

USSR

UDC 669.295.015.3:543.42

DOTSSENKO, S. N., POPLAVSKAYA, K. A., SEMENOVA, G. N., and KHUDYAKOVA, T. N.

"Spectrographic Testing of Impurities in Pigmented, Modified Titanium Dioxide"

Moscow, Metallurgiya i Khimiya Titana (Institut Titana), Metallurgiya Publishing House, Vol 6, 1970, pp 165-169

Translation: A method is developed for spectrographic testing of silicon, aluminum, zirconium, and iron in pigmented titanium dioxide modified by the "wet method." The spectra were photographed using an ISP-28 quartz spectrograph of average dispersion. The possibility of using production calibrating devices made of pigmented titanium dioxide, on the surface of which supplements of aluminum, silicon, and zirconium have been applied by the "wet method," and artificial calibrating devices in a spark and arc state is studied. The results received provide evidence that the spark state gives better reproducibility of results and two-fold less error in analysis than the arc state. The method ensures testing from 0.0076 to 0.018% Fe, 0.67-1.57% Al, 0.28-0.54% Si, and 0.30-1.52% (by mass) Zr. Four illustrations, three tables, and 19 bibliographic entries.
1/1

USSR

UDC 621.791.85

SLAVIN, G. A., and KHUDYSHEV, A. F., Moscow

"Some Crystallization Peculiarities of the Liquid Metal of the Bath in Electron-Beam Shot Welding"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 1, Jan-Feb 72, pp 37-44

Abstract: Results are presented of an investigation of the crystallization of the liquid metal of the bath by electron-beam shot (EBS) welding. The peculiarities of the crystallization process are analyzed and possible seam structures and their relation to properties of welded joints are discussed. Temperature measurements revealed that in the EBS welding method the rates of cooling can vary in larger limits and that higher cooling rates can be obtained than in the continuous welding method. Surface characteristics of seams produced by EBS welding are analyzed with particular attention given to the clearly expressed distinction of the crystallization. Depending on the EBS welding methods, there are generally three types of structures which are discussed by reference to surface microsections of the seam face. On the basis of investigations of effects of crystallization processes on properties of welded joints on thin-walled experimental models (models of electron apparatus of MB copper, NP-1 nickel, H29K18 alloy, VN-2 niobium, and Kh18N10T steel), a number of qualitative characteristics of welded joints can be improved, including vacuum density thermal resistance, strength, and plasticity. Five illustrations, two bibliographic references.

1/1

- 54 -

USSR

UDC 621.791.85

KHUDYSHEY, A. F., and SLAVIN, G. A., Moscow

"Investigation of the Technological Possibilities of Percussive Electron-Beam Welding of Sheet Metals"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 3, May-Jun 71, pp 13-19

Abstract: Data of an investigation of the technological and thermal characteristics of a percussive electron-beam are presented and the efficiency of the latter for welding sheet constructions is discussed. The effect of parameters of electron-beam operating conditions on the melting capability and the seam formation is demonstrated. The pulsed introduction of heat is found to widen considerably the technological possibilities of the electron-beam welding process. Ranges of optimum values of electron-beam welding parameters which correspond to a maximum melting capability of the heat source are determined. Six illustrations, three tables, three bibliographic references.

1/1

- 60 -

USSR

K UDC 621.791.35

YEROKHIN, A. A., REZNICHENKO, V. F., and ~~KEUDYSHEV~~ KEUDYSHEV, A. F., Moscow

"Efficiency of the Electron Beam Fusion (Welding) Process"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 3, May-Jun 70, pp 131-133

Abstract: An investigation is made of the energy losses resulting from the effect of electron beams in the welding range. It is shown that in the case of deep penetration of fusion for beams with relatively large total and specific power, in order to explain the high efficiency of the process it is necessary, when estimating the energy losses by the theory of scattering and reflection of the electrons, to consider the thermal effect of the beam on the material causing the occurrence and development of a "channel" in the fusion zone. The interaction of the electron flux with the solid state is accompanied by a number of processes and phenomena whose qualitative and quantitative characteristics are determined primarily by such initial data as the parameters of the electron beam and the treated material. It is pointed out that the basic parameters of the beam are the energy and specific power, and of the material (as applied to metals), the atomic number and thermophysical constants.

Investigation of theoretical papers and experimental results on scattering of electrons in atoms shows that the majority of energy losses as applied to the weld zone belong to reflected (back-scattered) electrons. In iron, for example, Q_0
1/2

USSR

YEROKHIN, A. A., et al., Fizika i Khimiya Obrabotki Materialov, No 3, May-Jun 70, pp 131-133

[the energy losses to reflection of electrons] is about 20 percent of Q_e -- the energy of the electron beam at the bombardment point. The coefficient of reflection and mean energy of the back-scattered electrons do not depend on the process parameters and temperature of the metal, but are determined by the atomic number (nuclear charge) of the material bombarded by the beam. The estimated losses to radiation, x-radiation, and secondary and thermal electron emission demonstrated that the total energy losses do not exceed 10 percent of the total energy of the beam.

Graphs are presented of the efficiency of the fusion (welding) process as a function of the beam current, the shape factor of the weld, and the opening of the gap for accelerating voltages of 20 kv.

It is pointed out that the numerical values obtained as a result of the experiment are determined to a great extent by the parameters of the electron-optical system, the accelerating voltage, and the energy distribution with respect to the beam cross section. However, the nature of the relations is not retained throughout the entire weld zone. For thermal calculations during electron beam welding, it will be necessary to establish η_w (the effective efficiency) as a function of the concentration coefficient of the source as applied to various materials.

2/2

USSR

UDC: 669.27:548.55:539.579.4

CHUPYATOVA, L. P., KHUDYUMOV, V. G., MOROZOVA, N. P., PIKUNOV, M. V., SHISH-KOV, V. V., State Scientific Research and Design Institute of the Rare Metals Industry, Institute of General Metallurgy and Physics of Metals of the Central Scientific Research Institute of Ferrous Metallurgy imeni I. I. Bardin, Moscow

"Pseudosymmetry of {110} Slip in Tungsten Single Crystals"

Moscow, Doklady Akademii Nauk SSSR, Vol 213, No 2, 11 Nov 73, pp 325-328

Abstract: A characteristic feature of the slip geometry and stress-strain curves of tungsten crystals is their strong orientation dependence: the yield point of crystals with the tension axis oriented close to [001] is considerably lower than in crystals oriented close to angle [011] of the standard triangle. This effect is usually attributed to the asymmetry of shear in plane {112}, which is typical of metals with a bcc lattice. However, research has now shown that in crystals of low-purity tungsten {112} slip is suppressed. Nevertheless the difference in yield points for

1/2

USSR

CHUPYATOVA, L. P. et al., Doklady Akademii Nauk SSSR, Vol 213, No 2, 11
Nov 73, pp 325-328

crystals of the indicated orientations remains. In this paper the authors examine experimental data obtained on "dirty" single crystals of tungsten, and discuss the effect of "pseudoasymmetry" observed for {110} slip in such crystals. Tentative hypotheses are proposed to explain the observed effect.

2/2

- 59 -

USSR

K

UDC 621.317.75

PROTSENKO, L. N., KHUKHLAYEV, K. K.

"Application of the Method of Automatic Discrimination Characteristics for Investigation of the Accuracy of Measuring the Frequency and Time Position of a Radio Signal"

Metody razrab. radioelektron. apparatury, No 1 (Procedures for Development of Radioelectronic Equipment -- Collection of Works, No 1), Moscow, 1970, pp 186-188 (from RZh-Radiotekhnika, No 8, Aug 70, Abstract No 8A407)

Translation: In analyzing the parametric reliability of the measuring parameters of input signals, the method of automatic pickup of the discrimination characteristics is used. This method consists in taking and automatic reprinting of the discrimination and fluctuation characteristics and systematic errors. Brief information is presented on the algorithm of the automatic discrimination characteristics. It is pointed out that it permits investigation of the accuracy characteristics of multichannel meters for measuring the frequency and time position of radio signals.

1/1

USSR

UDC 619:616.988.43-07:636.22/.28

KHUKHOROV, V. M., ZUBOV, I. V., MJRAV'YEV, V. K., ONUFRIYEV, V. P., PRONINA, N. A., SMIRNOV, V. I., and FILATOV, I. P., All-Union Scientific Research Institute of Foot-and-Mouth Disease

"Course of Foot-and-Mouth Disease in Areas in Which Mass Immunization Had Been Carried Out"

Moscow, Veterinariya, No 1, Jan 73, pp 50-51

Abstract: Studies carried out at foot-and-mouth disease epizootic foci at which specific prophylaxis of cattle (immunization with inactivated aluminum hydroxide formol vaccine containing saponin) had been applied on a mass scale indicated the occurrence of atypical infections in cases in which the virus of the disease had been brought in later. Virus carriers were detected among immunized animals that did not exhibit clinical symptoms of the disease, but had been in contact with sick animals, and also among animals that had recovered from the disease.

1/1

USSR UDC 619:616.9-022+636.1+636.2+636.4+636.52/.58

MURAVYEV, V. K.; KHUKHOROY, V. M.; SHORSHNEV, V. I.; PRONINA, N. A.; SMIRNOV, V. I.; ONUPRIYEV, V. P.

"Immunological Reactivity of Cattle Treated With Saponin Foot-and-Mouth Disease Vaccine at Different Ages"

Vladimir, V sb. Yashchur (Foot-and-Mouth Disease -- Collection of Works), 1970, pp 74-75 (from RZh-58. Zhivotnovodstvo i Veterinariya, No 4, Apr 71, Abstract No 4.58.574, by E. Sorvachev)

Translation: The dynamics of formation of virus-neutralizing antibodies (VNA) was studied in cattle aged 1-, 3-, 6-, and 12-months and older, 7, 14, 21, 30, 60, and 90 days after vaccination with aluminum hydroxide vaccine -- a formol vaccine from lapinized A₂₂ virus of foot-and-mouth disease with various doses of saponin. Animals of each age group were vaccinated with 10 DV₅₀ in doses of 4.3 ml (the immunizing dose was determined on guinea pigs), containing saponin in amounts of 2.5, 5, and 10 mg. The VNA titers in the sera of animals were determined on baby mice given 10³ LD₅₀ of the virus. It was found that

1/2

- 91 -

-USSR"

MURAVYEV, V. K., et al, V sb. Yashchur, 1970, pp 74-75

administration of the vaccine with a saponin dose of 5 and 10 mg to 1-month and 3-month-old calves led to a more significant increase in the VNA titer than in 12-month-old bull calves and adult animals. The local reaction to the introduction of saponin-containing aluminum hydroxide vaccine was less pronounced in calves than in adult animals.

2/2

Acc. Nr: AP0049057 **K**

Ref. Code: UR0357

PRIMARY SOURCE: Vestnik Oftal'mologii, 1970, Nr / ,
pp 80-84

PROCEDURES AND RESULTS OF EXAMINATION OF THE ORGAN
OF VISION IN CHILDREN OF THE 1st-4th YEARS OF LIFE

L. P. Khukhrina

Summary

The function of the organ of vision was examined in 823 children of the junior and senior crèche age (1st-4th years of life). Examination procedures were worked out which included tests for visual acuity and the state of binocular vision. Visual function (fixation, convergence, visual acuity) begin to develop in children on the 4-5th week of the first year of their life. Visual acuity increases from 0.002 in children of the 2nd month of life to 0.58 when they reach the age of 4 years. The number of children with binocular fixation rises from 30. in the 1st year of life to 94.1% at the age of 4 (according to the prism test) and to 86% (as measured by the colourimeter). Hypermetropic refraction up to 3.0 prevails in children until they reach the age of 4 years. In children of the 1st year of life prevalent is congenital pathology (7.4%), while in those of the 2-4th year of life acquired pathology (6.1%) is found to predominate. These investigations justify recommending the first prophylactic examination of the organ of vision to be instituted at the age of one and the second at the age of 3 years.

REEL/FRA^ME

19800844

adh 2

1/2 010 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--SYNTHESIS OF TRIPHENYLETHYLENE DERIVATIVES. 7. 2,HALO SUBSTITUTED
ESTERS OF 1,2,BIS,O, HYDROXYPHENYL, 1,P, HYDROXYPHENYL, ETHYLENE -U-
AUTHOR--(02)--VOLOVELSKIY, L.N., KHUKHRYANSKIY, V.G.

