

USSR

UDC 536.24

STAROVOYTENKO, YE. I., and MIMAYEV, B.N.

"Experimental Investigation of the Effect of Eccentricity on the Resistance and the Heat Exchange in an Annular Channel at Laminar Motion Conditions of the Medium"

V Sb. "Teplo i Massopereenos". /In the Collection "Heat and Mass Transfer"/, Technical Information Minsk, 1972, pp 245-249 (from Referativnyy Zhurnal, No 6, Jun 72. 34. Aviation and Rocket Engines. Abstract No 6.34.17)

Translation: Experimental data were obtained for the hydraulic resistance at laminar motion condition of water in an annular channel ($2000 > Re > 500$) in the region of stabilized flow and the initial hydrodynamic section. In this case, the geometric parameters varied within the limits $0.500 \leq \gamma < 0.67$; $1 \leq \xi \leq 0$; $d_2 = 50.25$ mm, where $\gamma = d_1/d_2$ is the relation of the diameters of tubes forming the channel, and $\xi =$ eccentricity. The pressure drops over the length of the investigated section were measured by help of a micro-manometer. Three illustr., three biblio. refs.

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MINAYEV, S. A.

Human Engineering

SO. JPRS 53201
13 AUG 91

UDC 617.812:629.78.07:658.52.011.567.001.57

MODELS OF A MAN-OPERATOR IN INVESTIGATING SPACESHIP MANUAL CONTROL

(From the journal "Human Engineering")
Article by S. V. Komarskiy, S. A. Minayev and A. Ye. Chelobanov; Moscow, Kosmicheskaya Elektronika i Mekhanika, number 3, 1978, pp 45-50, submitted 1 July 1976

Abstract: This paper discusses the possibility and feasibility of replacing a man-operator with an appropriate model and surveys the current models in accordance with the main classes of operator's activity. Each possible the authors give mathematical descriptions of models and instructions as to use models in studying manual operation of a spacecraft.

The experience of specialists in our country and abroad has convincingly demonstrated the possibility and desirability of including man in the ship control system. Despite a number of advantages of a machine, man is preferable for performing functions requiring inductive reasoning, identification of images, flexibility and adaptability to changing and unexpectedly arising conditions.

The reliability requirements and the high cost of experimentation under actual conditions with the use of the models for investigating manual control system in the planning stage by statistical modeling by means of ground trainer-teacher complexes with the participation of a team of operators. The objective of the investigation was to establish the qualitative and quantitative characteristics of the information needs of the operator for making a decision on each specific problem, determining the time for the reception and analysis of information, match the time parameters of man and machine, etc. Statistical modeling with man's participation can be performed only on a real time scale and usually over an extremely long time and it is time-consuming. In addition, the differences in individual characteristics of operators predetermined the results of advanced experiments of the proposed system and necessitate a great number of experiments for attaining statistically reliable results. Accordingly, it is desirable to replace a man-operator by his model, making possible a substantial decrease in the duration of the

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UDC 539.376+532.135

MINAYEV, V. A.

"On the Deformation of Statistically Inhomogeneous Viscoelastic Media"

Sb. nauch. tr. Fak. prikl. mat. i mekh. Voronezh. un-ta (Collection of Scientific Works. Faculty of Applied Mathematics and Mechanics of Voronezh University), 1971, No. 1, pp 72-76 (from RZh-Mekhanika, No 3, Mar 72, Abstract No 3V683)

Translation: The average displacements of stochastically inhomogeneous viscoelastic bodies are determined when there is an initial physical dependence in terms of the Laplace transformation with respect to time between the stresses σ_{ij} and deformations e_{ij} of the form $\sigma_{ij} = \lambda_{ijmn} \dot{e}_{mn}$. It is assumed that the components of the tensor λ_{ijmn} are random functions of the coordinates with mathematical expectation $\langle \lambda_{ijmn} \rangle = \text{const}$. By invoking the method of statistical linearization the problem is reduced to the solution of a system of integrodifferential equations

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USSR

MINAYEV, V. A., Sb. nauch. tr. Fak. prikl. mat. i mekh. Voronezh. un-ta, 1971, No. 1, pp 72-76

$$\langle \lambda_{ijmn} \rangle \langle \epsilon_{mn,j} \rangle + \frac{\partial}{\partial x_j} \int_V F_{qmu} \frac{\partial}{\partial x_k} \times \\ \times \langle C_{nkst}^{lqmn} \langle \epsilon_{st}(x') \rangle \rangle dv' = x$$

Where

$$C_{nkst}^{lqmn} = \langle \lambda_{nkst}(x') \lambda_{lqmn}(x) \rangle, F_{lmu} = \frac{\partial G_{lm}}{\partial x_n} + \frac{\partial G_{ln}}{\partial x_m}$$

where G_{lm} is a Green's function. It is shown in discussing a statistically linear homogeneous viscous fluid that the latter under flow behaves on the average as a nonlinear viscous medium. 6 ref. M. I. Rozovskiĭ.

USSR

UDC 621.375.82

MIKAELYAN, A. L., ANIKINA, Ye. B., MINAYEV, V. P., TURKOV, Yu. G.

"Single-Mode Ruby Laser With Ring Resonator"

V sb. Kvant. elektronika (Quantum Electronics -- Collection of Works), No. 1, Moscow, 1971, pp 136-139 (from RZh-Fizika, No 7, Jul 71, Abstract No 7D1043)

Translation: A single-mode ruby ring laser operating in a free generation mode was investigated. The laser was used to record holograms on "Mikrat-VR" film and on thin metal films. Authors abstract.

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USSR

UDC: 621.373:530.145.6

MIKAELYAN, A. L., ANIKINA, Ye. B., MINAYEV, V. P., TURKOV, Yu. G.

"A Single-Mode Ruby Laser With Ring Cavity"

V sb. Kvant. elektronika (Quantum Electronics—collection of works), No 1, Moscow, 1971, pp 136-139 (from RZh-Radictekhnika, No 5, May 71, Abstract No 5D183)

Translation: The paper presents the results of a study of a single-mode ruby ring laser which operates in the free emission mode. The laser is used for recording holograms on "Mikrat-VR" film and thin metal films. Four illustrations, bibliography of six titles. Resumé.

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" 95 "

1/2 039 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--COHERENT SUPERPOSITION OF THE EMISSION FIELDS OF SINGLE FREQUENCY
RUBY LASERS -U-
AUTHOR--(03)-MIKAYELIAN, A.L., MINAYEV, V.P., JURKOV, YU.G.
COUNTRY OF INFO--USSR
SOURCE--AKADEMIIA NAUK SSSR, DOKLADY, VOL. 191, MAR. 21, 1970, P. 565-567
DATE PUBLISHED--21MAR 70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--RUBY LASER, LASER EMISSION COHERENCE, LASER RADIATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1998/0712 STEP NO--UR/0020/70/191/000/0565/0567
CIRC ACCESSION NO--AT0121371
UNCLASSIFIED

2/2 039

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AT0121371

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DESCRIPTION OF EXPERIMENTS IN WHICH THE COHERENT SUPERPOSITION OF SINGLE FREQUENCY RADIATION FIELDS WAS PERFORMED IN TWO MODULATED COUPLED RUBY LASERS HAVING SIMILAR RESONATOR LENGTHS, THRESHOLD PUMPING LEVELS AND OTHER PARAMETERS. THE RADIATION COHERENCE ENHANCEMENT ACHIEVED BY THIS TECHNIQUE IS DISCUSSED.

UNCLASSIFIED

USSR

UDC: 621.382.2

ALTUNYAN, S. A., MINAYEV, V. S., MINAZHDINOV, N. S., and SKACHKOV, B. K.

"Vitreous Formations in Si-Te Systems and Diode Switching Structures with 'Memory' on the Basis of Semiconductor Glass in the System"

Leningrad, Fizika i tekhnika poluprovodnikov, Vol. 4, No. 11, 1970, pp 2214-2215

Abstract: This article describes the synthesis of several compounds with various contents of silicon and tellurium and the study of the effect of the history of the glass on vitreous formations and its switching characteristics. The purpose of this work was to explain the vitreous formation region in the Si-Te system and the effect of its glass content on switching characteristics. To identify the state of the vitreous formation, the methods of differential thermal analysis and x-ray phase analysis were used. The experiments showed that the vitreous formation region, when tempered in liquid nitrogen, lies within 15-25 atomic % Si and

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USSR

ALTUNYAN, S. A., et al., Fizika i tekhnika poluprovodnikov, Vol 4, No 11, 1970, pp 2214-2215

75-85 at.% Te. From investigation of the vitreous materials containing 20 at. % Si, 80 at. % Te, and 25 at. % Si, 75% Te, an exothermic effect reflecting an ordered structure in the glass was found.

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MINAKOVA, L.V.

MEDICINE

UDC 615.113.6:547.962.4:624.25].017.6
COMMUNICATION ON ANTITICKBORNE ENCEPHALITIS POLYGLLOBULIN

DPMS 56048
19 MAY 1972

Article by L. V. Minakova, L. E. Kozlovskaya, et al., Kirov Branch Institute of Blood Transfusion and Organ Transplantation, Leningrad, USSR, 22 February 1971, pp 84-85

Antitickborne encephalitis polyglobulin was obtained from the plasma of donors living in shaded localities affected with tickborne encephalitis. Polyglobulin was prepared by the ritinol method and it consisted of a 9 to 10% solution of plasma proteins (75 to 80% Gamma Globulin and 20 to 25% beta Globulin). The titer of the preparation varied with the immune layer of the population, ranging from 1:10 to 1:320 according to the hemagglutination inhibition test. Preliminary screening of plasma by the antibody titer makes it possible to produce entire series of polyglobulin with higher titers (1:80 to 1:640). Specific antibodies are generally A to B times more concentrated in polyglobulin than in the original plasma.

Gamma Globulin made from hyperimmune horse serum has been used for the prevention and treatment of tickborne encephalitis, and clinical observations showed it to be quite efficacious [2, 5, 12, 13, 18]. However, heterologous preparations have the serious shortcoming of sensitizing the body to foreign protein so that repeated use involves the risk of serum sickness and other allergic reactions [10]. However, additional injections result in neutralization of the antibodies introduced and decrease or abolish their protective action [15].

Reports published in recent years mention the possible use of gamma globulin made from the serum of people living in the natural foci of tickborne encephalitis. The number of immune persons in such areas, according to the figures of several investigators, ranges from 4, 8 to 82%, varying with the intensity of the focus of the disease [1, 3, 4, 7, 9, 11]. The

USSR

UDC: 53.07/.08+53.001.5

GUDKOV, A. N., GRESHILOV, A. A., KOLOBASHKIN, V. M., ~~MITAYEV, Ye. M.~~

"Using 'Xenon-133' Gas to Calibrate Scintillation Gamma Spectrometers"

V sb. Vopr. dozimetrii i zashchity ot izluch. (Problems of Dosimetry and Radiation Shielding--collection of works), vyp. 12, Moscow, Atomizdat, 1971, pp 163-170 (from RZh-Fizika, No 4, Apr 72, Abstract No LA688)

Translation: The paper deals with the peculiarities of using a "Xenon-133" gas source to calibrate scintillation spectrometers for determining the content of ^{133}Xe and ^{131m}Xe isotopes in gas mixtures. Bibliography of 6 titles. M. L.

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USSR

UDC 621.752.669.018.5

MINAYEV, YE. M., and MRYAKINA, T. L.

"Production of a P/M Alloy Containing 21% Fe and 79% Ni From Alloyed Powder"

Elektron. tekhnika. Nauchno-tekhn. sb. Radiokomponenty (Electronics Engineering: Collection of Scientific and Technical Works on Radio Components), 1970, vyp. 4, pp 126-130 (from RZh-Metallurgiya, No 3, Mar 71, Abstract No 30449 by authors)

Translation: The article presents results of an experimental investigation of the process of producing a P/M alloy containing 21% Fe and 79% Ni from alloyed powder. Permalloy with quite high magnetic properties in permanent and variable magnetic fields can be made by pressing, sintering, and subsequent heat treatment.

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USSR

UDC 621.762:669.018.58

MINAYEV, Ye. M.

