

272 012

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AT0124282
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE ENERGY OF EMISSION TRANSITIONS WERE STUDIED FOR THE HCL MOL. TAKING INTO ACCOUNT THE DISTORTION OF THE ORBITALS DUE TO HOLES. THE RESULTS OF CALCNS. FOR 7 POSSIBLE HOLE CONFIGURATIONS ARE TABULATED. IT IS CONCLUDED THAT THE ENERGY BOUND IN THE DISTORTION OF THE ORBITAL IS RATHER LARGE AND CANNOT BE IGNORED, PARTICULARLY FOR HOLES IN THE INTERNAL SHELLS. FACILITY: INST. NEORG. KHIM., NOVOSIBIRSK, USSR.

UNCLASSIFIED

Thermomechanical Treatment

4

USSR

UDC: 621.762.32:539.219

DOROFYEV, Yu. G., ZHERDITSKIY, N. T., PRUTSAKOV, V. T., ~~MURAT, V. V.~~
LAMKOV, K. K., Novochoerkassk Polytechnical Institute

"Effect of Thermomechanical Treatment on Diffusion of Carbon in
Steel Produced by Dynamic Hot-Pressing"

Kiev, Poroshkovaya Metallurgiya, No 4, 1972, pp 36-39.

Abstract: Studies were performed using specimens produced by pressing with subsequent heating and dynamic hot-pressing at 1100°C with holding at this temperature for 20 minutes. After the holding, dynamic hot-pressing was performed at 1100, 1000, 900, and 800°C in a die heated to 600°C with subsequent rapid cooling of the specimens in water. The diffusion of carbon occurred in a rarefied gas medium, using C¹⁴ as a label. It was found that with high-temperature deformation with shock loads and subsequent hardening, recrystallization processes are suppressed. Therefore, relief of hardening due to elimination of dislocation imperfections occurs incompletely, and the structure of the material has high internal stresses and dislocation

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USSR

DOROFYEV, Yu. G., ZHERDITSKIY, N. T., PRUETSAKOV, V. T., MURAL', V. V.,
LAMKOV, K. K., Novochoerkassk Polytechnical Institute, Kiev, Poroshkovaya
Metallurgiya, No 4, 1972, pp 36-39.

density and low mosaic block dimensions. The increase in dislocation
density reduces the diffusion of mobility of the carbon atoms, resulting from
their capture by structural defects, the concentration of which increases
with decreasing dynamic hot-pressing temperature.

2/2

USSR

UDC 535,343-15:546.822'21+546.882'21

AYVASOV, M. I., and MURANEVICH, A. KH., Institute of New Chemical Problems,
Academy of Sciences USSR

"Nature of the Interatomic Interaction in the Homogeneous Region of Titanium
and Vanadium Oxides"

Moscow, Neorganicheskiye Materialy, Vol 9, No 12, 1973, pp 2156-2158

Abstract: The IR absorption spectra of the variable composition of oxides TiO_{1+x} and VO_{1+x} , from $TiO_{0.83}$ to $TiO_{1.30}$ and from $VO_{0.79}$ to $VO_{1.29}$, are shown. The stable position of the valence band vibration for M-O in these oxides indicates that the strength of the bands is practically the same in each atom. The more rapid attenuation of the TiO_{1+x} vibration band relative to that of VO_{1+x} during an increase in x is related to the decrease in the degree of polarization of the M-O bond in TiO_{1+x} . The smaller overlap of the d-orbitals of the metal in VO_{1+x} relative to TiO_{1+x} causes a large number of valence electrons to be near the value of electronic component of the heat transfer. In VO_{1+x} structures having excess oxygen, an increase in the

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USSR

AYVAZOV, M. I., and MURANEVICH, A. KH., Neorganicheskiye Materialy, Vol 9,
No 12, 1973, pp 2156-2158

ionization of the M-O bond somewhat decreases the network component of the
heat transfer.

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UDC 620.191.032

USSR

SEVERDENKO, V. P., Academician of the Academy of Sciences Belorussian SSR,
MURAS, V. S., and ELIMELAKH, S. Z., Physicotechnical Institute, Academy of
Sciences Belorussian SSR

"Determination of Thermophysical Properties of Intermediate Graphite Medium
in Hot Hydrodynamic Extrusion"

Minsk, Doklady Akademii Nauk BSSR, Vol 15, No 11, Nov 71, pp 981-984

Abstract: The article describes a procedure for determining thermophysical properties of the intermediate graphite medium in hot hydrodynamic extrusion. Brand EG-0 solid electrode graphite was used as the initial material. The thermal diffusivity, coefficient of thermal conductivity and specific heat of the graphite under various process conditions were determined. It is shown that close to isothermal conditions can be created for the hot hydrodynamic extrusion of metals and alloys.