COUNTRY OF INFO--USSR

SOURCE--UKR. KHIM. ZH. 1970, 36(2), 196-8

DATE PUBLISHED--70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BENZENE DERIVATIVE, ETHYLENE, POLYNUCLEAR HYDROCARBON, CANCER
DRUG, CHLORINATED ORGANIC COMPOUND, BROMINATED ORGANIC COMPOUND, ORGANIC
SYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1575

STEP NO--UR/0073/70/036/002/0196/0198

CIRC ACCESSION NO--AP0125201

UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125201

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

ABSTRACT. IA HEATED AT 200-10DEGREES WITH
KOH IN MEQH 20 HR IS HYDROLYZED TO IB, M. 171-20DEGREES (C SUB6 H SUB6).
ACYLATION OF IB TO IC, FOLLOWED BY CHLORINATION OR BROMINATION IN HOAC
FORMED THE FOLLOWING II, WHICH ARE POTENTIALLY VALUABLE IN TREATMENT OF
PROSTATE CANCER (ACYL GROUP AND M.P. OF IC, II (X EQUALS CL) AND II (X
EQUALS BK) GIVEN): SHOWN ON MICROFICHE. FACILITY: KHAR'KOV,
INST. ENDOKRINOL. KHIM. GORMON., KHARKOV, USSR.

UNCLASSIFIED

USSR

UDC 619:576.807.7-616.988.43

GULIYEV, M. A., CHAKVETADZE, N. V., and KHUKHUNAISHVILI, P. I., Republic
Veterinary Laboratory, Ministry of Agriculture Georgian SSR

"Improved Typing of Foot-and-Mouth Disease Virus"

Moscow, Veterinariya, No 9, 1971, pp 33-34

Abstract: The reaction of prolonged inhibition of complement fixation, based on the phenomenon that incomplete antibodies are formed in the blood of animals with infectious diseases, was used for the identification and typing of foot-and-mouth disease (FMD) virus in the serum of animals convalescing from the disease. All of the elements entering into a complement fixation reaction -- standard FMD virus hyperimmune sera and antigens O, O₁₉₄, A, A₂₂, and C, hemolysin, complements, and washed ram's erythrocytes were used. The sera were diluted in physiological saline, inactivated, and poured into test tubes to which standard antigens of various types and variants were added, and kept at 2-4°C for 18-20 hours. Standard sera with complement and hemolysin were added and warmed at 37°C for 30 minutes. Anticomplement and hemolytic activity of the sera were studied for control purposes. The method was used in the study of 231 sera obtained from convalescing cattle, 11 -- from sheep and goats, and six from hogs. In all cases hemolysis was 1/2

USSR

GULIYEV, M. A., et al., Veterinariya, No 9, 1971, pp 33-34

strongly inhibited, which indicates the specificity of the method. The prolonged complement fixation inhibition reaction can thus be recommended for use in the identification and typing of FMD virus.

2/2

- 65 -

Theoretical Physics

USSR

UDC 539.126.01

KHUKHUNASHVILI, Z. V., Moscow Aviation Institute

"Symmetry of a Space"

Tomsk, Izvestiya Vysshikh Uchebnykh Zavedeniy, Fizika, No 7, 1972, pp 75-79

Abstract: The author presents a homomorphic mapping in a space Γ observing the multiplication law $G(g_1g_2) = T(g_1)T(g_2)$, where $T \in \Gamma$ and $g \in G$ is called a representation Γ of the group G . The Lagrangian $I(\psi, d\psi/dx)$ is invariant relative to the group G , where the field components transform according to the law $\psi \rightarrow T(g)\psi$. If the parameters of the group G are arbitrary function of x (a localization of the group G), the requirements of invariance lead to the rise of compensating fields in the Lagrangian. The theory of compensating fields is thus a transition from the representation $T(g)$ to the representation $T(g(x))$. In this paper a theory is constructed in which the matrices of the representation T are functions of x , i.e., $T(g, x)$ and the element g of the group G_0 acting in the x -space is not localized. These problems are a continuation of two previous papers of the article and therefore the terminology and notations remain the same as in these articles.

1/1

1/2 015 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--APPARATUS FOR PRODUCTION OF SUBCELLULAR MATERIAL -U-
AUTHOR-(03)-METREVELI, L.I., KHUKOV, V.D., CHIMISHKYAN, K.L.
COUNTRY OF INFO--USSR
SOURCE--BRIT. 1,181,916
DATE PUBLISHED--18FEB70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--BIOLOGIC LABORATORY, PATENT, LABORATORY EQUIPMENT, CELL
PHYSIOLOGY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1998/1381 STEP NO--UK/0000/70/000/000/0000/0000
CIRC ACCESSION NO--AA0121861
UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AA0121861

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A METHOD FOR PREPG. SUBCELLULAR MATERIAL FROM BIOL. TISSUES IS DESCRIBED. THUS, BIOL. CELLULAR MATERIAL IS SUBJECTED TO A PRESSURE OF 50 ATM IN A VESSEL AND THE PRESSURE IS RELEASED SUDDENLY BY PERMITTING THE MATERIAL TO ESCAPE THROUGH AN OUTLET MEASURING AT LEAST 0.5 MM ACROSS. THIS RESULTS IN SUBCELLULAR PREPNS. WHICH SHOW LITTLE DENATURATION AND ARE SUBSTANTIALLY FREE FROM WHOLE CELLS. THE OUTLET IS A SPIRAL TO PERMIT SEPN. OF THE MATERIAL FROM THE GAS USED TO CREATE THE PRESSURE. FACILITY: MOSCOW SCIENTIFIC RESEARCH INSTITUTE OF VIRUS PREPARATIONS.

UNCLASSIFIED

USSR

UDC 621.221.2

YEVMEHOV, V. F., KOZHURKOV, I. V., NICHIPORENKO, N. T., and
KHULAP, G. D., Leningrad Higher Engineering Nautical School
Imeni Admiral S. O. Makarov, Ventspils Commercial Seaport Admi-
nistration

"Experience in Determination of Sea Wave Elements by the Radar
Method"

Kiev, Gidromekhanika, No 18, 1971, pp 22-26

Abstract : Observational opportunities of the radar method of
measuring horizontal parameters of a developed swell in the
coastal zone are discussed and the experience in determining
some swell parameters in the Ventspils port zone with the help
of a radar station of single-wire transmission line in the mm-
band is described. The radar pictures of steady sea swell ob-
served by wind velocities of 16-23 m/sec show a sufficiently
clear plane swell pattern from which some parameters of wave
motion could be determined. Calculated average values of phase

1/2

USSR

YEVMEENOV, V. F., et al., Gidromekhanika, No 18, 1971, pp 22-26

velocity, wave length, and angle of approach of wave crests are tabulated. The radar method is considered to be sufficiently exact, simple, and reliable by working under unfavorable meteorological conditions. Two illustr., one table, five formulas, three biblio. refs.

2/2

1/2 020 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--EXPERIMENTAL DATA ON THE COMPOSITION OF SYNTHETIC ANALCIMES -U-
AUTHOR--(03)-KHUNDADZE, A.G., SENDEROV, E.E., KHITAROV, N.I.
COUNTRY OF INFO--USSR
SOURCE--GEOKHIMIYA 1970, (5), 588-600
DATE PUBLISHED-----70
SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY
TOPIC TAGS--GEOLOGY, ROCK, CRYSTALLIZATION, GEOCHEMISTRY, SODIUM OXIDE,
ALUMINUM OXIDE, SILICON DIOXIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/0144 STEP NO--UR/0007/70/000/005/0588/0600
CIRC ACCESSION NO--AP0135641
UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0135641

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ANALCINE WAS SYNTHESIZED FROM GELS; HAVING MNA SUB2 O AL SUB2 O SUB3 NSIO SUB2 PLUS AQ. COMPN. (WHERE M EQUALS 4-6 AND N EQUALS 10-20) AND SIMILAR TO 20PERCENT OF NA SUB2 O PLUS AL SUB2 O SUB3 PLUS SIO SUB2 AT 120-450DEGREES UNDER WATER PRESSURE OF SIMILAR TO 250 ATM. THE MOL. SIO SUB2-AL SUB2 O SUB3 RATIO IN ITS COMPN. WAS 2.8-8.2. THE STUDY OF VARIOUS FACTORS, PROMOTING THE FORMATION OF STABLE PHASES (ALKY. OF SOLNS. ABOVE ALL), LED TO THE CONCLUSION THAT AT SMALLER THAN OR EQUAL TO 400DEGREES, THE THERMODYNAMICALLY STABLE ANALCINE VARIETIES HAVE AN IDEAL FORMULA FOR THE MINERAL (NAALSI SUB2 O SUB6 H SUB2 O, WHERE SIO SUB2-AL SUB2 O SUB3 EQUALS 4); AND ITS SOLID SOLNS., WITH VARIABLE CONTENT OF COMPONENTS, ARE FORMED BY METASTABLE GROWTH. THE COMPN. OF ANALCINE THUS CANNOT BE USED IN GEOTHERMOMETRY, APPLIED TO THE LOW TEMP. METAMORPHISM AND DIAGENESIS, BECAUSE THE CHANGES IN ITS COMPN. ARE CAUSED BY VARIOUS FACTORS OF METASTABLE GROWTH. BUT THE DETECTION OF ANALCIMES, POOR IN SIO SUB2, IN HYPABYSSAL INTRUSIVE ROCKS CAN BE USED FOR OBTAINING INFORMATION ON THE TEMP. CONDITIONS OF ROCK FORMATION. FACILITY: V. I. VERNADSKII INST. GEOCHEM. ANAL. CHEM., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 617-089.843-06:616-021.2

VISHNEVSKIY, A. A., KOLESNIKOV, I. S., BALLYUZEK, F. V.,
PORTNOY, V. F., KOSTIN, E. D., PECHERSKIY, V. I., KOLONIYETS,
S. G., and KHUNDANOV, L. L., Institute of Surgery imeni A. V.
Vishnevskiy Academy of Medical Sciences USSR, and Hospital
Surgery Clinic Military Medical Academy imeni S. M. Kirov

"Causes of Early Functional Incompetence of Allotransplants"

Moscow, Eksperimental'naya Khirurgiya i Anesteziologiya, Vol 1,
Jan/Feb 71, pp 3-8

Abstract: Causes and effects in postoperative developments were analyzed, which enabled us to systematize the factors responsible for early functional incompetence of a transplanted organ. Factors in four etiological categories were considered: 1. Organization and Tactics: each of availability of funds for establishing transplantation centers; lack of the required equipment, instruments, and drugs; absence of a central list of potential recipients; and inadequate cooperation between transplantation surgeons and reanimation specialists.

1/2

USSR

VISHNEVSKIY, A. A., et al., Eksperimental'naya Khirurgiya i Anesteziologiya, Vol 1, Jan/Feb 71, pp 3-8

2. Physiological Anatomy: poor estimation of the anatomical and physiological reserves of the transplant; and shortcomings in surgical techniques. 3. Pathophysiology: deteriorated state of the recipient; poor health of the donor; injury to the transplant; excessive functional load on the transplant; and inadequate prevention of operative and postoperative complications. 4. Immunobiology: poor matching of donor and recipient; high immunological potential in the recipient; inadequate prevention of stimulation of immunological reactions in the recipient; and mistakes committed in immunosuppressive therapy.

2/2

USSR

UDC 612.41.014.46:615.276.2

KRIVSKIY, I. L., KHUNDANOV, L. L., and SHATALOVA, I. N., University of Friendship Among Peoples imeni Lumumba and Institute of Surgery imeni Vishnevskiy, Moscow

"Comparison of the Effects of Some Immunosuppressants on Some Hematopoietic Organs"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 9, 1972, pp 47-52

Abstract: Changes in lymph nodes, bone marrow, and peripheral blood of dogs resulting from treatment either with a combination of the antimetabolite imuran and the antibiotic aurantin (an analog of actinomycin C) or with antilymphocyte serum were compared. The combined use of imuran and aurantin had a much greater toxic effect on lymphopoiesis and myelopoiesis than did the serum. These drugs sharply reduced the number of all cellular forms in lymph nodes and bone marrow, especially the undifferentiated ones, but lymphopenia in the peripheral blood was comparatively mild. Antilymphocyte serum, on the other hand, decreased the number of only the small lymphocytes in the lymph nodes while inducing marked lymphopenia in the peripheral blood.