"Metal Ceramic Permalloy Type 80NKHS"

Tr. Kuybyshev. aviats. in-t [Works of Kuybyshev Aviation Institute], No. 42, pp. 44-50 (Translated from Referativnyy Zhurnal-Metallurgiya, No. 2, 1971, Abstract No. 2 G460 by V. Chelnokov)

Translation: A powder metallurgy method is used to produce type 80NKHS alloy with high electrical resistance and satisfactory magnetic properties in variable magnetic fields with magnetization. An installation is constructed and a method is developed for measurement of the electrical resistance and magnetic properties of the magnetic materials using circular specimens. The reduction of magnetic properties upon application of a constant magnetizing field is less for the metal ceramic alloy than for a cast alloy. The magnetic properties of the metal ceramic alloy in constant magnetic fields do not satisfy the requirements of the state standard. After sintering, the alloy is a homogeneous solid solution. 3 figures; 2 tables; 3 biblio. refs.

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MINDYEV, R. I.

MS 25863
22 May 73 (6)
B

THE BENEFIT OF 804-63 PLAZONA CONTROL AND SAFETY RODS
DURING THEIR OPERATION

Article by R. I. Mindyev, V. K. Galitskiy, P. N. Guryanov, E. I. Mironov, V. I. Prokhorov, and V. J. Cherny, Institute of Atomic Energy, P. O. Box 100, Moscow, U.S.S.R. (Received 15 October 1972)

The results of an investigation of automatic regulation (AR) rods for compensation of automatic regulator effects of reactivity of the temperature and are given. It was established that the basic radiation effects determining the efficiency of the PEL (absorbing elements) is the buildup (emitting) of RAG at working temperature and burn-up. The magnitude of which is associated with the rod is not great and does not exceed 10% out of the total formed.

1. Introduction

In a reactor, for reliable operation, regulating rods of various designation are used: emergency protection (AZ) rods, burn-up and temperature effects (KS).

The requirements imposed upon them also differ. Thus, for AZ rods the main thing is the efficiency of the absorbent, and for KS rods, their high radiation resistance must be the basic factor.

USSR

MINAYEV, YU. A., GRIGORYAN, V. A., and UTOCHKIN, YU. I., Moscow
Institute of Steel and Alloys

"Mechanism of Removal of Deoxidation Products From Liquid Steel"

Moscow, IVUZ Chernaya Metallurgiya, No 3, 1971, pp 48-51.

Abstract: The mechanism of coagulation and removal of deoxidation products from liquid steel is studied. The essence of the method is as follows: the relative movement of particles may result from adsorption phenomena related to local concentration heterogeneities. When there is a concentration gradient in a sufficiently dilute solution, uneven adsorption occurs along the surface of a non-metallic particle. This results in a surface tension gradient along the particle-metal division boundary, resulting in turn in mechanical movement of the non-metallic inclusion. Calculations show that for particles measuring 1-25 μ , orthokinetic coagulation is most probable under the influence of surface forces. It is assumed that these nonmetallic inclusions are enlarged by this mechanism in local volumes of metal, then float upward under the influence of the force of gravity.

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USSR

UTC 669.046.5

GRIGORYAN, V. A., MINAYEV, Yu. A., KARSHIN, V. P., and ALEYEV, R. A.

"Surface Phenomena in the Processes of Interphase Transfer in Metallurgical Systems"

Moscow, V sb. "Sovremennyye problemy kachestva stali" (MISIS), (Collection of Works. Modern Problems of Steel Quality) (Moscow Institute of Steel and Alloys). Izd-vo "Metallurgiya," No 61, 1970, pp 46-48

Translation of Abstract: The role of an interphase boundary in the graphite single crystal solution in liquid iron, and in the sulfur transfer from metal into slag, is considered. 3 figures.

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USSR

MINAYEV, YU. A., GRIGORYAN, V. A., and UTOCHKIN, YU. I., Moscow
Institute of Steel and Alloys

"Mechanism of Removal of Deoxidation Products From Liquid Steel"

Moscow, IVUZ Chernaya Metallurgiya, No 3, 1971, pp 48-51.

Abstract: The mechanism of coagulation and removal of deoxidation products from liquid steel is studied. The essence of the method is as follows: the relative movement of particles may result from adsorption phenomena related to local concentration heterogeneities. When there is a concentration gradient in a sufficiently dilute solution, uneven adsorption occurs along the surface of a non-metallic particle. This results in a surface tension gradient along the particle-metal division boundary, resulting in turn in mechanical movement of the non-metallic inclusion. Calculations show that for particles measuring 1-25 μ , orthokinetic coagulation is most probable under the influence of surface forces. It is assumed that these nonmetallic inclusions are enlarged by this mechanism in local volumes of metal, then float upward under the influence of the force of gravity.

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1/2 057

UNCLASSIFIED

PROCESSING DATE--04DEC70

TITLE--MECHANISM OF THE INFLUENCE OF PULSATING BLOWING ON THE INTENSITY OF THE CONVERTER OXIDATION OF IMPURITIES -U-
AUTHOR--(04)-MINAYEV, YU.A., GRIGORYAN, V.A., BERMAN, L.I., FILIPPOV, K.S.

M

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., CHERN. MET. 1970, 13(4), 31-3

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--METAL OXYGEN CONVERSION, OXIDATION KINETICS, SLAG, GAS JET, NOZZLE FLOW, EMULSION, VANADIUM, GAS DYNAMICS, PERIODIC PULSE/(U)NTMK CONVERTER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3005/0805

STEP NO--UR/D148/70/013/004/0031/0033

CIRC ACCESSION NO--AT0132902

UNCLASSIFIED

2/2 057

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AT0132902

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. OXIDN. OF IMPURITIES IN A CONVERTER BATH IS DETD. BOTH BY THE CHARACTERISTICS OF THE KINETIC DIFFUSION CONDITIONS AND THE INTENSITY OF THE FEEDING OF THE OXIDIZER, AS WELL AS BY THE FORMATION DYNAMICS OF THE SLAG METALLIC EMULSION. THE DYNAMICS OF THE FORMATION OF EMULSION WAS STUDIED ON A NO. OF MELTS IN A NTHK 100 TON CONVERTER. INTERMEDIATE TIPPING OF THE CONVERTER WAS DONE TO SELECT THE SAMPLES FOR DETG. THE REGULUS METAL CONTENT IN THE SLAG LAYER. THE CONTENT OF THE ASSAY BUTTONS WAS COMPARED WITH THE RATE OF TRANSITION OF V INTO SLAG AND WITH THE CONSUMPTION OF THE OXIDIZER. IN CASE OF ALL 8 TEST SAMPLES DURING THE COURSE OF THE ENTIRE PROCESS THE RATE OF TRANSITION OF V INTO THE SLAG VARIES IN ACCORDANCE WITH THE CHANGE IN THE NO. OF THE ASSAY BUTTONS. THUS, DURING OXIDN. OF V IN THE CONVERTER THE RATE OF TRANSITION OF THE COMPONENT INTO THE SLAG IS ESSENTIALLY DETD. BY THE DYNAMICS OF EMULSIFYING OF THE PHASES. THE PARAMETERS CHARACTERIZING THE EMULSION DEPEND ON THE PHYS. CHEM. PROPERTIES OF THE METAL AND THE SLAG, AS WELL AS ON HYDRODYNAMIC CONDITIONS. IN THE LATTER CASE, THE MANNER IN WHICH THE BLOWING IS PROVIDED IS THE DETG. FACTOR. IN ORDER TO EXPLAIN THE MECHANISM OF THE EFFECT OF PULSATING BLOWING ON THE KINETICS OF THE TRANSITION OF THE IMPURITIES, THE EXPTS. WERE PERFORMED ON A COLD MODEL OF THE CONVERTER. WATER WAS USED AS THE MODEL FOR THE METALLIC PHASE, AND PETROLATUM OIL AS THE MODEL FOR THE SLAG. THE APPLICATION OF PULSATING BLOWING LEADS TO A DECREASE IN GAS CONSUMPTION AND TO AN INCREASE IN THE AV. PRESSURE LEVEL AT THE NOZZLE.

UNCLASSIFIED

Superalloys

USSR

UDC 669.24'25-154:669.24'784-154:532.6:532.14

IKSANOV, B. A., MINAYEV, Yu. A., FATKULLIN, O. Kh., GRIGORYAN, V. A., Moscow
Institute of Steel and Alloys

"Characteristics of Surface Solutions and Densities of Alloys in the Ni-Co
and Ni-C Systems"

Moscow, IVUZ. Chernaya Metallurgiya, No 5, 1972, pp 12-14

Abstract: The paper presents experimental results of measurement of density and surface tension in the region of formation of solid solutions based on the intermetallic compound Ni₃Co. An analysis is made of observed anomalies in surface properties which agree with data on negative deviations in the behavior of volumetric solutions, and are qualitatively described by the thermodynamic theory of surface tension of A. A. Zhukovskiy. The quiescent drop method was used with forced formation on a cylindrical aluminum substrate and indirect induction heating. The specimens and substrates were preannealed in a vacuum of $5 \cdot 10^{-5}$ mm Hg at 1300°C. Measurements were made in pure helium at temperatures of 1500-1650°C. The temperature dependence of surface tension shows flattening of the maximum with an increase in temperature above the liquidus line. It was found that the heat of adsorption

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USSR

IKSANOV, B. A., et al., *IVUZ. Chernaya Metallurgiya*, No 5, 1972, pp 12-14

of cobalt increases over the entire range of concentrations. The results also confirm the previously observed weak surface activity of carbon. Adding carbon to nickel reduces the surface tension by 100 mJ per sq. m for every one percent of carbon added.

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1/2 020

UNCLASSIFIED

PROCESSING DATE--27NDV70

TITLE--FREQUENCY DEPENDENCE OF THE FLUCTUATION ABSORPTION OF ULTRASOUND IN TRIGLYCINE SULFATE SINGLE CRYSTALS -U-

AUTHOR--(03)-MINAYEVA, K.A., STRUKOV, B.A., HOANG, C.T.

M

COUNTRY OF INFO--USSR

SOURCE--FIZ. TVERD. TELA 1970, 12(5), 1584-5

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--ULTRASOUND ABSORPTION, TRIGLYCINE SULFATE, SINGLE CRYSTAL, DIELECTRIC CONSTANT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/0941

STEP NO--UR70181/70/012/005/1584/1585

CIRC ACCESSION NO--AP0136372

UNCLASSIFIED

272 020

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP01-372

ABSTRACT/EXTRACT--(U) G. / ABSTRACT. THE AMPLITUDE COEFF. OF ABSORPTION WAS MEASURED AT 10, 30, AND 50 MHZ BY THE IMPULSE METHOD. CLOSE TO THE CURIE POINT, ABSORPTION INCREASES SHARPLY. INCREASED FREQUENCY DISPLACES THE ABSORPTION MAX. RELATIVE TO THE MAX. DIELEC. CONST. FACILITY: MOSK. GOS. UNIV. IN. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

M
MINAYEVA, K. A., STRUKOV, B. A., HUOANG CHUNG TKHU, Moscow State
University imeni M. V. Lomonosov

"Dependence of the Fluctuation Absorption of Ultrasound on Frequency
in Triglycinsulphate Single Crystals"

Leningrad, Fizika Tverdogo Tela, Vol 12, No 5, May 1970, pp 1584-
1585.

