY REDUCED IN 5 PATIENTS (3.2-3.3 GPERCENT). 30 PATIENTS SUFFERED FROM HYPERTENSION WITHIN THE RANGE OF 140-100-220-130 MM HG. A GOOD DIURETIC EFFECT WAS SEEN IN 61 PATIENTS. EDEMA COMPLETELY DISAPPEARED IN 42 PATIENTS. IN GLOMERULAR FILTRATION LOWER THAN 10 ML-MIN THE USE OF LASYX WAS ALMOST INEFFECTIVE, AS WELL AS IN ACUTE HYPOPROTEINEMIA. NATRIURESIS APPEARED TO BE MOSTLY MARKED. POTASSIUM EXCRETION WITH THE URINE WAS PRACTICALLY UNCHANGEABLE WHICH WAS ALSO CONDUCTIVE TO AN INCREASE OF THE SODIUM-POTASSIUM RATIO IN THE URINE. CONCENTRATION OF SODIUM AND POTASSIUM IN THE BLOOD PLASMA UNDERWENT NO SUBSTANTIAL CHANGES. TUBULAR REABSORBTION OF SODIUM AND WATER DROPPED WHEREAS POTASSIUM REABSORBTION ROSE. THE GLOMERULAR FILTRATION OF WATER AND SODIUM INCREASED IN MOST OF THE PATIENTS. A DROP OF THE ARTERIAL PRESSURE LEVEL WAS OBSERVED ONLY 6 PATIENTS OUT OF 30.

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