1/1

USSR

UDC 616.931-092.9-085.37

URBANOVICH, L. Ya., KHUNDANOV, L. Ye., and SHERSHNEV, P. A., Irkutsk, Antiplague Institute of Siberia and the Far East

"Combined use of Cholera Vaccine and Anticholera Serum Globulin in Experimental Cholera"

Moscow, Zhurnal Mikrobiologii, Epidemiologii, i Immunologii, No 9, Sep 70, pp 14-17

Abstract: The results of a study of the combined use of cholera vaccine and anticholera serum globulin to confer immediate and lasting protection against cholera are presented. The experiments were carried out on white mice. Anticholera serum globulin was obtained by fractionation with ethanol in cold. Analysis of the composition of anticholera serum protein and its globulin fractions by electrophoresis showed that they contain a high percentage (65-76%) of gamma-globulin fraction, a fact which explains the high rate of survival of experimental animals. Single subcutaneous injection of the mixture of cholera vaccine and anticholera serum globulin protected the animals from cholera infection for one to 21 days. When the anticholera serum globulin was injected alone, its effect lasted only for two weeks after administration, while cholera vaccine

1/2

USSR

URBANOVICH, L. Ya., et al, Zhurnal Mikrobiologii, Epidemiologii, i Immunologii,
No 9, Sep 70, pp 14-17

became effective at a later period. Toxicity was manifested in tissue dehydration, engorgement of intestine with fluids, and dystrophic changes in the liver.

2/2

- 43 -

USSR

K UDC: 615.373:576.851.45.077.37.074

SHKURKO, YE.D., SHERSHNEV, P.A., and KHUNDANOV, L.YE., Irkutsk Scientific Research antiplague Institute of Siberia and the Far East

"Electrophoretic Study of the Protein Composition of Tularemia Diagnostic Sera"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 2, 1970, pp 43-47

Abstract: Immunization of horses with tularemia antigen increased serum gamma globulin (by 1.24%) and total protein (by 0.3-1.1%). However, the amount of alpha- and beta-globulins and albumin changed little in the course of immunization, and was virtually the same as in normal serum. No significant changes in the composition of the serum proteins occurred after the immunization cycles were increased. The gamma-globulin fraction increased only during a cycle, and not with increase in the number of cycles. The gradual increase in gamma-globulin in the course of immunization suggests that this fraction is associated with specific tularemia serum antibodies. No quantitative relationship was detected between the agglutination titer of the tularemia sera and their protein composition.

1/1

Acc. Nr: **AP0034409**

Ref. Code: UR 0297

PRIMARY SOURCE: Antibiotiki, 1970, Vol 15, Nr 2, pp 123-126

A STUDY OF THE EFFECT OF CHEMOTHERAPEUTICS ON VIBRIO EL-TOR
IN VITRO

Khundanov, L. Ye.; Ganin, V. S.; Navashin, S. M.

Irkutsk Plague Institute of Siberia and Far East, National Institute for Antibiotics,
Moscow

Activity of 16 chemotherapeutics was estimated in vitro with respect to El-Tor and classical cholera vibrio. As a whole the effect of the drugs on vibrio El-Tor was less pronounced than that on cholera germs. Erythromycin, tetracycline and cefalexin had the same effect on El-Tor and classical cholera vibrio. Vibrio El-Tor were less resistant to sulfacyl than the classical cholera germs.

D. n.

REEL/FRAME

19711069

Acc. Nr: AP0043866 KHUNDANOV ^{L. Ye} Ref. Code: 'UR 0016

PRIMARY SOURCE: Zhurnal Mikrobiologii, Epidemiologii, i
Immunobiologii, 1970, Nr 2, pp 43-47

ELECTROPHORETIC STUDY OF THE PROTEIN COMPOSITION
OF TULAREMIA DIAGNOSTIC SERA

L. D. Shkurko, P. A. Shershnev, L. Ye. Khundanov

It was demonstrated by the method of electrophoresis on paper that specific antibodies of tularemia sera associated with the gamma-globulin fraction. In immunization of horses with tularemia antigens the content of total protein and of gamma-globulin fraction increased in their serum; the amount of albumin fraction, alpha- and beta-globulins varied but insignificantly.

There was no quantitative relationship between the specific agglutination titre and fractional composition of the protein in the blood of immune animals.

1/1

REEL/FRA
19770290

6 DI

USSR

UDC 542.91:547.431.4+547.241

KHUNYANTS, I. L., URUSHADZE, M. V., and ROKHLIN, YE. M., Institute of
Organoelemental Compounds, Academy of Sciences SSSR

"Interaction of Alkylperfluoroisobutenyl Ethers with Triethyl Phosphite"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 6, Jun 71,
pp 1365-1366

Abstract: The interaction of nucleophiles with alkylperfluoroisobutenyl
ethers results in replacement of the vinyl atom of fluorine or in dealkylation,
the reaction going in one or the other direction according to the reactant.
The authors found that triethyl phosphite, unlike other previously studied
nucleophiles, is capable of reacting with the above ethers in both directions.

1/1

USSR

UDC 621.396.93

KHUPOVKA, YU. G.

Some Information Flow Parameters and Effectiveness of Automating Ringing in the Marine Ultrashortwave Communications"

Tr. TsNII mor. flota (Works of the Central Scientific Research Institute of the Maritime Fleet), 1970, vyp. 131, pp 101-106 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4A227)

Translation: The nature of exchange of communications in the marine ultra-shortwave radio telephone communications and the effect of the length of the communications sessions on the operation of the system are investigated. Relations are presented for determining the delay of beginning of servicing and the probability of loss of a call on transfer of the subscriber from the standby channel to the operating channel are presented. The effectiveness of automation for unloading the standby channel is analyzed, and the relation is obtained for estimating the reduction in channel load during automated ringing from shore. There is 1 illustration, 1 table and a 3-entry bibliography.

1/1

Aluminum and Its Alloys

USSR

UDC 669.71.018.9

VILSON, D., KHUR, P., GOBL, M.

"Electric-Slag Remelting of Aluminum-Magnesium Alloys"

Elektroshlak. Pereplav [Electric-Slag Remelting -- Collection of Works],
Moscow, Metallurgiya Press, 1971, p 253-261. (Translated from Referativnyy
Zhurnal Metallurgiya, No 3, 1972, Abstract No 3G139 by the authors).

Translation: Results are presented from laboratory experiments on electric-
slag remelting using direct current of different polarities. Various slag
systems are studied, including the fluorides of K, Ce, Li, Rb, Na, B, etc.
3 figs; 1 table; 3 biblio refs.

1/1

KHURANOV A. A.

1985 58117
31 Jan 73

UDC: 614(470.631)(091)"1922-1972"
FIFTY YEARS OF PUBLIC HEALTH IN KAVKASHIYEVN-CHECHENS AUTONOMOUS OBLAST
[Article by A.A. Khuranov (Eorkeak): Moscow, Sovetskoye Zdravopozhivaniye, Russian, No 12, 1972, submitted 21 May 1972, pp 61-66]

On 12 January 1922, the KSPSR Ali-Iuzugan Central Executive Committee, under the signature of N.I. Kalinin, issued a decree entitled "On Formation of the Karachayev-Chechens Autonomous Oblast." This oblast, which is relatively small in size (14,202 square km.) and in population (345,200 people) is a part of Stavropol'skiy Krai.

This abandoned and backward area of earlier Russia was transformed, in the years of Soviet power, into a well-developed region of Northern Caucasus. Within the half-century, new branches of industry were built. The volume of industrial output was 426 times higher than the 1913 level [1]. With each year the State and collective farms are increasing the output of agricultural products where animal husbandry occupies the leading place.

In the years of Soviet power, well-arranged sula (mountain villages), villages, and settlements have been built; instead of the huts with straw roofs there are now urban type houses. In most populated areas there is now a central water supply, there is electricity in each house. Improvement of the material conditions as well as sanitary living conditions, institution of prophylactic measures on a broad scale altered radically the life and culture of these mountain dwellers. In 1927, it was indicated in the journal, Soviet Medicine in Northern Caucasus, that "the ideas of safeguarding the health of children, the principles of sanitation in work are penetrating into the auto and distant mountain settlements. A doctor still has to take into consideration local conditions, riter, and discuss in order to be able to fulfill the proper value in the population with regard to Soviet medicine" [2].

The cultural standards of the population improved. Illiteracy was eradicated. At the present time there are about 80,000 children

1

USSR

UDC 51:155.001.57:681.3.06

GOGINOV, V. I., FASTOVETS, N. O., KHURGIN, Ya. I.

"Practice of Application of Teaching Programs for Processing of Multivariant Files of Experimental Data"

Tr. Mezhdunar. Simpoziyuma po Tekhn. i Biol. Probl. upr., 1968. Raspoznavaniye Obrazov. Adaptivn. Sistemy [Works of International Symposium on Technical and Biological Control Problems, 1968. Pattern Recognition. Adaptive Systems], Moscow, Nauka Press, 1971, pp 106-111, (Translated from Referativnyy Zhurnal, Kibernetika, No 10, 1971, Abstract No 10 V825 by the author's).

Translation: In solving specific problems of medical diagnosis, problems of functional description and prediction in geophysics and problems of identification of complex industrial objects, a long series of experiments was performed on the BESM-3M and M-220 computers. Processing of experimental results was performed using algorithms and programs developed at the laboratory of applied mathematics of the Moscow Institute of the Petrochemical and Gas Industry imeni I. M. Gubkin. The algorithms used allow: a) design of optimal, in some sense, rules in problems of regression and pattern recognition; b) use of additional information such as human estimation of the reliability of experimental data in problems of pattern recognition; c) automatic normalization of the decision rule to a scale convenient for human perception.

1/1

USSR

VORONIN, YU. A., AMEL'KIN, V. A., KHURRAMOV, A. D.

"Computer Software for Solving the Problems of Constructing Functions by Experimental Data"

V sb. Primeneniye mat. metodov i EVM pri poiske polezn. iskopayemykh. (Application of Mathematical Methods and Computers when Prospecting Minerals--collection of works), Novosibirsk, 1972, pp 133-149 (from RZh-Kibernetika, No 12, Dec 72, Abstract No 12V493)

No abstract

1/1

- 94 -

USSR

UDC 621.039.524:531.781

BORTKEVICH, V. I., MIKHALEV, Yu. K., PRIGOROVSKIY, N. I., and KHURSHUDOV, G. Kh.

"Full Scale Stress Investigations in Reactor Vessels of Atomic Electric Power Stations"

V Sb. "Issled. Temperatur. Napryazheniy" [In the Collection "Investigations of Thermal Stresses"], Moscow, "Nauka," 1972, pp 176-182 (from Referativnyy Zhurnal, No 10, Oct 72. 50. Yadernyye Reaktory. Single Issue. Abstract No 10.50.67)

Translation: Results are presented of tensometric investigations of nuclear reactor vessels of powerful atomic electric power plants. The investigations were carried out during the initial period of operation, they made possible an evaluation of developing stresses and temperatures depending on operating conditions. Characteristics of the state of stress and of the temperature change in the vessel in transient and steady state operating conditions are demonstrated. Recommendations based on results of full scale tensometry are given for the selection of operating conditions. Three illustrations, two tables.

1/1

USSR

UDC 547.341

PUDOVIK, A. N., KHUSAINOVA, N. G., and TIMOSHINA, T. V., Kazan' State University

"Cycloaddition of Diphenyldiazomethane to Allenylphosphonates"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), Vyp 10, 1972, pp 2159-2162

Abstract: The 1,3-bipolar cycloaddition of diphenyldiazomethane to diethyl allenylphosphonate at room temperature in petroleum ether and diethyl ester, yields 3-diethylphosphono-4-methylene-5,5-diphenyl-delta²-pyrazoline as indicated by the IR and PMR (Proton Magnetic Resonance) spectra of the product. An intermediary delta¹-pyrazoline is suggested. If the reaction is conducted at 75°C the product indicated by the IR, PMR, and NMR (Nuclear Magnetic Resonance) spectra is 1-diethoxylphosphonyl-2-methyl-3-phenylindene. An intermediate of 2,2-diphenyl-3-diethoxylphosphonylmethylenecyclopropane is proposed. At both room temperature and 75°C diphenyldiazomethane reacted with diethyl alpha-phenylallenylphosphonate to give 3-diethoxyphosphonyl-2,2,3-triphenylmethylenecyclopropane, as confirmed by the IR spectrum of the product. An intermediary delta¹-pyrazoline is indicated, which cannot rearrange to the delta²- as the 3 hydrogen has been replaced by a phenyl group.