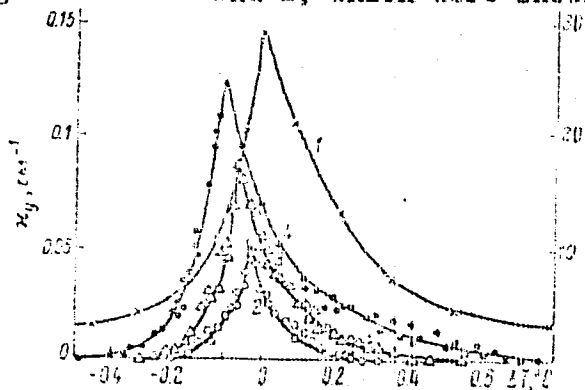
Abstract: The absorption of a longitudinal ultrasonic wave propagat-
ing along the polar Y-axis was measured at frequencies of 10, 30,
and 50 MHz in triglycinsulphate single crystals. The temperature
of the sample was automatically stabilized with an accuracy of
 $\pm 0.005^\circ\text{C}$. The results are shown in the Figure. The quantity $(1-\theta)$
is laid off along the horizontal axis, where T is the temperature
of the sample and θ is the Curie temperature ($\theta = 15^\circ\text{C}$); the ab-
sorption coefficient of the longitudinal acoustical wave at 47
propagating along the polar Y-axis in triglycinsulphate is laid off
along the vertical axis. The Figure shows that absorption sharply
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USSR

MINAYEVA, K. A., et al, Fizika Tverdogo Tela, Vol 12, No 5, May 1970, pp 1584-1585

rises close to the Curie point, and the curve $K_y(T-0)$ is almost symmetric relative to the absorption maximum and its shape is different from the curves $K(T-0)$ describing ordinary relaxation absorption along the axes X and Z, which were shown to be very non-symmetric.



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USSR

MINAYEVA, K. A., et al, Fizika Tverdogo Tela, Vol 12, No 5, May 1970, pp 1584-1585

This difference in the curves indicates a difference in the physical mechanisms determining the absorption of ultrasound in these two cases. The Figure also shows the dependence of the dielectric permeability of triglycinsulphate on temperature as measured simultaneously with $\chi''(\omega)$ on the same sample. Curves 2, 3, and 4 represent frequencies of 10, 30, and 50 MHz. The Figure shows that an increase in the frequency displaces the absorption maximum relative to the temperature θ corresponding to the maximum of the dielectric permeability. It is easy to see that the ratio of these displacements $0.024:0.060:0.108 = 1:2.5:4.5$ approximately corresponds to the frequency ratio $10:30:50 = 1:3:5$.

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1/2 010 UNCLASSIFIED PROCESSING DATE--27NOV79
TITLE--FLAVONOL LEVEL IN HERBARIUM SPECIMENS OF BUPLEURUM STORED FOR
DIFFERENT PERIODS OF TIME -U-
AUTHOR--(02)-MINAYEVA, V.G., VOLKHUNSKAYA, T.A.
COUNTRY OF INFO--USSR
SOURCE--RAST. RESUR. 1970, 6(1), 107-10 M
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--PROCESSED PLANT PRODUCT, KETONE, BIOLOGIC STORAGE STABILITY,
CHEMICAL STABILITY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3006/0460 STEP NO--08705037707006700170107/0110
CIRC ACCESSION NO--AP0134228
UNCLASSIFIED

2/2 010 UNCLASSIFIED PROCESSING DATE--27NOV70
CIRC ACCESSION NO--AP0134228
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PROLONGED STORAGE DID NOT AFFECT
THE RELATIVE CONTENT OF FLAVONOLS AND THEIR GLYCOSIDES IN B. AUREUM, B.
MULTINERVE, B. BICAULE, AND B. SCORZONERA FOLIUM. FACILITY:
YSENT. SI2. BOT. SAD, NOVOSIBIRSK, USSR.

UNCLASSIFIED

USSR

UDC 629.78.015:533.6.011.5

BLAGOSKLONOV, V. I. and MINAYLOS, A. N.

"Supersonic Flow of an Ideal Gas Around a Round Cylinder"

Uch. Zap. Tsentr. Aerogidrodinam. In-ta (Scientific Writings of the Central Aerohydrodynamics Institute), Vol 3, No 2, 1972, pp 130-134 (from Referativnyy Zhurnal--Raketostroyeniye, No 8, 1972, Abstract No 8.41.88)

Abstract: Results of numeric calculations of flow around a cylinder in the range of Mach numbers from 1.5 to 1000 and the specific gas heat capacity ratios from 1.05 to 1.66 were presented. For a number of flow characteristics, empirical criteria of comparison were given making it possible to present results in the form of analytical functions. Author's view, 5 figures, 12 bibliographical references.

1/1

USSR

UDC: 533.6.011

BLAGOSKLONNOV, V. I., MINAYLOS, A. N.

"Supersonic Flow of a Perfect Gas Around a Circular Cylinder"

Uch. zap. Tsentr. aerogidrodinam. in-ta (Scientific Notes of Central Aerohydrodynamics Institute), 1972, 3, No 2, pp 130-134 (from Enzh-Mekhanika, No 9, Sep 72, Abstract No 9B460)

Translation: The paper presents the results of numerical calculations of flow around a cylinder in the Mach number range of $M_{\infty} = 1.5-1000$, at specific heat ratios of the gas from 1.05 to 1.66. Empirical dimensionless numbers are given for a number of flow characteristics which enable presentation of the results in the form of analytical relations. Bibliography of 12 titles. Resumé.

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USSR

UDC: 621.382.2

ALTUNYAN, S. A, MINAYEV, V. S., MINAZHDINOV, M. S., and SKACHKOV, B. K.

"Vitreous Formations in Si-Te Systems and Diode Switching Structures with 'Memory' on the Basis of Semiconductor Glass in the System"

Leningrad, Fizika i tekhnika poluprovodnikov, Vol. 4, No. 11, 1970, pp 2214-2215

Abstract: This article describes the synthesis of several compounds with various contents of silicon and tellurium and the study of the effect of the history of the glass on vitreous formations and its switching characteristics. The purpose of this work was to explain the vitreous formation region in the Si-Te system and the effect of its glass content on switching characteristics. To identify the state of the vitreous formation, the methods of differential thermal analysis and x-ray phase analysis were used. The experiments showed that the vitreous formation region, when tempered in liquid nitrogen, lies within 15-25 atomic % Si and

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USSR

ALTUNYAN, S. A., et al., Fizika i tekhnika poluprovodnikov, Vol 4, No 11, 1970, pp 2214-2215

75-85 at.% Te. From investigation of the vitreous materials containing 20 at. % Si, 80 at. % Te, and 25 at. % Si, 75% Te, an exothermic effect reflecting an ordered structure in the glass was found.

2/2

USSR

MINCHENKO, A. A.

UDC 669.71.004.2(088.8)

"Covering an Aluminum Electrolyzer with Multiunit Roasted Anodes"

USSR Author's Certificate No 276438, Filed 12 May 68, Published 19 Oct 70
(from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G211P)

Translation: The covering consists of hinged tops. In order to improve the degree to which the electrolyzer is sealed during treatment of it and replacement of the anodes, the covering consists of stationary end walls and hinged folding tops serving simultaneously as the work area for servicing the anodes, a shield for directing the flow of gases released from the electrolyzer bath, and a screen against thermal emission of the electrolyzer; the folding tops are installed opposite each anode; the stationary end walls are made with flaps. There are 2 illustrations.

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- 32 -

USSR

UDC 615.472:615.837.3

LEONT'YEV, A. P., MINCHENKOV, B. I., and OSIFOV, V. T., All Union Scientific
Research Institute of Medical Instrumentation Construction, Moscow

"Emitters for Ultrasound Therapy Apparatus"

Moscow, Meditsinskaya Tekhnika, No 5, Sep/Oct 73, pp 21-25

Abstract: Four types of ultrasound emitters have been developed -- two of the pencil type and two with side emitting surfaces. These emitters are highly effective, capable of operating for a long time at an intensity of 5 w/cm² without noticeable overheating of the emitting surface. They are primarily designed for a serial ultrasound therapeutic apparatus "Ultrasound T-5." The use of piezotransformers with face surfaces makes it possible to get away from the overlaid protective elements, thus improving the utilization characteristics of these emitters making them suitable for the use in internal cavities.

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- 36 -

USSR

UDC: 621.762.2:669.1'24(088.8)

PUTIMTSEV, B. N., GRATSIA NOV, Yu. A., KOZLOV, A. G., MINCHER, A. N.,
LEVINZON, V. Kh., STERLIN, R. G., BAKANOVA, T. P., BIKEZIN, K. P., MIKHEYEV,
V. V.

"Method of Production of Iron-Nickel Alloy Powders"

USSR Author's Certificate Number 343771, Filed 7/04/71, Published 11/08/72
(Translated from Referativnyy Zhurnal Metallurgiya, No 8, 1973, Abstract
No 8G394P).

Translation: A method is suggested for embrittlement of Fe-Ni alloys,
designed for the production of powders by mechanical grinding. Fe-Ni alloys
are embrittled by introduction of S to the initial melt. In order to increase
the dispersion and technological properties of the powders, 0.03-0.07 wt %
oxygen is also introduced to the initial melt, with a ratio of oxygen to S of
2.0-7.0.

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- 43 -

USSR

UDC 669.18:621.785.53

KIBIN, I. N., ANDRYUSHECHKIN, V. I., AFON'KINA, S. S., and
MINCHEVA, V. R., Moscow Institute of Steel and Alloys

"Titanium Plating of Iron and Steel by Rapid Heating"

Moscow, Izvestiya VUZ, Chernaya Metallurgiya, No 9, 1973, pp
159-161

Abstract: The authors have investigated and developed con-
ditions and modes for titanium plating which allow them to
produce, in a short period of time, high-quality diffusion
films with a titanium content greater than 30 percent. The
investigations were conducted on samples of armco-iron and
steel No 20 in the temperature range from 950 to 1200 de-
grees C with a holding time on the isotherm from 1 to 15
minutes. The saturated samples were subjected to metallo-
graphic, x-ray phase, and micro x-ray spectral analyses.
The authors investigated the change in μ and the micro-
thermal emf with depth of the diffusion film. As a result
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USSR

KIBIN, I. N., et al., Izvestiya VUZ, Chernaya Metallurgiya, No 9, 1973,
pp 159-161

they have selected the optimal modes and saturated compositions that allow them to produce titanium-plated films, 40-150 micrometers thick with a titanium content up to 70-80 percent. The article contains 4 illustrations and 5 bibliographic references.

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1/2 027 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--ALTERATION OF OTORHINOLARYNGOLOGICAL ORGANS IN SYSTEMIC LUPUS
ERYTHEMATOSUS AND SYSTEMIC SCLERODERMIA --U--
AUTHOR--(02)-MINCHIN, R.A., MASONOVA, V.A. *M*

CCOUNTRY OF INFO--USSR

SOURCE--KLINICHESKAYA MEDITSINA, 1970, VOL 48, NR 6, PP 129-134

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--OTOLARYNGOLOGY, SKIN DISEASE, EAR, RESPIRATORY SYSTEM,
COLLAGEN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3002/1923

STEP NO--UR/0497/PO/048/006/0129/0134

CIRC ACCESSION NO--AP0129272

UNCLASSIFIED

2/2 027

UNCLASSIFIED

PROCESSING DATE--30UCT70

CIRC ACCESSION NO--AP0129272

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BASING UPON CLINICAL, ROENTGENOLOGICAL, AUDIOMETRIC AND ULTRASOUND INVESTIGATIONS PERFORMED IN 60 PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS AND IN 32 PATIENTS WITH SYSTEMIC SCLERODERMIA THE AUTHORS ARRIVED AT THE INFERENCE THAT IN THESE PROCESSES BECOME INVOLVED DIFFERENT REGIONS OF THE UPPER RESPIRATORY TRACT AND EAR. THE REFERRED TO PATHOLOGY IS BASED ON TROPHIC, NUERMUSCULAR AND VASCULAR CHANGES PECULIAR TO COLLAGENOSSES. CHRONIC FOCI OF INFECTION OF OTORHINOLARYNGOLOGICAL ORGANS AND PRIMARILY CHRONIC INFLAMMATION OF THE TONSILS ARE PRECEDED BOTH BY SYSTEMIC LUPUS ERYTHEMATOSUS AND SYSTEMIC SCLERODERMIA. FACILITY: MUSKOVSKIY NII UKHA, GORLA I NOSA I INSTITUT REVMAIZMA AMN SSSR, MOSKVA.