1/1

USSR

UDC 547.341

PUDOVIK, A. N., and KHUSAINOVA, N. G., Kazan' State University

"Cycloaddition of N-Phenylsidnone to Allenylphosphonates"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), Vyp 10, 1972, pp 2162-2166

Abstract: N-phenylsidnone (4-phenyl-1,4,5-oxadiazolid-2-one) was reacted with diethyl allenylphosphonate, gamma-methylallenylphosphonate and gamma, gamma-dimethylallenylphosphonate, and dipropyl gamma, gamma-dimethylallenylphosphonate. Eight to 10 hours at 135-140° under reflux led to 1,3 bipolar cycloaddition and subsequent decarboxylation, producing the corresponding pyrazoles. Differential thermometry of the reaction mixture showed that the allenylphosphonates did not isomerize under these conditions. The Proton Magnetic Resonance spectrum of 1-phenyl-3-diethylphosphon-4-methylpyrazole suggests that two diastereomers are formed, and indicates their relative concentrations. Using differential thermometry the dipolarophilic activity of the four allenylphosphonates was shown to decrease with increased steric hindrance.

1/1

USSR

UDC 547.341

PUDOVIK, A. N., KHUSAINOVA, N. G., and FROLOVA, T. I.

"1,3-Bipolar Addition of N-Phenylsydnone to Esters of Propynylphosphonic and Propynylthiophosphonic Acids and to Diphenylpropynylphosphine Oxide"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 11, Nov 1971, pp 2,420-2,424

Abstract: 1,3-Bipolar addition to phosphorus-containing acetylenes is not well known. Cycloaddition was achieved by running the indicated reactions at 130-150° for 10-12 hrs. N-Substituted phosphonopyrazoles were obtained in yields of 65-80%. 1-Phenyl-3-diphenylphosphinoyl-4-methylpyrazole and four different 1-phenyl-3-dialkylthio(phosphono)-4-methylpyrazoles were obtained. Yields, formulas, physical constants, etc., for these are given.

1/1

USSR

SMORODINSKIY, Ya. A. and KHUSAR, M., Joint Institute of Nuclear Research; Central Institute of Physical Research, Budapest)

"Representations of the Lorentz Group and the Generalization of Helical States"

Moscow, Teoreticheskaya i Matematicheskaya Fizika (Theoretical and Mathematical Physics), Vol 4. No. 3, p 328-340, September 1970

Abstract: Unitary representations of the Lorentz group are constructed with the aid of parameters that correspond to generators satisfying Lie algebra equations for two independent angular moments. The Lorentz group elements are expanded by selecting three Cartesian coordinate axes, x_1 , x_2 , x_3 and determining a complex representation consisting of rotation about an axis and the Lorentz representation along the same axis. Any Lorentz group element can be represented as the result of three such complex transformations with respect to x_3 , x_1 , and x_3 again. These operations can also be described as two sequential rotations to complex Euler angles and to angles complexly conjugate to them. The subgroup of spatial rotations is obtained when the imaginary parts of the complex Euler angles are set to zero. The real parts of the Euler angles are viewed as coordinates on the surface of a real three-dimensional sphere. A system of functions is

1/2

USSR

SMORODINSKIY, Ya. A., et al, Teoreticheskaya i Matematicheskaya Fizika, Vol. 4, No. 3, p 328-340, September 1970

obtained for the Lorentz group representations as dependent on six parameters. The relation between these representations and the expansion of the scattering amplitude is discussed. The matrix elements of the representation are derived, the behavior of the singular points is discussed, and the functions on the group are subjected to harmonic analysis. The asymptotic equation for the R function is used to obtain a relation for orthogonality and completeness, which includes a measure for the representation in terms of the delta function on the group. The spherical functions of group G with respect to subgroup H are determined on the homogeneous space $S_{G/H}$, which has a fixed point and in which group H is small. The subgroup H, consisting of spatial rotations about the third axis, and the Lorentz transformation along the axis are considered. A two-dimensional complex sphere is constructed that has all of the properties necessary for determining the spherical functions. When the infinitesimal generators are written in the form of differential operators, Casimir operators are obtained for which the spherical functions are eigenfunctions. The authors thank M. A. Liberman and M. B. Sheftel for valuable discussions. Orig. art. has 11 refs.

2/2

USSR

UDC: 681.121

KHUSAINOV, N. M., TUPICHENKOV, A. A.

"Principles of Organizing a Facility for Precision Measurements of Flow Rates, Quantities and Volumes of Liquids and Gases"

V sb. Tochnoye izmereniye raskhodov i kolichestv veshchestv (Precision Measurement of Rates of Flow of Substances and Their Quantities---collection of works), Vyp. 122 (182), Moscow-Kazan', 1970, pp 5-12 (from RZh-Metrologiya i Izmeritel'naya Tekhnika, No 9, Sep 70, Abstract No 9.32.708)

Translation: Specific proposals are given for improving a facility for monitoring the operation of instruments for measuring the rate of flow, quantity and volumes of materials. These proposals cover the organizational and the scientific and technical aspects of the problem. It is concluded that a nation-wide metrological center should be set up which is provided with the appropriate scientific and experimental base for systematic research and development in scientific, technical and procedural areas. Two illustrations, two tables.

1/1

-- 99 --

USSR

UDC 547.34

PUDOVIK, A. N., KHUSAINOVA, N. G., Kazan' State University

"Cycloaddition of N-Phenylsidnone to α -Phenylallenylphosphonate"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 10, Oct 73, p 2329

Abstract: Heating diethyl- α -phenylallenylphosphonate with N-phenylsidnone at 130-140° for 10 hrs leads to the formation of an addition product. IR and PMR spectroscopic data suggest the structures of 1-phenyl-3-diethoxyphosphinyl-4-methyl-5-phenylpyrazole and 1-phenyl-3-methyl-4-diethoxyphosphinyl-5-phenylpyrazole, b.p. 174-175°/0.3 mm, d_4^{20} 1.1741, n_D^{20} 1.5830.

1/1

- 33 -

USSR

UDC 547.341.791

PUDOVIK, A. N., KHUSAINOVA, N. G., and NASYBULLINA, Z. A., Kazan' State University

"Cycloaddition of Phenylazide to Propynylphosphonates and Propynylphosphine Oxides"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 8, Aug 73, pp 1683-1686

Abstract: Cycloadditions of phenylazide to O,O-dipropyl propynylphosphonate, diphenylpropynylphosphine oxide, diethylpropynylphosphine oxide and propynylphosphonic acid chloride occur smoothly in 20-30 hrs when heated to 105-110° in anhydrous toluene. The products are 4-phosphinyltriazoles-1,2,3 obtained in 47-60% yield.

1/1

USSR

K
UDC 547.341

PUDOVIK, A. N., KHUSAINOVA, N. G., and TIMOSHINA, T. V., Kazan' State University imeni V. I. Ulyanov Lenin, Kazan, Ministry of Higher and Secondary Specialized Education RSFSR

"Dialkoxyphosphonoalkylalkynyl, -aminoalkynyl Ethers and Dialkoxyphosphonoisopropylalkynylamines"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 5, May 70, pp 1040-1042

Abstract: Continuing their studies on the synthesis of organophosphorus compounds, the authors obtained α -dialkoxyphosphonoalkylpropargyl ethers as a result of the reaction of propargyl bromide with the sodium derivative of dialkyl esters of α -hydroxyalkylphosphonic acid. The interaction of dialkoxyphosphonomethylene propargyl ethers with secondary amines and paraform in the presence of copper acetate gives 4-dialkylamino-2-butynyl ethers. The reaction of propargyl bromide with dialkyl esters of α -aminoisopropylphosphonic acid in the presence of triethylamine gives dialkoxyphosphonoisopropylpropargylamines. The biological activity of the resultant compounds was stud-

1/2

- 62 -

USSR

PUDOVIK, A. N., et al., Zhurnal Obshchey Khimii, Vol 40, No 5, May 70, pp 1040-1042

ied. Thus, according to data obtained at the Chair of Pharmacology of Kazan' State Medical Institute by V. G. DUNAYEV and N. G. ABDRAKHMANOVA, 1-diethoxyphosphonomethylenehydroxy-4-diethylamino-2-butyne possesses low toxicity for warm-blooded animals, does not suppress cholinesterase activity or induce depression of the stem region of the central nervous system.

2/2

1/2 012 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--DIETHOXY PROPYNYLPHOSPHONATE IN 1,3,DIPOLAR ADDITION REACTIONS -U-
AUTHOR--(02)--PUDOVIK, A.N., KHUSAINOVA, N.G.
COUNTRY OF INFO--USSR
SOURCE--ZH. OBSHCH. KHIM. 1970, 40(3), 697
DATE PUBLISHED--70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--HETEROCYCLIC NITROGEN COMPOUND, ORGANIC PHOSPHORUS COMPOUND,
ETHYL ETHER, KETONE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/0872 STEP NO--UR/0079/70/040/003/0697/0697
CIRC ACCESSION NO--AP0124535
UNCLASSIFIED

2/2 012 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO—A0124535
ABSTRACT/EXTRACT—(U) GP-0- ABSTRACT. HEATING N,PHENYLSYDNONE WITH
(ETO)SUB2 P (U)C=CME 10 HR AT 150-60DEGREES GAVE 53PERCENT I, 8 SUB0.03
158-61DEGREES, D PRIME20 1.1692, N SUBD PRIME20 1.5335, PROBABLY FORMED
BY ELIMINATION OF CO SUB2 FROM INTERMEDIATE II. (FORMULA SHOWN ON
MICROFICHE). FACILITY: KAZAN. GOS. UNIV., KAZAN, USSR.

UNCLASSIFIED

Luminescence

(8)

USSR

UDC 661.143:546.431'821'185(088.8)

GUGEL', B. M., LODYGIN, N. A., GOLUBEV, I. F., KHIZHA, V. S., BLYAKHMAN, E. A., KUTSENKO, N. A., SIDOROV, M. D., ZVIYAGIN, V. B., VAKHRAMOV, V. P., AGAPOV, V. I., GARKUSHA, V. A., KHUSAINOVA, R. S.

"Phosphor for Low-Pressure Luminescent Tubes"

USSR Author's Certificate No 336342, filed 19 May 70, published 22 May 72 (from RZh-Khimiya, No 2(II), Feb 73, Abstract No 2L148P)

Translation: In order to increase the light yield of the tubes, the proposed phosphor includes the following: barium-titanium phosphate, calcium halophosphate, strontium and magnesium orthophosphate and magnesium fluorogermanate. The barium-titanium phosphate, the calcium halophosphate, the strontium orthophosphate, magnesium orthophosphate and magnesium fluorogermanate are introduced in the following proportions by weight: 4-6:2.5-4:0.4-0.8:0.13-0.25 respectively. As an example, let us take weighed samples of 4.36 kg of barium-titanium phosphate, 3.84 kg of calcium halophosphate, 0.40 kg of magnesium-strontium orthophosphate and 0.24 kg of magnesium fluorogermanate. Put them in a porecelain cylinder and mix for 1 hour. A suspension is prepared from the mixture obtained and it is applied to the tubes.

1/1

KHUSHVAKHTOV, I.

ECO

Handwritten signature/initials

DEVELOPMENT OF SOCIALIST TRADE, COLLABORATION

[Article by Candidate of Economic Sciences I. Khushvakhitov, "Economic Collaboration of the USSR with the Socialist Nations", Buzhanab, Kommunist Tadzhikistana, Russion, 16 March 1972, pp 2-3]

Mutual economic collaboration, and the active use of benefits from the international socialist division of labor, along with collaboration in the political arena, have become a most important factor for bringing the socialist nations closer together, for accelerating their economic development and for strengthening their position in the world economy. The Soviet Union plays the leading role in the development of this collaboration.

As is known, the growth of two-way trade is a general index showing the economic collaboration between the socialist nations. In 1970, the foreign trade turnover of the Soviet Union was 22.1 billion rubles, of which 14.4 billion rubles was with the socialist nations. The major trade partners of the Soviet Union are the GDR, Poland, Czechoslovakia, Bulgaria, Hungary, Cuba and Rumania. Foreign trade ties have developed particularly successfully with the CEMA member nations. The USSR is responsible for nearly two-fifths of their trade turnover.

Soviet deliveries cover one-third of the import requirements for machinery and equipment, two-thirds for hard coal, almost 100 percent for oil, three-quarters of oil products, 85 percent for iron ore, 97 percent for iron, and 60 percent for cotton. As a whole, in terms of the imports of major types of raw materials and fuel, the Soviet Union satisfies 70 percent of the demand of the CEMA member nations and Cuba, as well as a significant share of the demand of North Vietnam and North Korea. Already more than 8.3 million tons of petroleum have been delivered to the fraternal socialist nations over the Friendship Oil Pipelines. In 1975, the second stage of this oil pipeline will be in operation.

In turn, the USSR is the main customer for the machine building products of the CEMA member nations. Our nation receives one-half of the machinery and equipment exported by these nations, including nearly 50 percent of the ships and ship equipment, around 65 percent of the rolling stock, around two-thirds of the equipment for the chemical and food industry,

Handwritten notes:
- 15 -
CPAS: 55744
18 April 1972

USSR

UDC 669-154.42+62-404.1:293

VLASOV, N. N., KHUSNOYAROV, K. B., and BIGEYEV, A. M., Ural Institute of Ferrous Metals

"Effect of Purging a Metal With Argon on Its Flowability"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniyy--Chernaya Metallurgiya, No 6, Jun 73, pp 33-36

Abstract: The effect of argon purging on the flowability of a molten metal was examined. In all- 342 measurements were taken from 57 heats, from which it was established that the flowability of a metal after an argon blow is increased on the average of 11.9% with variation limits of 8.3-17.7%. The increased flowability occurs in the first five minutes of the blow, then it stabilizes and becomes almost independent of the type and amount of added deoxidizing agent. The increased flowability can be explained by the reduced content of nonmetallic inclusions and some rearrangement of the molten melt structure. 3 figures, 7 bibliographic references.

1/1

USSR

UDC 8.74

KANEVETS, G. YE., PITERTSEV, A. G., KHUSNULLIN, M. KH.

"Complex Optimization of Heat Exchange Equipment"

Kompleksnaya optimizatsiya teploobmennyykh apparatov (cf. English above), Republic Library of Algorithms and Programs, Kiev, 1972, 259 pp, ill., 75 k (from RZh-Kibernetika, No 12, Dec 72, Abstract No 12V511K)

Translation: The structure, equations and programs suitable for performing any optimizing calculations in practice for industrial heat exchangers including calculations with respect to optimal replacement of obsolete equipment are presented.

1/1

- 101 -

Mining

USSR

UDC:550.93

BIGAYEVA, A. R., KHUSNUTDINOV, R. I., ASKAROV, F. A.

"The Accuracy of Determination of the Absolute Age of Geological Formations by the K/Ar Method"

Tashkent, Uzbekskiy Geologicheskii Zhurnal, No. 6, 1970, pp. 20-23

Abstract: The potassium-argon method, based on determination of the quantity of radiogenic Ar^{40} accumulated in a specimen since its formation as a result of natural decay of K^{40} , is one of the most widespread methods of determining the absolute age of geological formations. This article presents mathematical formulas for determination of the relative mean square error in the measurement of absolute age. This error is found to depend on the mean square errors in determination of Ar^{40} and K. Another formula indicates the dependence of mean square error on age with identical measurement errors for the contents of the two materials. The error decreases with increasing specimen age.

1/1

USSR

UDC 632.95

5

GOLYSHIN, I. M., MONOVA, V. I., KLIMKINA, L. P., IVANOVA, S. N., MEL'NIKOV, N. N., KHUSNETDINOVA, F. I., SHVETSOV-SHILOVSKIY, N. I., SAMYSHKINA, M. A., and BOLONINA, YE. I.

"An Antiseptic"

USSR Author's Certificate No 355008, Div B, filed 11 Jan 71, published 13 Nov 72 (from RZh-Khimiya, No 14, 25 Jul 73, abstract No 14N616 P by T. A. Belyayeva)

Translation: It is proposed that 4,5,6-trichlorobenzoxazolinone-2 (I) be used as an antiseptic for nonmetallic materials, and at the same time is a bactericide, which considerably extends the sphere of its action. Compound I is used in a 2-2.5% concentration to control mold, wood-rotting and wood-discoloring fungi.

1/1

USSR

UDC 576.858.25.095.5

GAYDAMOVICH, S. Ya., TSILINSKIY, Ya. Ya., L'VOVA, A. I., and KHUTORETSKAYA, N. V., Institute of Virology imeni D. I. Ivanovskiy, USSR Academy of Medical Sciences, Moscow

"Genetic Properties of Venezuelan Equine Encephalomyelitis Virus Manifested During Replication in Carriers"

Moscow, Voprosy Virusologii, No 4, Jul/Aug 71, pp 412-415

Abstract: Certain characteristics of several clones of Venezuelan equine encephalomyelitis virus were studied during replication in *Aedes aegypti* mosquitoes, which are not the natural carriers of these viruses. No clones were pathogenic to the mosquitoes. Clones 3/5 and 5 were readily transmitted to the mosquitoes, multiplied rapidly, entered the salivary glands of the mosquitoes, and were transmitted from mosquito to mouse by bite. Upon intracerebral or intraperitoneal administration into healthy mice, extracts of these mosquitoes induced encephalomyelitis in the mice. Clones 7, 14, and 17, though ingested with food, multiplied in the mosquitoes at a much slower rate, did not enter salivary glands, and thus were not transmitted by bite; extracts of these mosquitoes were not pathogenic to mice either after intracerebral or

1/2

USSR

GAYDAMOVICH, S. Ya., et al, Voprosy Virusologii, No 4, Jul/Aug 71, pp 412-415
after intraperitoneal administration. It is concluded that the ability of
Venezuelan equine encephalomyelitis virus to proliferate in Aedes aegypti mos-
quitoes and to enter their salivary glands represents genetic properties of
some clones, directly associated with their virulence.

2/2

- 9 -

USSR

UDC 576.858.25.095.38:576.895.771

GAYDAKOVICH, S. YA., TSILINSKIY, Y. YA., L'VOVA, A. I., and KHUTORETSKAYA, N. V., Institute of Virology imeni D. I. Ivanovskiy Academy of Medical Sciences USSR, Moscow

"Reproduction Characteristics of Clones of Venezuelan Equine Encephalomyelitis Virus in *Aedes aegypti* Mosquitos"

Moscow, Meditsinskaya Parazitologiya i Parazitarnyye Bolezni, Vol 40, No 3, May/June 71, pp 267-271

Abstract: Genetically stable clones of arboviruses are useful for experimental work designed to study reproduction. A comparison study of reproduction in *Aedes aegypti* mosquitos of various virus clones was made. The clones differed in their pathogenic character with respect to white mice and in a few other genetic characteristics. A "wild" strain of Venezuelan equine encephalomyelitis was used and from it were isolated clones 3/5 and 17, as well as clones 53 and 56. The two latter clones are avirulent for white mice at lower temperatures. Clones 3/5 and 5 had a high virulence and represented induced mutants which predominate in the population of "wild" virus, whereas clone 17 was a "spontaneous" mutant, which belongs to the natural population and which has reduced pathogenic character for mice. The natural virulent mutants multiplied intensively
1/2

USSR

GAYDANOVICH, S. YA., et al., Meditsinskaya Parazitologiya i Parazitarnyye Bolezni, Vol 40, No 3, May/Jun 71, pp 267-271

in *Aedes aegypti* mosquitos, accumulated in the salivary glands of white mice, and were transmitted by bite. The virulent species caused intense viremia. It was concluded that these biological properties of the virulent species may ensure their permanent circulation in nature and their predominance in the natural population of Venezuelan equine encephalomyelitis virus. The avirulent species, on the other hand, do not penetrate into the salivary gland, are not transmitted by bite and as they reproduce in the mice, their concentration in the blood is insufficient for vector infection. Also, the circulation of "spontaneous" mutants with low pathogenicity is inhibited by low viremia.

2/2

- 49 -

USSR

UDC 543.424.547.414.8

LEVIN, A. A., KHITORETSKIY, V. M., OKHLOBSTINA, L. V., and SHLYAPOCHNIKOV, V. A., Institute of Organic Chemistry imeni N. D. Zelinskiy, Academy of Sciences USSR

"Raman Spectra of Polynitro- and α -Halogenopolynitroalkanes"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 11, Nov 71, pp 2575-2577

Abstract: The article gives the first results of a study of the intensities of a number of Raman spectral lines of polynitro- and α -halogenopolynitroalkanes and previously unpublished Raman spectra for $IC(NO_2)_3$, $FC(NO_2)_3$, $CH_3CH(NO_2)_2$, $ClCH(NO_2)_2$, $FCH(NO_2)_2$. Intensities were measured for lines of the symmetric stretching and deformation vibrations of C-NO₂ groups. Analysis of the results shows that in the considered series of compounds the line intensities vary within rather a wide range. It is suggested that interaction of the nitro groups with halogen atoms leads to significant changes in the electronic properties of α -halogenopolynitroalkane molecules. An increase in intensities is mainly due to a decrease in the electron-acceptor properties of the substituent and the degree of its polarizability.

1/1

- 63 -

KHUTORETSKIY V.M.

Acc. Nr.

AT0049881

Abstracting Service:
CHEMICAL ABST. 5/70

Ref. Code

4P0020

105739n EPR study of single-electron transfer reactions in a series of polynitro- and halopolynitroalkanes. Shapiro, B. I.; Okhlobystina, L. V.; Khutoretskii, V. M.; Fainzilberg, A. A.; Syrkin, Ya. K. (Inst. Org. Khim. im. Zeliginskogo, Moscow, USSR). *Dokl. Akad. Nauk SSSR* 1970, 190(1), 151-4 [Phys Chem] (Russ). EPR signals were detected at -30° in the reaction products of 2,4,6-tri-*tert*-butylphenoxy anion with the indicated substances: $(O_2N)_2C$ (I), $ClC(NO_2)_2$ (II), $FC(NO_2)_2$, and $MeC(NO_2)_2$ (III), as well as $FC(NO_2)_2Cl$, $F_2C(NO_2)_2$, $PhC(NO_2)_2F$ (IV), $MeC(NO_2)_2Cl$, $MeC(NO_2)_2F$, and $Me_2C(NO_2)_2$; at room temp. the EPR signal was obtained only from I, II, III, and IV systems. The uv spectra of these were also reported for detection of the polynitro anions; these were absent in cases of $PhC(NO_2)_2^-$ and $MeC(NO_2)_2^-$ only. The results confirmed that the anion-radical mechanism describes the nature of the reaction of the polynitro compds. with the anion shown above.

G. M. Kosolapoff

1/1

REEL/FRAME
19801813

7
H

1/3 029 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--FLUORINATION OF SALTS OF ALPHA, BETA, AND GAMMA SUBSTITUTED
GEMDINITRO COMPOUNDS BY PERCHLORYL FLUORIDE -U-
AUTHOR--(03)-OKHLOBYSTINA, L.V., KHUTORETSKIY, V.M., FAYNZILBERG, A.A.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (2), 387-92
DATE PUBLISHED----- 70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--FLUORONITRO COMPOUND, CHEMICAL SYNTHESIS, NITRILE, ORGANIC
NITRO COMPOUND, AMINE DERIVATIVE, NMR SPECTRUM, IR SPECTRUM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/0814 STEP NO--UR/0062/70/000/002/0387/0392
CIRC ACCESSION NO--AP0119721
UNCLASSIFIED

2/3 029

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119721

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PASSING FCLO SUB3 INTO 7.2 G (O SUB2 N) SUB2 C (HN SUB4) CONH SUB2 IN (CH SUB2 OME) SUB2 2 HR AT 20DEGREES GAVE AFTER DILN. AND EXTN. WITH ET SUB2 D 5.6PERCENT CF(NO SUB2) SUB2 CONH SUB2, M. 29DEGREES. SIMILARLY (O SUB2 N) SUB2 C (NH SUB3 ET) CONHET GAVE 14PERCENT CF(NO SUB2) SUB2 CONHET, B SUB2 102-80DEGREES, M. 47DEGREES. REACTION OF FCLO SUB3 WITH A SOLN. OF (O SUB2 N) SUB2 CHACN 4 DAYS GAVE, IN HOCH SUB2 CH SUB2 OME, 74PERCENT FC(NO SUB2) SUB2 C (:NH) OCH SUB2 CH SUB2 OME, B SUB2 85-90DEGREES, N PRIME20 SUBD 1.4370. SIMILARLY, (O SUB2 N) SUB2 CKCH SUB2 C (NO SUB2) SUB2 ME IN THF WITH FCLO SUB3 3 HR AT 0-2DEGREES GAVE 29PERCENT 1,FLUORO,1,1,3,3,TETRANITROBUTANE, M. 37-80DEGREES. K SALT OF (O SUB2 N) SUB2CHCH SUB2 OH AND FCLO SUB3 SIMILARLY GAVE IN 13 HR AT 20DEGREES 20PERCENT CF(NO SUB2) SUB2 CH SUB2 OH, B SUB1 54 DEGREES. FCLO SUB3, PASSED INTO KC(NO SUB2) SUB2 CH SUB2 OME IN ME SUB2 CO GAVE 64PERCENT FC(NO SUB2) SUB2 CH SUB2 OME, B SUB28 75-70DEGREES, N PRIME20 SUBD 1.4062, D PRIME20 1.3855. FCLO SUB3 PASSED INTO KC(NO SUB2) SUB2 CH SUB2 HNAC IN ME SUB2 NCHO 1.5 HR, AT 20DEGREES GAVE 88PERCENT CF(NO SUB2) SUB2 CH SUB2 NACN, M. 55DEGREES. (O SUB2 N) SUB2 CHCH SUB2 HNBZ IN MECH TREATED WITH MEONA, THEN FCLO SUB3 1.5 HR, GAVE 82PERCENT CF(NO SUB2) SUB2 CH SUB2 NH8Z, M. 89DEGREES. KC(NO SUB2) SUB2 CH SUB2 CH SUB2 CN AND FCLO SUB3 IN ME SUB2 CO OVERNIGHT GAVE 49PERCENT FC(NO SUB2) SUB2 CH SUB2 CH SUB2 CN, M. 21DEGREES. K SALT OF 5,5,DINITRO,2,PENTANONE AND FCLO SUB3 IN THF 3 HR GAVE 65PERCENT CF(NO SUB2) SUB2 CH SUB2 CH SUB2 AC, B SUB2 71-40DEGREES, B SUB4 86-70DEGREES, 1.4382, 1.3577.