UNCLASSIFIED

1/2 020 UNCLASSIFIED M PROCESSING DATE--02OCT70
TITLE--WELDING WIRE FOR WELDING BRONZE -U-

AUTHOR--(051)-MINCHINA, A.N., VAYNERMAN, A.YE., ZOLJTOREVSKIY, YU.S.,
MAKAROV, A.G., MALMSTREM, A.I.
COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 262,604
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRATZSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--26JAN70

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

TOPIC TAGS--BRONZE, WELDING ELECTRODE, COPPER ALLOY, ALUMINUM CONTAINING
ALLOY, TITANIUM CONTAINING ALLOY, NICKEL CONTAINING ALLOY, IRON
CONTAINING ALLOY, MANGANESE CONTAINING ALLOY, ALLOY COMPOSITION,
METALLURGIC PATENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1990/1786

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

CIRC ACCESSION NO--AA0109747

UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AA0109747

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A WELDING WIRE HAS THE FOLLOWING
PERCENT COMPN.: TI 0.2-0.4, NI 5-6.5, AL 1.5-2.5, FE 0.8-1.3, MN
2.5-3.5, AND CU THE REMAINDER.

UNCLASSIFIED

USSR

UDC 662.997:662.9

AVEZOV, R. R., ZAKHIDOV, R. A., UMAROV, G. YA., ~~MINCHIK, V. I.~~
Physicotechnical Institute, Academy of Sciences, Uzbek SSR imeni
S. V. Starodubtsev

"Results of Experimental Research on the Combined Operation of
a Heat-Pump Solar Power Installation With a System of Radiation
Heating and Cooling of a Building"

Tashkent, Geliotekhnika, No 5, 1970, pp 56-59

Abstract: The combination of solar water heaters with a heat
pump and a radiation system of heating and cooling permits the
development of an efficient system for the use of solar energy
for heating. In summer, the hot water produced by the solar
water heater may be used for household needs, and the glassed
surface of the solar installation can be used at night for re-
moval of the heat of condensation. Thus, the same equipment can
serve for cooling as well as for heating. In 1968-1970 the
Physicotechnical Institute of the Academy of Sciences, Uzbek SSR
jointly with the Tashkent Zonal Scientific Research Institute

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USSR

AVEZOV. R. R., ~~et al.~~ Geliotekhnika, No 5, 1970, pp 56-59

of Experimental and Standard Planning conducted experimental research on the heating and cooling of buildings by means of a solar-installation and heat-pump combination. It was demonstrated that the combined operation of a solar heater, a heat pump, and a system of radiation heating permits the use of comparatively low heat-carrier temperatures; this increases the conversion factor of the heat pump and the efficiency of the solar installation. 2 figures, 6 bibliographic entries.

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USSR

MINDELI, M. SH., GIOVATSKIY, A.B., and CHERZER, A. N.

"Desulfurating Cast Iron at the Rustave Metallurgical Plant"

Moscow, Metallurg, No 2, 1971. pp 11-13

Abstract: Blast furnaces of 700 and 750 m³ capacity at the Rustava Metallurgical Plant smelt converted cast iron from a charge containing 30-35% crude ore from the Dashkesenskoye deposit and a 65-70% agglomerate made of this ore. Typical of the ore is the increased sulfur content (0.15-0.35%); the agglomerate contains 0.1-0.15% S. In 1965 a facility for treating cast iron in ladles with pig iron by forced introduction of the latter into the cast iron with a "bell-hopper" type device (later referred to as a "vaporizer"). Installation of a second monorail car with a separate section for charging the vaporizer with magnesium greatly increased the handling capacity of the facility. A difficult and time-consuming operation has been replacing malfunctioning vaporizers. To solve this, a device consisting of a rotating mechanism of the blast furnace electric charging barrel with a small circular platform to accommodate four ready vaporizers at the same time was installed. The unit serves to desulfurate cast iron and was designed after the facilities at the Donetsk and the Krematorak plants. From January to May 1970, about 75,000 tons of converted cast iron with an average sulfur content of 0.08% were treated

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USSR

MINDELI, M. SH., et al, Moscow, Metallurg, No 2, 1971, pp 11-13

in the facility. All the treated cast iron was placed in category I-II as to sulfur content. In August-September 1970 the facility was again redesigned. Two vaporizers were installed on one of the cars. The second car was fitted with an independent department for charging. At the present time three vaporizers in two cars are simultaneously in operation. The flat lid which formerly covered the ladle containing cast iron during the desulfuration was replaced by a trapezoidal-shaped lid insert. This made it possible to fill the ladle with more cast iron. The sulfur content in the cast iron was reduced from a high of 0.100% to a low of less than 0.006%. The consumption of Mg, in kg per ton of cast iron, ranged from 1.0 to 0.40.

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USSR

UDC 595.793.4:591.16

MINDER, I. P., Institute of Evolutionary Morphology and Ecology of Animals,
Academy of Sciences USSR, Moscow

"Fertility of the Fox-Colored Sawfly (*Neodiprion sertifer*) in Pine Stands
of Different Ages"

Moscow, Zoologicheskiy Zhurnal, Vol 51, No 3, 1972, pp 376-380

Abstract: The fertility of the fox-colored sawfly is not related to the age of the host plant. It appears that the lower fertility in female sawflies from 30- and 75-year-old trees is dependent on their infection by polyhedrosis. Two sets of experiments were conducted: one in the field where larvae were reared in litter on the forest floor, and the second in the laboratory experiment with stages II and III of larvae collected from specific trees. The conditions of development of the larvae in the cocoon have a large influence on the fertility of the sawfly. One of the factors reducing the fertility of the females and increasing the mortality of the larvae in the cocoons is high temperature during periods of eonymphal, pronymphal, and pupal stages. The variation in the number of sawflies in pine trees of different ages was not related to changes in their fertility. A comparison of data from the frequencies of growth of numbers with fertility of the

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Acc. Nr:

AP0052536

Abstracting Service:
CHEMICAL ABST. 5-70

Ref. Code:

UR 0460

M

101359r Compatibility of poly(vinyl chloride) with butadiene-acrylonitrile rubbers. Aivazov, A. B.; Mikhaylov, B. G.; Zeleny, Yu. V.; Orphanov, Yu. G.; Raevskii, V. G. (Mish. Gos. Pedagog. Inst. im. Lenina, Moscow, USSR). *Vysokomol. Soedin., Ser. B* 1970, 12(1), 10-14 (Russ). NMR spectroscopy and detn. of the changes of the mech. loss angle in -50° to $+100^{\circ}$ interval established that the title polymers are miscible and compatible. At some component ratios, the mixts. have characteristics of binary systems. The obsd. phase transitions are due to glass temps. of poly(vinyl chloride) at high temp. and of butadiene-acrylonitrile copolymers at low temps.

CPJR 1 me

REEL/FRAME
19821179

7

1/2 042 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--COATING TUBES BY THE THERMODIFFUSION METHOD -U

AUTHOR--(04)-SHARADZENIDZE, S.A., KHARADZE, D.M., MINDLIN, I.G.,
YENUKASHVILI, M.A.
COUNTRY OF INFO--USSR

SOURCE--MOSCOW, METALLURG., NO 5, MAY 70, PP 38-39

DATE PUBLISHED----MAY70

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

TOPIC TAGS--SEA WATER, METALLURGIC PLANT, METAL TUBE, PETROLEUM REFINING,
METAL CORROSION, ZINC PLATING, ALUMINUM COATING, PROTECTIVE COATING,
METAL COATING, DURABILITY, METAL SURFACE IMPREGNATION, METAL DIFFUSION,
ANTICORROSION ADDITIVE, ALUMINIZING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/0411

STEP NO--UR/0130/70/000/005/0038/0039

CIRC ACCESSION NO--AP0135882

UNCLASSIFIED

2/2 042

UNCLASSIFIED

PROCESSING DATE--040EC70

CIRC ACCESSION NO--AP0135882

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TUBES REFERRED TO IN THE TITLE ARE THOSE USED IN PETROLEUM REFINING. THESE TUBES MUST HAVE LONG SERVICE LIFE AND ARE USUALLY SUBJECTED TO CHEMICALLY AGGRESSIVE MEDIA. THE MOST EFFECTIVE COATINGS FOR SUCH TUBES ARE ZINC OR ALUMINUM APPLIED BY THE THERMODIFFUSION METHOD. IN THIS METHOD, THE SURFACE LAYER OF THE TUBE METAL IS IMPREGNATED TO A DEPTH OF 0.1-0.2 MM BY ZINC, ALUMINUM, OR SOME OTHER ANTI CORROSIVE ELEMENT DIFFUSED AT A PARTICULAR TEMPERATURE. TUBES COATED WITH ZINC BY THIS METHOD HAVE HIGHLY ANTI CORROSIVE CHARACTERISTICS, WITH A DURABILITY 15 TIMES THAT OF UNTREATED TUBES IN A VARIABLE MEDIUM, SEA WATER AND AIR FOR EXAMPLE. IN THE RUSTAV METALLURGICAL PLANT, THE THERMODIFFUSION METHOD IS OPERATED ON AN INDUSTRIAL SCALE. A STEP BY STEP DESCRIPTION OF THE PROCESS IS GIVEN TOGETHER WITH A SCHEMATIC DIAGRAM OF THE EQUIPMENT INVOLVED. SOME FIGURES ARE GIVEN OF THE TUBE COATING PRODUCTION LEVELS FOR THIS PLANT. FACILITY: RUSTAV METALLURGICAL PLANT.

UNCLASSIFIED

USSR

M

UDC 621.774:621.793.6

SHARADZENIDZE, S. A., KHARADZE, D. N., MINDLIN, I. G., (Deceased),
YENUKASHVILI, M. A., Rustav Metallurgical Plant

"Coating Tubes by the Thermodiffusion Method"

Moscow, Metallurg., No 5, May 70, pp 38-39

Abstract: The tubes referred to in the title are those used in petroleum refining. These tubes must have long service life and are usually subjected to chemically aggressive media. The most effective coatings for such tubes are zinc or aluminum applied by the thermodiffusion method. In this method, the surface layer of the tube metal is impregnated to a depth of 0.1-0.2 mm by zinc, aluminum, or some other anti-corrosive element diffused at a particular temperature. Tubes coated with zinc by this method have highly anti-corrosive characteristics, with a durability 15 times that of untreated tubes in a variable medium -- sea water and air for example. In the Rustav Metallurgical Plant, the thermodiffusion method is operated on an industrial scale. A step-by-step description of the process is given together with a schematic diagram of the equipment involved. Some figures are given of the 1/1 tube-coating production levels for this plant.

MINDLIN, S. Z.

Biochemistry

SECTION VI
Sov. Science Abstracts
Faculty
Pc-5-69 3127 71

Inst. Institute of Biochemistry and Physiology of Microorganisms, Pushchino
Respiration

(7) During this quarterly reporting period, five new articles were located from the Institute of Biochemistry and Physiology of Microorganisms at Pushchino. On the basis of these articles, it was possible to identify 13 new personalities with the Institute. The personalities, the subjects of the articles, and the dates are given below:

Moril, K. Ya.	α-ketoglutaric acid	1969 (63)
Aronson, A. M.	antiprotein production	1970 (65)
Meyer, Ya. M.	cardiolin lipolysis	1971 (63)
M. ... Z. A.	α-ketoglutaric acid	1969 (63)
...	α-ketoglutaric acid	1969 (63)
...	α-ketoglutaric acid	1970 (65)
Mindlin, S. Z.	antibiotic production	1970 (65)
Zaitseva, I. Ya.	α-ketoglutaric acid	1970 (65)
...	candida lipolysis	1971 (63)
...	α-ketoglutaric acid	1971 (63)
...	α-ketoglutaric acid	1971 (63)
...	α-ketoglutaric acid	1971 (63)
...	α-ketoglutaric acid	1971 (63)

Two of the five new articles were authored by personalities already identified with the Institute of Biochemistry and Physiology of Microorganisms. One of these articles dealt with penicillin from *penicillium* (68) and the other with methane oxidizing bacteria (69). Reference 65 was jointly issued from the above Institute and the Institute of Microbiology Leningrad. Kirichenko and Misa, possibly indicating some joint work between the two facilities.

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UNCLASSIFIED

MINDLIN, Ya. S.