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--23OCT70

3/3 029

CIRC ACCESSION NO--AP0119721

ABSTRACT/EXTRACT--(O SUB2 N) SUB2 CHCH SUB2 CH SUB2 BZ SIMILARLY TREATED WITH NaOH IN HOCH SUB2 CH SUB2 OME, FOLLOWED BY FCLO SUB3, GAVE 93PERCENT CF(NO SUB2) SUB2 CH SUB2 CH SUB2 BZ, M. 52.5DEGREES. FCLO SUB3 AND KC(NO SUB2) SUB2 CH SUB2 CH SUB2 NHAC IN (CH SUB2 OME) SUB2 GAVE 93PERCENT CF(NO SUB2) SUB2 CH SUB2 CH SUB2 NHAC, 8 SUB2 125-300DEGREES, 1.4603. IR AND NMR SPECTRAL DATA ARE GIVEN. FACILITY: INST. ORG. KHIM. IM. ZELINSKOGO, MOSCOW, USSR.

UNCLASSIFIED

USSR

KHUTORNOY, A. M., SOFRONKOV, A. N., and MAKORDEY, F. V.

"Radiographic Study of Alloyed Oxide Films on Nickel in an Alkaline Environment at Increased Temperatures"

Moscow, Zashchita Metallov, Vol 6, No 6, Nov-Dec 70, pp 687-689

Abstract: This article contains the results of a study of the behavior of nickel oxidized in advance -- pure and with additives of Li, Ba, Al, Mn -- in an 85% solution of KOH at a temperature of 150° and an oxygen pressure of 2 atm. The intensities of the (200) NiO line and the (003) γ -NiO(OH) line as functions of the time the samples are in the alkaline environment are presented. From the variation of the intensities of these lines and the colors of the samples as functions of the time they are in the alkali, it can be concluded that a nickel oxide film is formed on the surface of the pure metal samples during a period of 20 hours in the alkali (the (200) NiO line reaches a maximum at this time). Between 20 and 80 hours there is rapid formation of the hydroxide γ -NiO(OH). It is proposed that the formation of the hydroxide as a result of diffusion of the Ni²⁺ ions through the NiO layer takes place until the thickness of the γ -NiO(OH) layer reaches the magnitude at which the diffusion rate of the Ni²⁺ ions becomes stationary. The decrease in intensity of
1/2

USSR

KHUTORNOY, A. M., et al, Zashchita Metallov, Vol 6, No 6, Nov-Dec 70, pp 687-689

the (003) NiO(OH) lines at 100 hours indicates thickening of the hydroxide film, which is possible as a result of the transition of γ -NiO(OH) to soluble oxides or other soluble nickel compounds.

By comparing the variations of the (003) γ -NiO(OH) lines, it is concluded that the film of γ -NiO(OH) hydroxide formed on the previously oxidized nickel is thicker than on the pure nickel. This is explained by an increase in the width of the diffusion zone for Ni²⁺ ions as a result of nickel oxide formed earlier. This complicates diffusion of the Ni²⁺ ions to the surface of the sample. From the variation of the intensity of the (003) γ -NiO(OH) lines it follows that the thickness of the hydroxide film passes through a series of minima and maxima. This was also noted for the pure nickel samples. The consequences of adding Li, Ba, Al, and Mn and the mechanisms of their effects are discussed briefly. No incorporation of barium in the NiO lattice was detected. On adding lithium there was earlier and more intense formation of the hydroxide. It is concluded that adding aluminum leads to the formation of a film preventing the diffusion of nickel and inhibition of the formation of the hydroxide. There is intense formation of the hydroxide in the presence of manganese explained by the incorporation of manganese in the crystal lattice of the nickel oxide.

2/2

USSR

UDC: 666.972.5

KHUTORTSOV, G. M., Candidate of Technical Sciences

"New Method of High-Tightness Concrete Production"

Moscow, Beton i Zhelezobeton, No. 4, April, 1971,
pp 18-20

Abstract: The usual method of producing concrete is to use an excess of water over the amount required to react with the cement. This excess facilitates pouring, but causes entrapment of air which increases the porosity. The porosity of ordinary concrete is 12 to 20%.

1/2

USSR

KHUTORTSOV, G.M., Beton i Zhelezobeton, No 4, April 1971, pp 18-20

The new method consists of filling the mold with dry mixture of cement, sand and gravel, and then to impregnate the mixture with water admitted under pressure through the perforated mold bottom.

The porosity of concrete produced by the "dry" method is 6 to 10%. The watertightness was checked by subjecting a 3 cm thick specimen to a hydrostatic pressure of 20 atmospheres for 300 hours. There was no sign of water passing through. This concrete has high-strength. Its homogeneity was checked ultrasonically.

2/2

- 29 -

1/2 017 UNCLASSIFIED PROCESSING DATE--11DEC70
TITLE--THERMAL STABILITY OF ACIDIC SODIUM SELENITES --U-

AUTHOR--(04)-SELIVANOVA, N.M., KOSHCINA, Z.V., ANANINA, M.S.,
~~KHUTUNYANSKIY, F.M.~~
COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(5), 975-81

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--THERMAL STABILITY, SODIUM COMPOUND, SELENIDE, X RAY ANALYSIS,
THERMAL ANALYSIS, SODIUM OXIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/0951

STEP NO--UR/0080/70/0437005/0975/0981

CIRC ACCESSION NO--AP0131536

UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--11DEC70

CIRC ACCESSION NU--AP0131536

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CURVE OBTAINED FROM THE DTA ANAL. OF NAHSEO SUB3 HAS 4 ENDOTHERMAL POINTS WITH MAX. AT 114, 343, 615, AND 710DEGREES. THERMOGRAVIMETRIC, CHEM., AND X RAY ANAL. ALLOWED THE MAX. TO BE ASCRIBED TO THE FOLLOWING PROCESSES; (1) 2NAHSEO SUB3 YIELDS NA SUB2 SE SUB2 O SUB5 PLUS H SUB2 O, (2) MELTING OF NA SUB2 SE SUB2 O SUB5, (3) NA SUB2 SE SUB2 O SUB5 YIELDS NA SUB2 SEO SUB3 PLUS SEO SUB2 AND, (4) MELTING OF NA SUB2 SEO SUB3 WITH PARTIAL DECOMPN. THE DTA CURVES OF NAH SUB3 (SEO SUB3) SUB2 HAVE MAX. AT 114, 350, 608, AND 710DEGREES. THE 1ST MAX. CORRESPONDS TO 2(NAHSEO SUB3 P SUB2 SEO SUB3) YIELDS NA SUB2 SE SUB2 O SUB5 PLYS 2SEO SUB2 PLYS BH SUB2 O AND MAX. 2-4 ARE ATTRIBUTED TO THE SAME PROCESSES AS IN THE CASE OF NAHSEO SUB3. DECOMPN. PRODUCTS OF BOTH SALTS HEATED TO 1100DEGREES ARE COMPOSED MAINLY OF NA SUB2 O.

UNCLASSIFIED

USSR

UDC 621.315.592:546.682'86

SANDULOVA, A. V., PETRUSHKO, I. A., KHUTORYANSKIY, L. D.

"Thin Layers of Indium Antimonide with High Mobility Obtained by Liquid Metal Pressure"

Elektron. tekhnika. Nauchno-tekhn. sb. Kriogen. elektronika (Electronic Engineering. Scientific and Technical Collection. Cryogenic Electronics), 1970, vyp. 1 (2), pp 91-96 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G494)

Translation: Thin layers of indium antimonide are obtained by squeezing a molten drop of InSb between two parallel substrates with subsequent crystallization. The electrophysical properties of the thin layers are investigated in a broad temperature range. The mobility of the carriers in the samples with electron conductivity reaches 70,000 cm²/volt-second at room temperature. The bibliography has 11 entries.

1/1

USSR

UDC 537.311.33:546.28/289

KEKELIDZE, N.P., KEKUA, M.G., KHUTSISHVILE, E.V., GLAZOV, V.I.

"Study Of The Hall Effect In A Heavily Doped n-Type Si-Ge Alloy At High Temperatures"

V sb. Issled. materialov dlya novoy tekhn. (Study Of Materials For New Technics--Collection Of Works), Tbilisi, "Metsniyereba," 1971, pp 94-99 (from RZh--Elektronika i yeye primeneniye, No 11, Nov 1971, Abstract No 11B38)

Translation: The Hall effect and the electrical conductivity were studied of the alloy $\text{Si}_{0.85}\text{Ge}_{0.15}$ heavily-doped with As, with a concentration of current carriers $\sim 10^{20} \text{ cm}^{-3}$, and also specimens of the n-type alloy $\text{Si}_{0.85}\text{Ge}_{0.15}$ doped by As and compensated by Ga. Measurements were made in the temperature range $300 - 1000^\circ \text{ K}$ at a direct current and in a permanent magnetic field. In the heavily-doped Si-Ge alloy a decrease of the Hall constant with an increase of the temperature was observed, which is connected with an increase of the concentration of current carriers and not with a change of the Hall factor. The increase of the concentration of the current carriers is explained by the fact that part of the As at room temperature is found under conditions where it does not display donor properties. A decrease of mobility is detected, the result

1/2

USSR

KEKELIDZE, N. P., et al., Issled. materialov dlya novoy tekhn. (Study of Materials For New Technics--Collection of Works), Tbilisi, "Metsniyereba," 1971, pp 94-99 (from RZh--Elektronika i veye primeneniye, No 11, Nov 1971, Abstract No 11B38)

of the introduction of the compensating impurity with the degree of compensation ~ 30 percent. It is assumed that in the compensated specimens the number of ionized centers is increased because of acceptors. It results that in the temperature range $300 - 1000^\circ \text{K}$ the mobility is changed approximately according to the law $u \sim T^{-1.1}$ for the noncompensated and $u \sim T^{-0.9}$ for the compensated alloy. An evaluation was conducted of the relationships of the mobilities dependent upon various scattering mechanisms. It is shown that at room temperature scattering is primarily dependent upon ions of the impurity. With an increase of the temperature scattering at thermal vibrations gives an appreciable contribution to the total mobility. 5 ref. I.I.

2/2

- 90 -

USSR

UDC 51:330.115

LOMINADZE, N. M., KHUTSISHVILI, R. L., CHITAVA, Z. D.

"Experimental Study of the Solution of the Problem of Selecting Shipping Ports for Marine Transport"

Tr. XV Nauchno-Tekhn. Konf. Prof.-Prep. Sostava I Nauchn. Rabot Po. Probl. I Otrasl. Labor. Gruz. Politekhn. In-t Vyp. 17, [Works of the 15th Scientific-Technical Conference of Teachers and Scientific Workers of the Problem and Branch Laboratory of Georgian Polytechnical Institute, No. 17], Tbilisi, 1970, pp 69-76, (Translated from Referativnyy Zhurnal Kibernetika, No 5, 1971, Abstract No. SV591).

No Abstract.

1/1

- 43 -

1/2 020 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--STANDARDIZATION IN TEACHING PROCEDURE AND IN PREPARATION OF YEARLY
AND DIPLOMA DESIGN PROJECTS -U-
AUTHOR--(03)-SHAPOVALENKO, A.M., KHUTSIYEV, A.I., DMITRIYEV, M.M.
COUNTRY OF INFO--USSR
SOURCE--STANDARTY I KACHESTVO, 1970, NR 2, PP 52-54
DATE PUBLISHED-----70
SUBJECT AREAS--BEHAVIORAL AND SOCIAL SCIENCES
TOPIC TAGS--DESIGN STANDARD, TEACHING PROCEDURE, ADVANCED EDUCATION
QUALITY, DIPLOMA PROJECT, R AND D EFFECTIVENESS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1985/0328 STEP NO--UR/0422/70/000/002/0052/0054
CIPC ACCESSION NO--AP0100815
UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0100815

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SPECIALISTS GRADUATED FROM THE HIGHER SCHOOL SHOULD BE PREPARED BETTER, THE AUTHORS THINK. IT IS SUGGESTED THAT ALL THE INSTITUTES TEACH A COURSE OF FUNDAMENTALS OF STANDARDIZATION. ALL TYPES OF STUDENTS' WORKS SHOULD BE FORMULATED TO CERTAIN DESIGN STANDARDS WHICH REQUIRE WORKING OUT AND INTRODUCTION IN PRACTICE AT THE INSTITUTES.

UNCLASSIFIED

USSR

UDC 621.35.035.2:[669.293+669.296]

KHJZIYATOVA, N. G.

"Use of Niobium and Zirconium Electrodes in Precipitation Reactions"

Materialy XIV Nauch. Konf. Ch. 3 [Materials of XIV Scientific Conference, Part 3 -- Collection of Works], Far Eastern University, Vladivostok, 1970, pp 114-121, (Translated from Referativnyy Zhurnal, Khimiya, No 2, 1972, Abstract No 2 L295 by K. S. Pedan).

Translation: The possibility was studied of using Nb and Zr electrodes as indicator electrodes for potentiometric testing of various technological processes. Based on the capabilities of the electrodes studied -- high rate of maximum current, high sensitivity, presence of jumps in maximum current at the equivalent point during potentiometric titration -- the possibility of using these electrodes as indicator electrodes in precipitation reactions (argentometric determination of halogens, ferrocyanide determination of Zn and Cd) was concluded. The modes of preliminary processing of the surface electrodes for the achievement of optimal operating conditions are briefly described.

1/1

" 26 "

USSR

UDC: 620.17

TOMILOV, F. K. and KHVAN, D. V., Voronezh Polytechnic Institute

"Study of the Plastic Deformation of Heated Metal Using the Hardness Measurement Method"

Moscow, Zavodskaya laboratoriya, Vol 38, No 2, 1972, pp 225-227

Abstract: The objective of this paper was the application of hardness measurements to studying the plastic deformation of heated metal. The tensile, compression, and torsion tests involved flat specimens of St.3 and 10 steel at 20, 200, and 300°C and L62 brass at 300°C. It is shown that the relationship between the hardness of the cooled-off metal and the stress intensity at higher temperatures is independent of the type of state of stress. This permits the hardness measurements to be of use in studying the state of stress in plastic deformation processes occurring at higher temperatures. The deformation temperature is not to exceed that of recrystallization since the latter removes the strengthening effect produced by deformation. (2 illustrations, 5 bibliographic references).

1/1

1/2 025 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--CONSIDERATION OF BODY HETEROGENEITIES IN ELECTRON THERAPY OF TUMORS
-U-
AUTHOR--(03)-KHAVAN, G.V., NURMANDV, M.SH., AZHIGALIYEV, N.A.
COUNTRY OF INFO--USSR
SOURCE--MEDITSINSKAYA RADIOLOGIYA, 1970, VOL 15, NR 5, 54-63
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--ELECTRON RADIATION, RADIOTHERAPY, IRRADIATION DOSIMETRY,
BIOLOGIC MODEL/(U)B15MEV BETATRON
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1998/0276 STEP NO--UR/0241/70/015/005/0054/0063
CIRC ACCESSION NO--AP0120965
UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0120965

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BODY HETEROGENEITIES EXERT AN ESSENTIAL INFLUENCE ON THE DOSE DISTRIBUTION IN IRRADIATION WITH HIGH ENERGY ELECTRONS. THE AUTHORS PROPOSED CORRECTION COEFFICIENTS FOR BODY HETEROGENEITIES WITH THE AID OF SEMIEMPIRICAL FORMULAS. BY MEANS OF A MINIATURE IONIZATION CHAMBER THE AUTHORS GIVE DETAILED DOSIMETRIC MEASUREMENTS IN HOMOLOGOUS AND HETEROGENOUS PHANTOMS FROM ALUMINUM, SULFUR, MAGNESIUM, FOAM PLASTIC, AND POLYSTYROLE IMITATING THE MUSCULAR TISSUE, BONES AND LUNGS. CONCRETE CORRECTION COEFFICIENTS OF THE INFLUENCE OF BONE, LUNGS AND AIR LAYER ON THE DOSE DISTRIBUTION DURING IRRADIATION WITH BETATRON B-15 MEV ARE DEPICTED. FACILITY: KAZAKHSKIY N I INSTITUT ONKOLOGII I RADIOLOGII.

UNCLASSIFIED

1/2 018 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--KINETICS OF THE OXIDATIVE THERMAL DEGRADATION OF
POLY(PHENYLBUTOXYSILOXANES) -U-
AUTHOR--(04)-SIDNEV, A.I., KHVASHCHEVSKAYA, YU.V., MOISEYEV, A.F.,
PRAVEDNIKOV, A.N.
COUNTRY OF INFO--USSR
SOURCE--VYSOKOMOL. SOEDIN., SER. A 1970, 12(2), 362-7
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, MATERIALS
TOPIC TAGS--REACTION KINETICS, OXIDATIVE DEGRADATION, THERMAL DEGRADATION,
SILOXANE, ALKYL RADICAL, OXYGEN COMPOUND
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1992/0321 STEP NO--UR/0459/70/012/002/0362/0367
CIRC ACCESSION NO--AP0111515

UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0111515

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE OXIDATIVE THERMAL DEGRADATION OF THE TITLE POLYMERS (I) (PREPD. BY SIMULTANEOUS HYDROLYSIS AND ESTERIFICATION OF PHISCL SUB3) CONTG. VARIOUS AMTS. OF OBU GROUPS WAS STUDIED AT 150-240DEGREES. A SIGNIFICANT DEGRADATION COMMENCED AT 170DEGREES. DURING THE INDUCTION PERIOD, THE REACTION RATE WAS 1ST ORDER WITH RESPECT TO OBU GROUP CONTENT. THE DEGRADATION PRODUCTS OF I CONTAINED CO, CO SUB2, H SUB2 O, AND TRACES OF H AND CH SUB4. THE DEGENERATIVE BRANCHING OF I DURING DEGRADATION WAS CAUSED BY HYDROPEROXIDES. ADDN. OF 0.1PERCENT NEOZONE A (II) INCREASED THE INDUCTION PERIOD AT 200DEGREES FROM 5 TO 180 MIN, SUGGESTING THAT II WAS THE MOST EFFECTIVE STABILIZER OF I. THE OXIDATIVE THERMAL DEGRADATION RATE WAS PROPORTIONAL TO THE OBU-SI RATIO. A RADICAL AUTOCATALYTIC DEGRADATION MECHANISM WAS PROPOSED.

UNCLASSIFIED

1/2 018 UNCLASSIFIED PROCESSING DATE--02JCT70
TITLE--KINETICS OF THE OXIDATIVE THERMAL DEGRADATION OF
POLY(PHENYL BUTOXYSILOXANES) -U-
AUTHOR--(04)-SIDNEV, A.I., KHVASHCHEVSKAYA, YU.V., MOISEYEV, A.F.,
PRAVEDNIKOV, A.N. ~~_____~~
COUNTRY OF INFO--USSR
SOURCE--VYSOKOML. SOEDIN., SER. A 1970, 12(2), 362-7
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, MATERIALS
TOPIC TAGS--REACTION KINETICS, OXIDATIVE DEGRADATION, THERMAL DEGRADATION,
SILOXANE, ALKYL RADICAL, OXYGEN COMPOUND
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY RECL/FRAME--1992/0321 STEP NO--UR/0459/70/012/002/0462/0367
CIRC ACCESSION NO--AP0111515
UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0111515

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE OXIDATIVE THERMAL DEGRADATION OF THE TITLE POLYMERS (I) (PREPD. BY SIMULTANEOUS HYDROLYSIS AND ESTERIFICATION OF PHISCL SUB3) CONTG. VARIOUS AMTS. OF DBU GROUPS WAS STUDIED AT 150-240DEGREES. A SIGNIFICANT DEGRADATION COMMENCED AT 170DEGREES. DURING THE INDUCTION PERIOD, THE REACTION RATE WAS 1ST ORDER WITH RESPECT TO DBU GROUP CONTENT. THE DEGRADATION PRODUCTS OF I CONTAINED CO, CO SUB2, H SUB2 O, AND TRACES OF H AND CH SUB4. THE DEGENERATIVE BRANCHING OF I DURING DEGRADATION WAS CAUSED BY HYDROPEROXIDES. ADDN. OF 0.1PERCENT NEOZONE A (II) INCREASED THE INDUCTION PERIOD AT 200DEGREES FROM 5 TO 180 MIN, SUGGESTING THAT II WAS THE MOST EFFECTIVE STABILIZER OF I. THE OXIDATIVE THERMAL DEGRADATION RATE WAS PROPORTIONAL TO THE DBU-SI RATIO. A RADICAL AUTOCATALYTIC DEGRADATION MECHANISM WAS PROPOSED.

UNCLASSIFIED

1/2 016 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--ELASTIC ELECTRON SCATTERING ON NICKEL 58, NICKEL 60, NICKEL 64, AND
TIN 112, TIN 118 ISOTOPES -U-
AUTHOR--(05)-KHAVASTUNOV, V.M., AFANASEV, N.G., AFANASEV, V.D., GULKAROV,
I.S., OMELAEV, A.S.
COUNTRY OF INFO--USSR

SOURCE--NUCL. PHYS. A 1970, 146(1), 15-25

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--ELECTRON SCATTERING, ELASTIC SCATTERING, NICKEL ISOTOPE, TIN
ISOTOPE, CHARGE DENSITY, ATOMIC RADIUS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1997/0274

STEP NO--NE/0000/70/146/001/0015/0025

CIRC ACCESSION NO--AP0119269

UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0119269

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ABS. MEASUREMENTS HAVE BEEN PERFORMED FOR THE ELASTIC SCATTERING OF 225 MEV E ON PRIME 58,60,64 NI AND PRIME 112,118 SN ISOTOPES. THE EXPTL. RESULTS WERE ANALYZED BY USING THE HIGH ENERGY APPROXN. FOR THE FERMI TYPE CHARGE D. DISTRIBUTION. THE DERIVED ROOT MEANSQUARE RADII SHOW A CORRELATION BETWEEN THE CHANGE OF THE CHARGE RADIUS OF THE ISOTOPES AND THE ORBITAL MOMENTA (OR N SUBSHELL FILLING) OF THE ADDED N. THE RADII, DEDUCED FROM THE TRANSITION ENERGIES OF MUONIC ATOMS, TURN OUT TO BE SMALLER. AGREEMENT BETWEEN THE 2 EXPTS. CAN BE REACHED UNDER THE ASSUMPTION THAT THE CHARGE D. HAS A PRONOUNCED MAX. IN THE CENTRAL REGION OF THE PRIME58 NI NUCLEUS AND IS LESS PRONOUNCED FOR PRIME118 SN. FACILITY: PHYS. TECH. INST., KHARKOV, USSR.