JPRS 55570
29 Nov 72
UDC: 378.661.3/4

STATE OF THE CURRENT PROBLEMS IN TRAINING SANITARY SPECIALISTS

(Article by Professor V. V. Yermakov, docent Ya. S. Mindlin (Moscow); Moscow, *Sovetskoye Zdorov'ye*, Suburban, No 2, 1972, submitted 9 September 1971, pp 38-42)

In the report of the Central Committee of the CPSU to the 24th Party, economic development of our country are also determined by the rapidly developing scientific-technological revolution. Socialism and a planned socialist economy open up the widest field for comprehensive progress in science and technology. At the same time, the scientific-technological revolution demands that many aspects of our economic activities be improved.

Against the background of intensive development of different branches of industry, large scale mechanization of agriculture, municipal and housing construction, technological progress requires considerable improvement in preventive and routine sanitary inspection.

Technological progress is making enormous hygienic significance, since the achievements of science and technology create the prerequisites for relieving man of diseases that have an adverse effect on his health. At the same time, one should not overlook some of the elements that are detrimental to human health and that arise as a result of the increasing effect on the environment of industry and other factors that could have undesirable consequences.

P. Zorin, in his *Directorate of Nature*, writes: "Let us not, however, state ourselves too much for our conquests of nature. It takes its revenge for each such conquest. True, each of these conquests does, in the first place, have the consequences that we expected, but in the second and third place, it has quite different and unforeseen consequences which very often cancel out the significance of the first ones" [1].

Characterizing the significance of scientific-technological progress, L. I. Brezhnev indicated: "This is a tremendous force that is beneficial to socialism, but it must be truly conquered" [2].

MINDLIN, Ya. S.

UDC: 378.661+614.371(439)
TRAINING OF PHYSICIANS AND SOME PROBLEMS PERTAINING TO TEACHING SOCIAL HYGIENE
AND PUBLIC HEALTH ORGANIZATION IN THE HUNGARIAN PEOPLE'S REPUBLIC

(Article by Docent Ya.S. Mindlin, N.Ya. Kopyt, Candidate of Medical Sciences,
A.V. Lyakhovich (Moscow), ~~1972~~ Sovetskaya Zdravokhraneniye, Russian, No 3,
1972, submitted 9 September 1971, pp 44-48)

In the last few years interest has heightened considerably in problems dealing with higher and, in particular, medical education. Among the many problems that exist, methodological issues, optimization and improvement of the educational process are prominent. From this point of view it is very important to summarize the knowledge of different countries in the area of training specialists and working out methodological problems. In the present article, on the basis of personal knowledge and of the literature, we discuss some issues in doctor training in HPR (Hungarian People's Republic) and the distinctive features in teaching social hygiene and public health organization, of which such importance is attributed in the system of higher medical education.

In the postwar period, there has been improvement in Hungary not only in quantitative indices of physician training (there were about 13 doctors per 10,000 population in 1939, versus 23.7 in 1970), but also of its organization and content. Until 1951, physicians and pharmacists were trained on the medical faculties of universities. In 1951, the faculties were converted into independent medical universities (medical faculties) and transferred to the jurisdiction of the Ministry of Health. At the present time, there are four medical universities, in Budapest, Szeged, Debrecen, and Fecc, and an Institute for the advanced training of physicians in Budapest. There are pharmaceutical and dental faculties of the medical universities in Budapest and Szeged, and only therapeutic ones in Debrecen and Fecc.

The reforms of 1950 and 1963 were instrumental in raising the level of higher medical education, specifically, thanks to the 1950 reform, a standard curriculum and syllabus were established and the educational discipline was improved. Several new disciplines were added, some of which were taught independently (biology, microbiology, histology, biochemistry, pathophysiology,

USSR

UDC 621.3.035

GOYAN, YE. B., ~~MINDYUK, A. K.~~, BABEY, YU. I., Physical-Mechanical Institute of the Ukrainian SSR Academy of Sciences, L'vov

"Electrochemical Cell for Studying the Electrode Processes in Acids at Elevated Temperatures"

Kiev, Fiziko-Khimicheskaya Mekhanika Materialov, Vol 8, No 2, 1972, pp 114-116

Abstract: An electrochemical cell is described which is used to study the electrode processes taking place from metal surfaces in acids at elevated temperatures (20-90° C). The schematics of a two-channel heat regulator and a device for recording the polarization curves under galvanostatic and potentiostatic conditions are presented. A Luggin capillary with an inside diameter of 1-1.5 mm is placed at a distance of 1-1.5 mm from the investigated electrode, and the electrolytic bridge of the auxiliary electrode (inside diameter 4.5 mm) is at a distance of 15 mm. The distances of the electrolytic switches from the electrodes are constant since the switches are soldered to the cell. The specimen is placed in a teflon holder screwed into a plug. Thus, the specimen can be placed in a given position for each measurement. For thermostating, a two-channel heat regulator has been developed which permits the temperature of the investigated solution, the comparison electrode and the auxiliary electrode to be regulated with an accuracy of $\pm 0.3^\circ$ C.

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Corrosion

USSR

UDC 669.14.017

MINDYUK, A. K., and SVIST, YE. I., Physicomechanical Institute, Academy of Sciences Ukrainian SSR, L'vov

"Effect of Inhibitors and Anions and Their Combined Action on Hydrogen Absorption of Steel Under Conditions of Sulfuric Acid Corrosion at Elevated Temperatures"

L'vov, Fiziko-Khimicheskaya Mekhanika Materialov, Vol, No 4, 1973, pp 17-23

Abstract: The effect of inhibitors (BA-6, I-1-A, PB-5, ChM(r), catapine K, KPI-1 and AGMIB) on hydrogen absorption in steel 40Kh from 6N H₂SO₄ was studied under steady-state conditions without stirring and with free access of air at temperatures of 30, 60, and 90°C. Overall hydrogen absorption of the steel was minimum in a medium of anions I⁻ and CNS⁻ at 30°C, Br⁻ and CNS⁻ at 60°C, and Cl⁻ and Br⁻ at 90°C. The greatest absorption at all temperatures occurs in the presence of hydrogen sulfide (upon adding Na₂S). In studying cation inhibitors (BA-6, I-1-A, PB-5 and ChM(r)) in the sulfuric acid corrosion of steel 40Kh, it was found that Ba-6, PB-5 and I-1-A with I⁻ anions provide the best protection at 30°C, Ba-6 and I-1-A with I⁻ are best at 60°C, and at 90°C, inhibitor ChM(r) with I⁻ and I-1-A and Ba-6 with Cl⁻ provides the best protection. Thus, halide anions, effectively retarding corrosion at room and elevated temperatures,

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MINDYUK, A. K. and SVIST, YE. I., Fiziko-Khimicheskaya Mekhanika Materialov,
Vol, No 4, 1973, pp 17-23

will be in these conditions, by their nature, stimulators of hydrogen absorption. Even highly effective inhibitors AGMIH, KPI-1 and catapine K, containing Er^- and Cl^- , by the nature of their action are hydrogen absorption stimulators. 3 figures, 3 tables, 17 bibliographic references.

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- 6 -

1/2 027 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--ON THE ADSORPTION CHARACTERISTICS OF METALS -U-
AUTHOR--(03)-MINDYUK, A.K., BABEY, YU.I., KARPENKO, G.V.
COUNTRY OF INFO--USSR M
SOURCE--FIZ. KHIM. MEKHAN. MAT., 1970, 6, (1), 97-100
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ADSORPTION, ELECTRON STRUCTURE, METAL SURFACE PROPERTY,
CHEMISORPTION, IRON, MERCURY, ELECTROLYTE, SODIUM HYDROXIDE,
HYDROCHLORIC ACID
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1680 STEP NO--08/0369/70/106/001/0097/0130
CIRC ACCESSION NO--AP0129080
UNCLASSIFIED

2/2 027

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0129050

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RELATIONSHIP BETWEEN THE ELECTRON STRUCTURE AND ADSORPTION CHARACTERISTICS OF METALS IS DISCUSSED IN THE LIGHT OF ACCUMULATED THEORETICAL AND EXPERIMENTAL DATA. DEPENDING ON THE NATURE OF THE METAL (WHETHER IT IS A DONOR OR AN ACCEPTOR OF ELECTRONS, ETC.), ADSORPTION MAY TAKE PLACE IN SEVERAL DIFFERENT WAYS, E.G. THE ELECTRONS OF THE ADSORBED PARTICLES MAY OR MAY NOT BE LOCALIZED BY THE IONS OF THE METALLIC LATTICE (STRONG AND WEAK CHEMISORPTION, RESP.). PRACTICAL EXAMPLES ARE GIVEN FOR FE AND HG IN RELATION TO VARIOUS ELECTROLYTES (NAOH, HCL, ETC.).

UNCLASSIFIED

USSR

UDC 632.954.631.461

BEZUGLOV, V. G., MINENKO, A. K., and SHELESTOV, YE. P., Scientific Research Institute of the Agriculture of Central Regions of Non-Chernozem Zone

"The Effect of Dicamba, Tordon 22K, and Lunetone on the Weeds and Soil Microflora"

Moscow, Khimiya v Sel'skom Khozyaystve, Vol 11, No 11 (121), 1973, pp 54-56

Abstract: The effect of herbicides on the soil microflora depends to a large extent on the quantity of rainfall prior to the introduction of the agents. With excessive rainfall (150% of the normal fallout) the herbicides stimulated development of microorganisms, while with rain deficiency -- 80% of the normal level -- they depressed them somewhat as shown by a decreased number of microorganisms requiring mineral nitrogen, nitrifiers and denitrifiers. In a very dry year (1971) tordon 22K (0.07 kg per hectare) was the most active agent against most of the physiological microorganisms; it weakened the nitrification activity of the soil and development of bacteria participating in phosphorus mineralization. Dicamba (0.12 kg per hectare) appeared to be non-toxic to most of soil microorganisms, but regardless of climatic conditions inhibited somewhat the nitrification process. In the lunetone treated soil (4.0 kg per hectare) after the harvest of barley, the number of fungi was lowered slightly.

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1/2 013 UNCLASSIFIED PROCESSING DATE--020CT70
TITLE--SOME PROBLEMS OF INTERPRETATION OF SUBSURFACE GRAVITATIONAL
PROSPECTING OBSERVATIONS -U-
AUTHOR--MINENKO, P.A. *M*
COUNTRY OF INFO--USSR
SOURCE--GEOLOGIYA I GEOFIZIKA, 1970, NR 3, PP 104-110
DATE PUBLISHED-----70
SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY
TOPIC TAGS--GRAVITATION FIFLD, PROSPECTING
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1991/0861 STEP NO--UR/0210/70/000/003/0104/0110
CIRC ACCESSION NU--AP0110582
UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0110582

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A METHOD IS DEVELOPED FOR CALCULATION OF GRAVITATIONAL FIELD CONSTITUENTS V_{SUBYZ} , V_{SUBYX} AND ΔG , CAUSED BY DISTURBED THREE-DIMENSIONAL BODIES DISTRIBUTED IN INCLINED BEDS, USING THEIR PROJECTION ON VERTICAL PLANE. THE PALETS FOR THIS PROBLEM DECISION ARE CONSTRUCTED FOR EXCLUSION OF INTERSTICES AND OTHER KNOWN ANOMALIES OBJECTS EFFECT AND ALSO FOR QUANTITATIVE INTERPRETATION OF ANOMALIES BY THE METHOD OF DELECTION.
FACILITY: TREST "LENINRUDA," KRIVVOY ROG.

UNCLASSIFIED

USSR

UDC: 621.372.81.09

KAZNACHEYEV, Yu. I. and MINENKO, V. K.

"Power Losses in the Transmission of Electrical Signals Along Circular Steel Waveguides

Kiev, Izvestiya WUZ--Radioelektronika, Vol 13, No 12, 1970, pp 1416-1422

Abstract: In the method proposed here for estimating power losses in circular steel waveguides, the losses are considered the sum of two individual parts represented by the losses caused by the finite conductance of the steel walls, and the hysteresis and eddy-current losses. Additional losses for hysteresis and eddy currents are computed for E and H waves per unit length of the waveguide; also the attenuation of the E and H waves are calculated. For both the E and H waves also, expressions are obtained for determining the full attenuation due to both parts of the power loss. Since there is a great deal of interest in the transmission of information along such waveguides by H_{11} and H_{12} waves, the authors obtain computation formulas for the attenuation of these waves. On the basis of the curves plotted for the attenuation as a function of the wavelength, it is noted that signals can be transmitted with low loss only if the tubular waveguide is made with high geometrical accuracy.

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USSR

UDC 621.039.3

KOLOKOL'TSOV, N. A., MINENKO, V. P., NIKOLAYEV, B. I., SULABERIDZE, G. A.,
and TRET'YAK, S. A.

"Constructing Cascades for Separating Multicomponent Isotope Mixtures"

Moscow, Atomnaya energiya, Vol 29, No 6, Dec 70, pp 425-429

Abstract: At present, there is a great deal of interest in separation of isotope mixtures and consequently in the theory of building separating multicomponent cascades, with the requirement that isotopes of intermediate mass as well as those of extreme mass be separated. Nothing that the difficulty in designing these cascades is that the concentration of intermediate-mass isotopes tends to be a maximum inside the cascade, the authors discuss systems of continuous profile cascades for separating isotopes of intermediate mass, and the simulation of these cascades by actual flows consisting of constant-flow sections. The five steps required for this simulation process are outlined, and the modeling of a continuous profile cascade for the separation of tungsten isotopes, in the form of the gaseous compound WF_6 , is given as an example.

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USSR

UDC 621.317.365:533.571.72

MINERVIN, N. N.

"On the Problem of Measuring Doppler Frequency Displacement"

Moscow, Radiotekhnika i Elektronika, Vol 16, No 3, Aug 71, pp 1385-1390

Abstract: In order to evaluate the possibilities of improving accuracy of measuring Doppler frequency shift when accounting for all changes in signal structure as compared with measurement of shift in the carrier frequency alone, relations are derived and analyzed for errors of measurement of Doppler frequency shift with respect to an isolated signal and a coherent pulse packet, and with respect to an incoherent pulse packet. The signal is received against a background of white noise with spectral density N_0 , has a known signal delay time and random initial phase, and also energy E such that the parameter of detection $q = \sqrt{2E/N_0} \gg 1$. Accounting for all changes in signal structure caused by the Doppler effect presents additional possibilities for improving accuracy in measuring Doppler frequency displacement. The formulas derived for errors of optimum measurements of relative Doppler frequency shift can be used to evaluate the accuracy of different methods of measurements. If the signal is an incoherent pulse packet, then the accuracy of determining the relative frequency shift from measurement of the modulation law may be appreciably higher than the accuracy of direct frequency measurement.

1/1

USSR

UDC: 621.398

BARDENSHTEYN, L. M. and MINEVICH, M. L.

"Characteristics of Synchronization Channels in Telemetric Transmission of Information"

Tr. metrol. in-toy SSSR (Transactions of the Metrological Institutes of the USSR) No 126(186), 1971, pp 143-151 (from RZh-Avtomatika, telemekhanika i vychislitel'naya tekhnika, No 12, 1971, Abstract No 12A192)

Translation: The characteristics of a synchronization channel in the transmission of telemetered information are investigated. The authors deduce the probable characteristics of the channel, using an interval code for transmission of information of a moment in time, with two algorithms for constructing a decoding device for the synchronization code. Four illustrations, bibliography of four. Resume

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USSR

UDC: 621.398.08

MINEVICH, M. L.

"Magnitude of the Average Error in Discrete Transmissions of Telemetric Information"

Tr. metrol. in-ty SSSR (Transactions of the Metrological Institutes of the USSR) No 126(186), 1971, pp 90-97 (from RZh-Avtomatika, telemekhanika i vychislitel'naya tekhnika, No 12, 1971, Abstract No 12A204)

Translation: An investigation is made of the problem concerning the magnitude of the average error which occurs in the transmission of telemetric information by a binary nonredundant code in a communication channel subject to noise. The research is conducted for an asymmetrical channel as well as for a channel subject to packet errors. Computational formulas are obtained and curves are given showing the limiting values of the average error as functions of code parameters and communication channel characteristics. Five illustrations, bibliography of two. Resume.

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USSR

UDC 681.2.085.36.088.6

BORTNYAKOV, YU. L., and MINEVICH, M. L.

"Minimization of a Total Error in Digital Measurements"

Moscow, Izmeritel'naya Tekhnika, No 9, Sep 71, pp 36-38

Abstract: The dependence of total error dispersion of a system of discrete measurements of stationary random processes, on the number of binary digit bits of a quantizer n , is analyzed. The system total error consists of quantization and interpolation errors, and also of the error caused by distortion in the communication channel. Each of these components is considered separately. The results show that 1) the total error dispersion of a measuring digital system has always ($p < 0.25$) a minimum, which is unique; 2) the optimal value of n depends weakly on the form of a correlation function and on the interpolation method, and lies within the range of $n_0 < 8$; 3) the utilization of linear interpolation instead of stepwise, in majority of cases, reduces the magnitude of the total error dispersion by not more than half.

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USSR

ZHITOVA, Ye. I., IPPOLITOVA, L. A., MINEYEV, I. M., SMOLINA, N. N.,
and STREZH, N. P., Gor'kiy Medical Institute, Gor'kiy Oblast
Sanitary Epidemiological Station, and Gor'kiy City Sanitary
Epidemiological Station, Gor'kiy

"Diagnostic Significance of Lot Titers of the Complement Fixa-
tion Reaction With Some Antigens"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Imunobiologii,
Vol 48, No 2, Feb 71, pp 72-75

Abstract: Sera of patients and healthy persons giving a posi-
tive reaction in the complement fixation test with ornithosis
antigen also contained antibodies to R. prowazekii antigen in
approximately 50% of cases. The relative frequency of ornithosis-
R. prowazekii cross reactions increased with increasing titers
of the R. prowazekii antigen at which a positive complement
fixation reaction was obtained. To exclude diagnostic errors,
repeated tests with both antigens should be carried out. Sera
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USSR

ZHITOVA, Ye. I., et al, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, Vol 48, No 2, Feb 71, pp 72-75

that show positive complement fixation reactions with antigens of ornithosis, R. prowazekii, and Q-fever gave positive reactions with toxoplasmosis antigen (1:10 - 1:5) in more than 2/3 of cases.

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1/2 026

UNCLASSIFIED

PROCESSING DATE--27NOV70

TITLE--DETERMINING THE REAL STRESS CONCENTRATION
MEANS OF MOLTEN METALS -U-

IN WORKED METALS, BY

AUTHOR--(02)-CHAYEVSKY, M.I., MINEYEV, A.S.

COUNTRY OF INFO--USSR

SOURCE--FIZ. KHIM. MEKHAN. MAT., 1970, 6, (1), 104-105

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--STRESS CONCENTRATION, STRESS ANALYSIS, INTERNAL STRESS, ZINC,
AMALGAM, BRITTLE FRACTURE, METAL DIFFUSION, GRAIN BOUNDARY, LIQUID METAL
PROPERTY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1681

STEP NO--UR70369770708670017010470105

CIRC ACCESSION NO--AP0129051

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0129051

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RELATION BETWEEN THE STRESS CONCENTRATION OF WORKED METAL PARTS AND THE INTERACTION OF THE CORRESPONDING MATERIALS WITH MOLTEN METALS AND METALLIC MIXTURES IS DISCUSSES. THUS ON APPLYING A SATURATED SOLUTION OF ZN IN HG TO A WORKED ZN PLATE THE LATTER UNDERGOES BRITTLE FRACTURE AT A SHARPLY DEFINED STRESS AS A RESULT OF THE DIFFUSION OF HG INTO THE PLATE ALONG GRAIN BOUNDARIES. IN THE SAME WAY A PB,SN MELT PRODUCES BRITTLE FAILURE IN C STEEL. THE POSSIBILITY OF SETTING UP A SYSTEM OF SOLID METAL-MOLTEN METAL PAIRS SO THAT THE MOLTEN METAL MAY BE USED AS A CONVENIENT INDICATOR OF THE STATE OF STRESS IN THE SOLID METAL IS CONSIDERED.

UNCLASSIFIED

USSR

UDC 621.791:693.8:669.15-191

KASATKIN, B. S., MINEYEV, E. A., MUSIYACHENKO, V. F., and MIRKHODUY, L. I.,
Institute of Electric Welding imeni Ye. O. Paton, Academy of Sciences UkrSSR

"Certain Features of the Design and Manufacture of High-Strength Welded Constructions"

Kiev, Avtomaticheskaya Svarka, No 9, Sep 70, pp 32-34

Abstract: Basic types of welded joints and assemblies for high-strength steel structures, e.g., skips for hauling coal, are considered. Sketches of welded joints and assemblies made of St 3 and 14Kh2GMR steels are shown. An analysis is made of construction mistakes, and recommendations are made to avoid their repetition. Fifteen skips manufactured from 14Kh2GMR steel are being used successfully in the Donbass mines. Skip weight has been reduced by 28 to 35%.

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USSR

Food Technology

UDC 664

MINEYEV, V. A., and KUDROVA, R. V., Candidate of Technical Sciences

"Food Concentrates With Added Highly Nutritious Products"

Moscow, Voenno-Meditsinskiy Zhurnal, No 5, May 71, pp 67-69

Translation: Food concentrates are widely used in the diet of Armed Forces personnel. The great advantage of compressed concentrates is the possibility of providing a high-calorie product of minimal weight and volume, as well as the convenience of its use; division into portions, speed of preparation and distribution. In the development of food concentrates, great emphasis is placed on products which do not require long-lasting technological processing for consumption, i.e., which are ready for use.

Four novel types of food concentrates with a high caloric count (400-460 kcal per 100 g of prepared product) are proposed. The chief product is a prepared commercial biscuit with a moisture content of 22-24% and a sugar content of at least 35%. The biscuit is dried to a moisture content of 5%, ground to granules of 1.5-2mm diameter, and then mixed with various fillers, such as dry dairy products (acidophilus paste, yogurt with cherry syrup), natural honey, cashew nuts, and caramel syrup. There is an optimum amount of each product added to the concentrate, which results in a concentrate of the required nutritional value, with good taste qualities, and corresponding

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MINEYEV, V. A., and KUDROVA, R. V., *Voyenno-Meditsinskiy Zhurnal*, No 5, May 71, pp 67-69

consistency. As was found, good taste qualities and an attractive external appearance of the biscuit are obtained when 45% acidophilus paste, 55% yogurt, 20% honey, 25% nuts, and 15% catamel syrup are added. To prevent fat oxidation in concentrates containing dry sour milk products (acidophilus paste, yogurt with cherry syrup), crystalline ascorbic acid is added as antioxidant during storage, in amounts of 200 mg per 100 g of prepared concentrate.

The new food concentrates are prepared in individual portions of 50 g, consisting of small briquettes (5 g and with base dimensions of 20 x 20 mm), which are bitesize use. The prepared portions of the concentrates are packaged in polyethylene-cellophane packs, which are then hermetically sealed with a vacuum-welding machine. The chemical composition and calorie count of the concentrates are shown in the Table.

Product Name	Water	Proteins	Fats	Carbo- hydrates	Ash	Calorie count per 100 g of product, in Kcal
plain biscuit	4.0	18.5	12.4	63.7	1.4	452
milk-fruit biscuit	5.1	14.9	14.1	63.9	2.0	454
biscuit with honey	7.9	11.9	6.2	73.2	0.8	407
biscuit with nuts	7.3	13.3	16.6	61.7	1.1	461

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USSR

MINEYEV, V. A., and KUDROVA, R. V., *Voyenno-Meditsinskiy Zhurnal*, No 5, May 71, pp 67-69

Concentrates with dry sour milk products have the highest protein content. They are a source of concentrated, valuable and easily assimilated animal proteins. Introduction of dry sour milk products into the concentrates will make them more valuable and improve the taste qualities, as well as enrich them with essential amino acids, minerals and assimilated carbohydrates and fats. The biscuit containing nuts has a high fat content. Introduction of cashew nuts significantly increases the nutritional value and increases the amount of valuable mineral matter (iron, magnesium, phosphorus, and other elements) in the product. The biscuit containing honey has a high carbohydrate content (above 70%). The honey, which is rich in easily assimilated carbohydrates has the favorable effect of supplying biologically valuable substances, such as vitamins, organic acids, and others.