UNCLASSIFIED

Acc. Nr:

AP 0036759

Abstracting Service:

CHEMICAL ABST. 4-70

Ref. Code:

UR 0068

6

78550k Preparation of mesitylene and durene by the isomerization and disproportionation of pseudocumene. Kolvandr, L. Ya.; Privalov, V. E.; Fomenko, G. M.; ~~Nikiforova, A. A.; Lakshina, L. S.; Kochergin, V. A.; Khratkov, N. M.; Krish-topa, A. P.; Bilym, L. M.; Grebinnik, Z. G. (Kadiev, Foksa-khim. Zavod, Kadievka, USSR). Koks Khim. 1970, (1), 33-40 (Russ). 1,2,4-Me₂C₆H₃ (I) of 90-5% purity was prepd. by rectifying coke chem. solvents (20-35 and 10-20% Me₂C₆H₄, 4-6 and 3-5% m + p-EtC₆H₄Me, 15-17 and 10-12% 1,3,5-Me₂C₆H₃ (II), 1-1.2 and 0.7-0.9% o-EtC₆H₄Me, 16-18 and 12-14% I, 1-2 and 2-3% 1,2,3-Me₂C₆H₃, 2-6 and 1-3% satd. hydrocarbons, and 0 and 2-3% unsatd. compds.) on columns having 50 theoretical plates at a reflux no. of 60-100. Isomerization and disproportionation in the presence of 30% of an AlCl₃-I complex at 127° for 3 hr in exptl. app. yielded 4.00% C₆H₆-PhMe-satd. compds., 17.27% Me₂C₆H₃, 17.02% II, 35.09% I, and 10.71% durene (III). Yields in plant runs were similar. Rectification of the II fraction on a lab. column having 75 theoretical plates at a reflux no. of 80-100 yielded II of 97.5% purity in 39.24% yield. After rectification to increase III concn. to 45.94% in the III fraction, recrystn. at 5 to -18° yielded III of ~82% purity and further recrystn. with 35% PhMe gave III of ~97% purity in ~85% yield (17% selectivity from I and 1.6% from the coke chem. solvent). Lucile S. Davison~~

RB

REEL/FRAME

19721671

+

7

USSR

UDC 536.463

KHVATOV, YU. A., and SHTEYNBERG, V. B.

"An Apparatus for Studying the Combustion of Freely Falling Drops"

Leningrad, Zhurnal Prikladnoy Khimii, Vol 43, No 4, Apr 70, pp 901-903

Abstract: The article suggests a new method for recording the combustion of a drop of liquid fuel according to the pressure rise in an air-tight furnace. The method makes it possible to obtain the curve for the burnup of a falling drop with time, which provides additional information about the combustion of individual drops. An apparatus was devised, consisting of a furnace 90 mm in diameter, through which are continuously blown the vapors of an oxidizer. Drops of the combustible are fed into the bottom of the furnace by means of an electric dropper. Nitrogen is blown through the dropper. The nitrogen and the oxidizer vapors are drawn off from the furnace by an ejector pump. The operating regime of the pump and the resistances are such that, with continuous blowing of the furnace, the furnace pressure is equal to atmospheric and the time constant of the transient regime is at

USSR

KHVATOV, YU. A., and SHTEYNBERG, V. B., Zhurnal Prikladnoy Khimii, Vol 43, No 4, Apr 70, pp 901-903

least 60 seconds. The pressure rise during the combustion of a drop is recorded by an inductance pickup. The bottom of the furnace is enclosed in mica, permitting the recording of the emittance of the drop's flame by means of a photomultiplier situated on the bottom. A temperature of up to 700° can be obtained. A number of fuels were studied on the apparatus. In all cases there was essential agreement between the moments of ignition and termination of combustion, recorded according to pressure and flame emittance, thus indicating the reliability of the method.

2/2

1/2 029 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--APPARATUS FOR STUDYING THE COMBUSTION OF FREELY FALLING DROPS -U-
AUTHOR--(02)-KHVATOV, YU.A., SHTEYNBERG, V.B.
COUNTRY OF INFO--USSR
SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(4), 901-3
DATE PUBLISHED-----70

SUBJECT AREAS--PROPULSION AND FUELS, METHODS AND EQUIPMENT
TOPIC TAGS--TEST METHOD, COMBUSTION RATE, LIQUID FUEL, MATHEMATIC MODEL

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/2213 STEP NO--UR/0080/70/043/004/0901/0903
CIRC ACCESSION NO--AP0127575
UNCLASSIFIED

2/2 029

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0127575

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A DESCRIPTION IS GIVEN OF A SPECIAL FURNACE FOR STUDYING COMBUSTION PROCESSES, IN WHICH THE FUEL IS BURNED WHILE IN A FREELY FALLING CONDITION. EXPTL. DATA RELATING THE CHANGE IN PRESSURE DURING COMBUSTION AT 700DEGREES TO THE LENGTH OF TIME THE DROPS ARE IN A FREELY FALLING STATE, CONFIRMED THE MATH. RELATIONS PREVIOUSLY DERIVED FOR THE SYSTEM.

UNCLASSIFIED

USSR

UDC 616.155.392-036.11-08

KHVATOVA, N. V., LORIYE, Yu. I., SOLOV'YEVA, Ye. A., and FRENKEL', M. A.,
Hematological Department and Clinical Laboratory, Institute of Experimental
and Clinical Oncology, Academy of Medical Sciences USSR, Moscow

"Comparative Evaluation of Various Methods for Treatment of Acute Leukemia"

Moscow, Terapevticheskiy Arkhiv, Vol 43, No 5, 1971, pp 3-7

Abstract: Adult patients with acute leukemia were treated using VAMP therapy (treatment with vinristine, methotrexate, 6-mercaptopurine, and prednisolone) TsAMP therapy (VAMP therapy modified by replacing vincristine with cyclophosphane, or therapy with rubomycin S. VAMP therapy was the most effective method of treating primary acute lymphoblastic leukemia (100% complete remission), but was less effective (33% complete remission) in resistant forms of leukemia that had developed in patients already treated. It was ineffective in acute myeloblastic leukemia. The frequency of complete remissions after TsAMP therapy was 66% in primary acute lymphoblastic leukemia, 33% in resistant cases (relapses) of this disease, 14% in primary acute myeloblastic leukemia vs. 0% after VAMP therapy, and 0% in relapses in myeloblastic leukemia. Rubomycin S was the most effective drug in the treatment of primary acute myeloblastic leukemia, producing 33% of complete remissions, 1/2

USSR

KHVATOVA, N. V., et al., Terapevticheskiy Arkhiv, Vol 43, No 5, 1971, pp 3-7

but was no more effective in relapses of this disease than the combinations of drugs applied in VAMP and TsAMP therapy. Upon treatment of acute lymphoblastic leukemia with rubomycin, the frequency of complete remissions was 66 and 14% in primary cases and relapses, respectively. Rubomycin had a more severe effect in suppressing normal hemopoiesis, particularly in acute myeloblastic leukemia, than the combinations of drugs administered in VAMP or TsAMP therapy.

2/2

- 87 -

Physiology

USSR

UDC 612.82.014.21.013.7.014.46:547.2'133

KHVATOVA, Ye. M., and VAULINA, V. A., Chair of Biochemistry, Gor'kovskiy Medical Institute

"The Effect of Sodium Oxybutyrate on Energy Metabolism in Brain Mitochondria Under Normal Conditions and During Circulatory Hypoxia"

Moscow, Voprosy Meditsinskoy Khimii, Vol 19, No 2, Mar/Apr 73, pp 163-166

Abstract: In intact white rats, sodium gamma-oxybutyrate (1.5 g per kg body weight, given intraperitoneally) accelerates oxidation and phosphorylation in brain mitochondria by about 30% without changing the ratio between controlled and phosphorylative respiration. Circulatory hypoxia (ligation of both carotid arteries for 1 1/2 hr) reduces the rate of controlled respiration and phosphorylation by about 15%. Sodium oxybutyrate administered 15-20 min prior to ligation of the carotid arteries maintains controlled respiration at the initial level but increases the phosphorylation rate to about the same degree as in intact animals. Thus, in cerebral ischemia causing an acute deficiency in the supply of oxygen and substrates, preliminary administration of sodium gamma-oxybutyrate exerts a beneficial effect on energy metabolism in brain cell mitochondria.

1/1

USSR

UDC 616-008.922.1.04-07:616-008.931:[577.158.47+577.8]-074

KHVATOVA, YE. M., RUBANOVA, N. A., and ZHILINA, I. A., Chair of Biochemistry,
Gorkiy Medical Institute

"The Activity of Monoaminooxidase and Respiratory Chain Enzymes in Acute Hypoxia"

Moscow, Voprosy Meditsinskoy Khimii, Vol 19, No 1, Jan/Feb 73, pp 3-5

Abstract: In rats suffering from circulatory hypoxia of the brain induced by ligation of one common carotid artery, the activity of monoaminooxidase (MAO) in brain mitochondria decreases by 29% as compared with control animals (sham surgery) and by 44% as compared with intact animals, and this reduction persists for at least 4 hrs. At the same time, the activity of succinate dehydrogenase (SD) and NADH-dehydrogenase (NADH-D) falls by about 23% in sham-operated controls but returns to normal in the experimental animals. In rabbits suffering from hypoxic hypoxia (air pressure in barochamber reduced to 310 mm Hg), NADH-D activity in brain mitochondria remains unchanged for 1 hr but decreases by a factor of 2 in 4 hrs. At the same time, SD activity increases by 22% and then returns to normal, while MAO activity first falls by 50% and then rises toward the normal level. Thus, hypoxia induces significant changes in respiratory enzyme activity, and the almost mirror-image changes in monoaminooxidase and succinate dehydrogenase confirm the concept of a mutual regulatory effect exerted by these two enzymes.

1/1

- 42 -

USSR

UDC 616.981.455-092.9:599.32

KHVESHCHENKO, Ye, N., and KIZILOVA, M. D., Primorskaya Antiplague Station

"Sensitivity of Some Primorskiy Kray Rodents to Tularemia Under Experimental Conditions"

Moscow, Zhurnal Mikrobiologii Epidemiologii i Immunobiologii, No 12, 1972, pp 70-73

Abstract: Tularemia susceptibility of 265 small rodents of three types, caught during winter and quarantined for 1 month, was tested by inoculating them subcutaneously with 0.5 ml of a suspension containing from 1 to 10^{10} cells of *Fr. tularensis* strain No 760. White mice used as controls died in 4-7 days after introduction of 1 microbial cell. Similarly, all 35 *Mycromys minutus* died in 3-7 days from acute infection. Necropsy revealed multiple hemorrhages in the liver and lungs, pulmonary hyperemia, and enlargement of the spleen. All tissue samples yielded abundant microbial growth. Of 120 *Microtus fortis*, 69 died in 5-19 days (LD_{50} was 5,600 bacteria) with similar pathology. Bacteriological investigations of the 51 survivors were positive in 5 cases, and the antibody titer was 1:1,600. Of 110 *Apodemus agrarius* Pall., 31 died in 3-9 days (LD_{50} was 31,620,000 bacteria) with similar pathological changes. Tularemia pathogen was isolated from two of the 79 surviving animals, and the antibody titer was 1:320. Thus, *Mycromys minutus* belongs to tularemia sensitivity group 1/2

USSR

KHVESHCHENKO, Ye. N. and KIZILOVA, M. D., Zhurnal Mikrobiologii Epidemiologii i Immunobiologii, No 12, 1972, pp 70-73

I, while *Microtus fortis* and *Apodemus agrarius* Pall. belong to group II. The serological method is recommended in addition to the bacteriological method in the investigation of natural foci of tularemia.

2/2

USSR

UDC: 537.5.62

BERTINOV, A. I., TYUTIN, V. K., and KHVESYUK, V. I., Moscow Aviation Institute
imeni S. Ordzhonikidze

"Methods for Determining the Fields of the Coefficients of Radiation of an Ionized
Gas in Rectangular Channels"

Moscow, Teplofizika Vysokikh Temperatur, Vol 10, No 1, Jan-Feb 1972, pp 35-40

Abstract: The authors study the problem of determining the local coefficients of radiation of an ionized gas. A general expression is derived which relates integral intensities and the local coefficients of radiation $\epsilon(x,y)$ for flows of arbitrary cross section. In the case of flows of rectangular cross section, this expression reduces to a system of linear algebraic equations. A simplified method is proposed for determining radiation coefficients. This method is suitable in those cases where $\epsilon(x,y)$ can be presented in the form of the product of two functions each of which depends only on one argument. The authors thank D.A. But for his helpful discussion and comments. Original article: 14 formulas, three figures, and five bibliographic entries.

1/1

1/2 013 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--SMELTING OF SILICOMANGANESE FROM ORE BRIQUETS IN A 16.5-MVA FURNACE

-U-
AUTHOR--KHVICHYA, A.T. *K*

COUNTRY OF INFO--USSR

SOURCE--STAL' 1970, 30(2), 138

DATE PUBLISHED-----70

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

TOPIC TAGS--ECONOMICS, SMELTING FURNACE, ORE, SILICON, MANGANESE, SULFITE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/1868

STEP NO--UR/0133/70/030/002/0138/0138

CIRC ACCESSION NO--AP0115687

UNCLASSIFIED