The presence of easily assimilated matter in the concentrates and the fine grinding of the products during their production enhances their rapid uptake by the body. The biscuit with sour milk products and cashew nuts represents a concentrate of well-balanced composition of the principal nutrients. The percentage composition of proteins, fats, and carbohydrates is 12-16%, 26-33%, and 55-58%, respectively. This corresponds to the physiological requirements established by the Nutrition Institute of the USSR Academy of

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USSR

MINEYEV, V. A., and KUDROVA, R. V., *Voyenno-Meditsinskiy Zhurnal*, No 5, May 71, pp 67-69

Medical Sciences.

The forms of food concentrates discussed above do not require lost time for their preparation, i.e., they are ready for direct consumption. The polyethylene-cellophane film used for packaging the concentrates guarantees compactness, lightness, hermetic sealing, as well as convenience of use. The briquetted products retain their qualities for more than 6 months' storage at a temperature of $22 \pm 3^{\circ}$.

When trial concentrates were given to people in biomedical tests, the taste qualities, satiation factor and convenience of intake were judged positively. Taking into account the good organoleptic values, the high nutritional value, and the stability upon prolonged storage, inclusion of these concentrates in the ration will promote high work productivity on a diet under special conditions.

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UDC 621.314.56(088.8)

MINEYEV, V.A. [Ural'skiy politekhn. in-t im S.M. Kirova--Ural Polytechnical Institute imeni S. M. Kirov]

"Frequency Converter"

USSR Author's Certificate No 251080, Filed 10 June 68, Published 19 Feb 70 (From RZh--Elektronika i yeye primeneniye, No 10, October 1970, Abstract No 103499)

Translation: The invention pertains to a frequency converter which comprises a LC-filter and a protective thyristor in its power supply net. With the goal of simplification and increasing reliability, it is proposed to provide the converter with an auxiliary network [tseepochka] in the form of a serially-connected saturation choke and a capacitor, which is connected between the minus power supply and the anode of the protective thyristor. 1 ill. 1.R.

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USSR

UDC 621.314.57(088.8)

MINEYEV, V. A., SHIPITSYN, V. V. [Ural'skiy politekhn. in-t im. S. M. Kirova --
Ural

"Series Inverter"

USSR Author's Certificate No 248825, Filed 6 Feb 68, Published 19 Jan 70 (From
RZh--Elektronika i yeye primeneniye, No 10, October 1970, Abstract No 10B341P)

Translation: A series inverter is proposed which consists of cells successively placed into operation, each of which contains thyristors and commutating capacitors. In order to increase the reliability of switching on of the units, it is proposed to connect the commutating capacitors among themselves in parallel via the thyristors. 3 ill. I. R.

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USSR

UDC: 537.531

KOMAR, A. P., KOROBOCHKO, Yu. S., MINEYEV, V. I., and PETROCHENKO, A. F.

"Bremsstrahlung of Electrons With Energies of 7-10 Mev in Thin Silicon Crystals"

Leningrad, Zhurnal Tekhnicheskoy Fiziki, vol. 41, No. 4, April 1971, pp 807-814

Abstract: The purpose of the experiments described in this paper is to make a more detailed study of the radiation spectra produced by a stream of electrons of 7-10 Mev of energy braked by a target of thin crystalline silicon and to compare the experimental results with those of theoretical calculations. The spectral measurements were made on an LPI betatron with a maximum energy of 15 Mev; the target, 7-11 microns thick, was placed in the betatron chamber so that the direction of the incident electrons and the axis of the braked radiation beam coincided

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USSR

KOMAR, A. P., et al., Zhurnal Tekhnicheskoy Fiziki, Vol 41, No 4, Apr 71, pp 807-814

with the /110/ direction of the crystal. A collimator inside the chamber reduced the angular dispersion of the electrons to the target. The axial part of the output bremsstrahlung was conducted through a system of lead collimators to a scintillation spectrometer. A block diagram of the equipment is shown and a detailed description given.

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1/2 013 UNCLASSIFIED PROCESSING DATE--11DEC70
TITLE--CHERENKOV RADIATION IN NONLINEAR UNI AXIAL CRYSTALS -U-
AUTHOR--(C2)-MINEYEV, V.S., FRENKIN, A.R. *M*
COUNTRY OF INFO--USSR
SOURCE--VESTNIK MOSKOVSKOGO UNIV. FIZ. ASTRON. (USSR), NO. 2, P. 222-5
(1970)
DATE PUBLISHED-----70

SUBJECT AREAS--NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--CHERENKOV RADIATION, UNIAXIAL CRYSTAL, CHARGED PARTICLE,
PARTICLE MOTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605029/003 STEP NO--UR/0188/70/COC/002/0222/0225
CIRC ACCESSION NO--AP0141718

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--11DEC70

CIRC ACCESSION NO--A0141718

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. INVESTIGATION OF SOME SINGULARITIES OF THE CERENKOV RADIATION IN A NONLINEAR UNIAxIAL CRYSTAL WHEN THE RELATIVISTIC MOTION OF CHARGED PARTICLES IS ALONG THE OPTICAL AXIS OF CRYSTAL.

UNCLASSIFIED

Devices

M

UDC 621.397.7

USSR

BAKHTOB, I. S., KLYKOV, S. I., BOGORODSKIY, G. N., ~~MINEYEV, V. V.~~ [Tsentr. n.-i. in-t svyazi--Central Scientific-Research Institute of Communications]

"Device for Shaping of Video Signal for Facsimile Apparatus"

USSR Author's Certificate No 253123, Filed 31 May 68, Published 23 Jan 70
(from RZh--Elektrosvyaz', No 9, Sep 70, Abstract No 9.64.22SP)

Translation: A device is proposed which differs from those known by the fact that the output of the video signal at the transmitting end is connected through a white level stabilizer to series-connected units for shaping the pulse height and to two duration shapers connected through an inverting amplifier. At the receiving end, the output of a low-frequency filter is connected through a trigger with a single-threshold circuit and an inverting amplifier to identical series-connected duration shapers, which are separated by the inverting amplifier. The device proposed makes it possible to increase the freedom from noise of the transmitted facsimile signals with simultaneous correction of the aperture distortions. One illustration. G. M.

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1/2 010 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--SOLUBILITY AND SELECTIVE DISSOLUTION OF OXIDIZED NICKEL COMPOUNDS
-U-
AUTHOR--(02)-BOGATSKIY, D.P., MINEYEVA, I.A. M
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, METAL. 1970, (1), 83-7
DATE PUBLISHED-----70
SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, CHEMISTRY
TOPIC TAGS--NICKEL COMPOUND, MINERAL, LEACHING, IRON ORE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1984/0156 STEP NO--UR/0370/70/000/001/0083/0087
CIRC ACCESSION NO--AP0054952
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--A00054952

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DISSOLN. OF NI WAS STUDIED BY LEACHING NIO, NI SUB2 O SUB3, NIO PLUS NI SUB2 O SUB3 SOLID SOLNS., AND SILICEOUS NI CONTG. MINERALS AND ORES WITH H SUB2 SO SUB4, HCL, HNO SUB3, AND SOLNS. OF FECL SUB3 AND FE SUB2(SO SUB4)SUB3. THE DEPENDENCES ON ACID CONCN. (0.1N-20PERCENT), FERRIC SALT CONCN. (5.8-65 G-L), TEMP. (10-100DEGREES), AND LEACHING TIME (15 MIN 40HR) ARE GIVEN. ONLY SEVERAL PERCENT NI WAS DISSOLVED AT ROOM TEMP. UNDER THE MOST FAVORABLE CONDITIONS. ABOUT 40-60PERCENT NI FROM THE SILICEOUS ORES WAS DISSOLVED BY 3PERCENT H SUB2 SO SUB4 AT 98-100DEGREES; FE IS DISSOLVED AT THE SAME TIME. THE HIGHEST YIELDS WERE OBTAINED BY LEACHING WITH A SOLN. CONTG. 30-65 G FE SUB2(SO SUB4)SUB3-L. AT 98-100DEGREES FOR 6-20 HR. NI IS GREATER THAN 90PERCENT IS OBTAINED FROM MG-NI HYDROSILICATES AND HYDROALUMINOSILICATES AND FROM ORES CONTG. THESE MINERALS. CO IS DISSOLVED AS WELL. THIS METHOD IS NOT SUITABLE FOR MINERALS CONTG. NIO OR OTHER OXIDES WHICH DO NOT FORM SILICATES; ONLY 30PERCENT NIO IS DISSOLVED UNDER THE SAME CONDITIONS. SOLNS. OBTAINED BY LEACHING NI FE ORES WITH H SUB2 SO SUB4 CAN BE USED AS THE LEACHING AGENT.

UNCLASSIFIED

Inventions & Discoveries

USSR

UDC 63:576.8:578.033

DUNSKIY, V. V., MINAYEVA, L. A., FILIPPOV, A. V., and SHUMILOV, V. A., All-Union Institute of Plant Pathology, B. Vyazemy, Moscow Oblast

"A Highly Sensitive Trap for Microbiological Studies of the Atmosphere"

Moscow, Sel'skokhozyaystvennaya Biologiya, No 2, 1973, pp 290-291

Translation: The concentration of spores of phytopathogenic fungi at the onset of a disease is usually calculated in units per tens of cubic meters of air. It is necessary to be able to detect spores promptly among other particles suspended in the air.

Various types of gravity traps are now used for this purpose. Despite their extreme simplicity, they have a common disadvantage - low sensitivity (1). There are also the inertial types of traps (2). One of them, the L-1, is intended to trap spores (or other particles 5 μ m in diameter) and measure the concentration of the particles. Another trap, the L-2, makes it possible to determine the diurnal change in concentration of these particles in the air.

However, it is sometimes necessary (e.g., when forecasting plant diseases) not only to trap spores but to determine their viability. The gravity and inertial traps show only the total concentration of particles of a certain type. This drawback can be overcome by using a previously described method (3)

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DUNSKIY, V. V., et al., Sel'skokhozyaystvennaya Biologiya, No 2, 1973, pp 290-291

whereby air is pumped directly through the fascicles of live plants. The spores present in the air are "filtered" by the plants and settle on them. After a brief exposure the plants are placed in a medium conducive to the growth of phytopathogenic organisms. The presence of infectious spores is determined from the symptoms of disease (spots, pustules, etc.) visible to the naked eye. However, this method, like the others, is not very sensitive because of the brevity of exposure caused, first, by the rapid drying of the leaves by the air passing through them and, second, by the fact that the flow rate of the air through the plants is limited by their mechanical strength.

We devised a method whereby the spores in the air can be concentrated and then allowed to settle in a special chamber on moist plant leaves, i.e., under conditions favorable for the growth of phytopathogenic organisms. The spores are concentrated in a cyclone dust separator. When using the cyclone, the volume of air from which the spores are removed can be increased hundreds and thousands of times without running the risk of the plants drying or suffering injury, and the plants in the chamber can be moistened from time to time.

Based on the suggested method, we designed and built a highly sensitive trap consisting of a cyclone separator capable of removing spores 10 μ m or more in diameter from the air. The separator is connected by a pipe to a

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DUNSKIY, V. V., et al., Sel'skokhozyaystvennaya Biologiya, No 2, 1973,
pp 290-291

centrifugal fan (capacity 360 m³/hour) powered by an electric motor (0.4 kw). Air enters through an inlet tube at about 20 m/sec. The suspended particles settle in a chamber under the outlet tube. Air free from spores is expelled through a ventilator. In a hermetically sealed metal chamber connected to the separator is a screen on which whole plants or leaves resting on water are set. Distilled water is poured into the space between the bottom of the chamber and the screen to help maintain high humidity in the chamber and supply a drum sprayer. The latter, driven by an electric motor (50 v, 3000 rpm), produces and maintains drops of moisture on the leaves in the chamber. Water is fed the drum sprayer by a centrifugal pump (capacity 200 ml/min) through a jet nozzle via a pipe line with a filter. The drum sprayer and pump operate intermittently with a timer in order to prevent the spores from being washed from the leaves in the presence of too much moisture.

A readily removable, transparent, hermetically sealing hatch in the front of the chamber permits the plants to be changed. Live spores settling downward from the outlet pipe of the separator strike the wet leaves where they germinate and form spots.

Trials of the new device along with the L-1 and L-2 traps to find spores of the causative agent of late blight of potato showed that the new device

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DUNSKIY, V. V., et al., Sel'skokhozyaystvennaya Biologiya, No 2, 1973,
pp 290-291

detected the presence of spores in the air in 15 of 18 cases. During the same period of time the L-1 and L-2 traps detected the presence of conidia in only 3 cases and it was impossible to tell whether the spores were live or dead.

The results of the trials justify our recommending the new device as a means of detecting promptly and judging the viability of phytopathogenic organisms in the air.

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USSR

UDC 621.396.967:551.501.81

TSKHAKAYA, K. G., SHCHUPYATSKIY, A. B., MORGUNOV, S. P., and
MINERVIN, V. Ye.

"Measurements of Signal Depolarization by Meteorological Forms in
Bistatic Reception"

Moscow, V sb. X Vses. konf. no rasprostr. radiovoln. Tезisy dokl.
(Tenth All-Union Conference on the Propagation of Radio Waves;
Report Theses--collection of works) "Nauka," 1972, pp 360-365 (from
RZh--Radiotekhnika, No 10, 1972, Abstract No 10631)

Translation: The application of bistatic reception to radar inves-
tigation of meteorological forms is considered. A method is de-
scribed for experimentally investigating the signal parameters at
various dispersion angles. The measurements were conducted with
two radio relay stations separated by 14 km. The technique of
synchronizing both stations, of the frequency agreement of the
separated transmitter and receiver, and of the coincidence of the
space investigated by both stations, is given. Three illustra-
tions, bibliography of one. H. S.
1/1

USSR

UDC 669.295.5

SHAPOVALOVA, O. M., MOLCHANOVA, Ye. K., and MINEYEVA, L. K.

"An Investigation of the Properties of the TB2 Titanium Alloy"

Moscow, Metallurgiya i Khimiya Titana (Institut Titana), Metallurgiya Publishing House, Vol 6, 1970, pp 117-122

Translation: A secondary titanium alloy, smelted from the waste products of machine building shavings, as developed by the All-Union Scientific Research Institute of Aviation Materials and the Institute of Titanium, is described. The chemical composition of the alloy is given: Ti --- base; 3.0-5.5% Al; 1.0-3.0% Mo; 2.0% \geq Cr; 1.5% \geq Mn; 2.0% \geq V; 2.0% \geq Zr; 0.7% \geq Fe; 0.15% \geq C; 0.35% \geq Si; 0.30% \geq O; 0.06% \geq N; and 0.015% \geq H. Its mechanical properties are HB = 290 - 420 gigacalories/mm²; σ_b = 100 \div 135 gigacalories/mm²; δ = 5 \div 18%; ψ = 15 \div 50%; α_H = 1-5 gigacalories \cdot m/cm for the TB2 alloy. The mechanical properties of the alloy at increased temperatures (400°C) are determined, and the thermal stability at 400-500°C is studied after thermal cycling at 350, 400, and 450°C. The prospects for using the alloy as a heat-resistant material up to 400°C are also indicated. The high corrosion resistance of the TB2 alloy in certain aggressive environments is established, and the absence of a tendency to intercrystalline corrosion

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USSR

SHAPOVALOVA, O. M., et al., Metallurgiya i Khimiya Titana (Institut Titana), Metallurgiya Publishing House, Vol 6, 1970, pp 117-122

is demonstrated. The TB2 alloy can also be used as a highly stable construction material that resists corrosion in many active environments. Three illustrations, six tables, and two bibliographic entries.

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USSR

UDC 669.14.018.298:620.172.851.29

GOL'DENBERG, A. A., SUKHICH, N. P., and MINSKYVA, T. M., All-Union Correspondence Machine Building Institute

"The Effect of Manganese and Nickel on the Strength of Steel under Harsh Loading Conditions"

Moscow, Metallovedeniye, No 6, 1971, pp 41-43

Abstract: A study was made of the effect of manganese and nickel on steel strength under harsh loading conditions. Two groups of steels, the first containing melts with 0.5, 1.0, 2.0, and 4.0% Mn and 0.1, 0.2, and 0.4% C, the other with melts containing 0, 1.0, 2.0, and 4.0% Ni and 0.2, 0.3, and 0.9% C, 0.2-0.35% Si, 0.3-0.5% Mn, 0.017-0.027% P, and 0.023-0.03% S were investigated. Strength was found to depend on the annealing temperature and the content of C. The results are represented in curves showing the effects of Mn and Ni on plastic properties and of the annealing temperature on strength and the change of the cold brittleness threshold. The strength under harsh loading conditions for steels with 4% Mn and 0.4% C is considerably lower than for steels with smaller Mn content. A comparison of plasticity and cold brittleness changes of nickel-alloyed steels revealed the absence of a clear interdependence between macroplasticity and the tendency to brittle failure. Three figures, two bibliographic references.

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173 012

UNCLASSIFIED

PROCESSING DATE--30 OCT 70

TITLE--SPECTROPHOTOMETRIC DETERMINATION OF COPPER WITH PICRAMINE M -U-

AUTHOR--(03)-MINEVA, V.A., PACHADZHANOV, D.N., YUSUPOV, M.YU.

COUNTRY OF INFO--USSR

M

SOURCE--DOKL. AKAD. NAUK TADZH. SSR 1970, 13(2), 37-9

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--COPPER, METAL CHEMICAL ANALYSIS, SPECTROPHOTOMETRIC ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1599/0532

STEP NO--UR/0425/70/013/002/0037/0039

CIRC ACCESSION NO--AT0122769

UNCLASSIFIED

2/3 012

UNCLASSIFIED

PROCESSING DATE--300CT70

CIRC ACCESSION NO--AT0122769

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PICRAMINE M (1) GIVES A BLUE 1:1 COMPLEX WITH CU PRIME2 POSITIVE AT PH 1.3-1.8; 0 ML 0.01PERCENT I SOLN. IS NEEDED FOR A 50,ML SAMPLE CONTO. IS LESS THAN OR EQUAL TO MUG CU. THE ABSORPTION MAX. OF I AND THE COMPLEX (MOLAR ABSORPTIVITY 3.1 TIMES AT 0.04-0.85 MUG CU-ML. ZN (1500), CO (1000), MG (1000), PB (2500), CU (100), NI (50), BI (10), CA (20), AND AL (10) (VALUES OF PERMISSIBLE EXCESSES GIVEN) DO NOT INTERFERE, WHILE FE PRIME3 POSITIVE, FE PRIME2 POSITIVE, TI PRIME4 POSITIVE, SN PRIME2 POSITIVE, AND TRILON B INTERFERE CONSIDRABLY. A GEOL. SAMPLE (0.5-1G) IS TREATED WITH A MIXT. OF 10 ML EACH HNO SUB3 AND HF IN A PT CRUCIBLE WITH HEATING IN SUB2 W BATH, AND EVAPD. TO DRYNESS. AFTER THIS PROCESS IS REPEATED, 4-5 ML H SUB2 SO SUB4 IS ADDED AND THE MIXT. IS HEATED TO RELEASE DENSE WHITE VAPORS. AFTER COOLING, 5 ML H SUB2 O IS ADDED, THE MIXT. IS EVAPD. AND FURTHER HEATED TO WHITE VAPORS. THE RESIDUE IS HEATED WITH 20 ML 1:1 HCL IS FILTERED. ACCORDING TO THE CU CONTENT, 1-10 ML OF FILTRATE IS EVAPD., THE RESIDUE IS DISSOLVED IN 10 ML 0.01N HCL, AND CU IS EXTG. TWICE FOR 3 MIN BY SHAKING WITH 10 ML 0.001PERCENT DITHIZONE SOLN. IN CCL SUB4. THE MIXT. IS EVAPD., 1 ML EACH H SUB2 SO SUB4 AND HCLP SUB4 ARE ADDED, THE MIXT. IS HEATED TO DECOLORIZE THE SOLN., EVAPD., AND HEATED TO WHITE VAPORS. THE RESIDUE IS DISSOLVED IN 5 ML H SUB2 O, 1.5 ML AW, 0.04PERCENT I IS ADDED, THE MIXT. IS DILD. TO 50 ML WITH A PH 1.4 BUFFER (HCL AND HCL), AND MEASURED AT 640 NM IN A 2-CM CELL.

3/3 031

UNCLASSIFIED

PROCESSING DATE---30OCT70

CIRC ACCESSION NO--AT0122769

ABSTRACT/EXTRACT--TO PREP. A CALIBRATION CURVE, 1.5 ML. 0.04% I IS ADDED TO
A STD. SOLN. CONTG. 2-40 MICROGRAMS CU AND DILD. TO 50 ML WITH THE BUFFER.
DOWN TO 10 TO THE MINUS 3 POWER % CU IN 0.5-1-G SAMPLE CAN BE DETD).
(INST. KHIM., DUSHANBE, USSR)

UNCLASSIFIED

USSR

UDC 547.341

DOGADKINA, A. V., MINGALEVA, K. S., IONIN, B. I., and PETROV, A. A., Leningrad
Technological Institute imeni L'ensoveta

"Addition of Phosphorus Pentachloride to Acetylenes"

Leningrad, Zhurnal Obshchey Khimii, Vol 42 (104), Vyp 10, 1972, pp 2186-2193

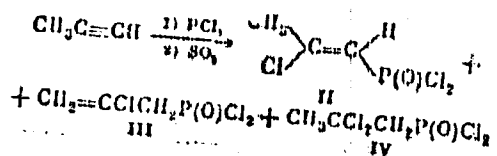
Abstract: Formation of acid chlorides, esters, and phosphine oxides during the reaction of PCl_5 with acetylenic hydrocarbons is described. Oxidative phosphorylation of acetylenic hydrocarbons is also presented for comparison. The reaction of PCl_5 with tert-butylacetylene in benzene takes place at room temperature and after treatment with SO_2 yields the acid dichloride of 3,3-dimethyl-2-chloro-1-Z-butyl-phosphonic acid, (I), $\text{C}_8\text{H}_{10}\text{Cl}_2\text{OP}$, b.p. 110°C (1 mm). Methylacetylene with PCl_5 under identical reaction conditions yields the acid dichloride of 2-chloro-2-propenylphosphonic acid (II) $\text{C}_3\text{H}_4\text{Cl}_2\text{OP}$, b.p. $72-75^\circ$ (1 mm), d_4^{20} 1.5014, n_D^{20} 1.5120, as well as the allyl isomer (III) and the acid dichloride of 2,2-dichloropropylphosphonic acid (IV)

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DOGADKINA, A. V., et al., Zhurnal Obshchey Khimii, Vol 42(104), Vyp 10, 1972, pp 2186-2193

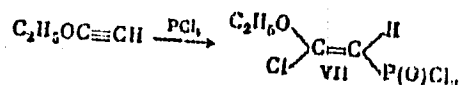
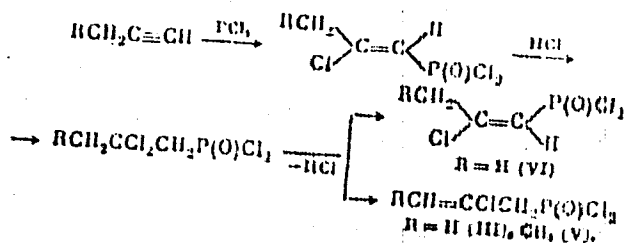


Reaction of PCl₅ with ethylacetylene yields exclusively the acid dichloride of 2-chloro-2-butenylphosphonic acid (V), C₄H₆Cl₂OP, b.p. 95°C (1 mm), d₄²⁰ 1.4265, n_D²⁰ 1.5132. A noticeable amount of E-isomer (VI) was obtained in the reaction of PCl₅ with methylacetylene. Ethoxyacetylene easily reacts with PCl₅ by forming the acid dichloride of 2-chloro-2-ethoxy-E-vinylphosphonic acid (VII), b.p. 82-83°C (1 mm), d₄²⁰ 1.4630, n_D²⁰ 1.5140.

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USSR

DOGADKINA, A. V., et al., Zhurnal Obshchey Khimii, Vol 42(104), Vyp 10, 1972, pp 21-86-2193



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