1/1

Graphite

UDC 621.98.03

USSR

SEVERDENKO, V. P., MURAS, V. S., and ELIMELAKH, S. Z., Physico
Technical Institute, Academy of Sciences, Belorussian SSR

"Analysis of Density and Volume of an Intermediate Graphite
Medium During Hot Hydrodynamic Extrusion"

Minsk, Izvestiya Akademii Nauk BSSR, Seriya Fiziko-Tekhnicheskikh
Nauk, No 4, 1971, pp 18-22

Abstract: An experimental analysis was made of the relative
density of EG-0 type electrode graphite used as a plug in hot
hydrodynamic extrusion as a function of the specific pressure.
This graphite has an ultimate strength of 3.5 kg/mm² and an
initial density of 3.26 g/cm³. The volume of graphite was
calculated for various parameters of the extrusion process.
The extrusion of steels and alloys both with and without shaped
profiles was considered.

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1/2 020 UNCLASSIFIED PROCESSING DATE--30OCT70
 TITLE--USING DEIONIZED WATER AS A DIELECTRIC FLUID FOR ELECTROEROSION
 MACHINE TOOLS -U-
 AUTHOR--(02)-TIKHIY, V.A., MURASHCHENKOV, I.I. *M*
 CCUNTRY OF INFO--USSR
 SOURCE--KIEV, TEKHNLOGIYA I ORGANIZATSIYA PROIZVODSTVA, NO 1, 1970, PP
 67-68
 DATE PUBLISHED-----70
 SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR
 TOPIC TAGS--ION EXCHANGE RESIN, ELECTROEROSION MACHINE TOOL, DIELECTRIC
 MATERIAL, FILTRATION, CUTTING FLUID, DEIONIZED WATER
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAME--1999/1317 STEP NO--UR/0418/70/000/001/0067/0068
 CIRC ACCESSION NO--AP0123276
 UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0123276

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DATA IS GIVEN ON THE EFFECTIVENESS OF USING WATER CLEANED BY ION EXCHANGE RESIN AS THE DIELECTRIC FLUID USED IN ELECTROEROSION MACHINE TOOLS. THE USE OF ION EXCHANGE FILTERS IS COMPARED TO OTHER METHODS FOR OBTAINING DEIONIZED WATER. A DIAGRAM IS GIVEN FOR AN ION EXCHANGE FILTER.

UNCLASSIFIED

USSR

UDC 629.7.036.3:536.46

2

GUSSAK, L. A., SAMOYLOV, I. B., SEMENOV, YE. S., MURASHEV, A. F., OZEROV, Ye. A., and STOTLAND, A. I.

"The Concluding Stage of the Turbulent Combustion of a Heterogeneous Mixture"

Moscow, Gorennye i Vzryv--Sbornik (Combustion and Explosion--Collection of Works), Nauka, 1972, pp 365-369 (from Referativnyy Zhurnal--Aviatsionnyye i Raketnyye Dvigateli, No 2, 1973, Abstract No 2.34.30. Resume)

Translation: This paper investigates a subsonic stream of gases in the nozzle zone of a model gas-turbine engine combustion chamber at temperatures from 700 to 1000°C. It is shown that the gas stream is not an equilibrium one, and consequently the thermodynamic approach may prove insufficient for determining the properties of such a stream. The work was conducted on an experimental combustion chamber in which diesel fuel was burned. The nonequilibrium state of the combustion products was established on the basis of ionization data of the gases and on the basis of their luminescence spectra. The mean temperature was simultaneously measured by thermocouples, and the composition of the gas-stream combustion products was determined. The obtained data permit the conclusion to be drawn that at regimes of 700 and 800°C, slow volume reactions of hydrocarbon burnout take place. The considerably large inequilibrium observed at regimes of 900 and 1000°C is caused mainly by removal of the

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USSR

GUSSAK, L. A., Goreniye i Vzryv--Sbornik, Nauka, 1972, pp 365-369

flame foci from the primary zone of the combustion chamber and, partially, by afterburning reactions within the volume. An attempt is made at an experimental justification of a possible mechanism which leads to the appearance of foci with a slow volume reaction. 2 figures. 7 references.

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1/2 019 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--INTRODUCTION OF MEDICINAL SUBSTANCES THROUGH THE UMBILICAL VEIN IN
THE TREATMENT OF HEPATIC ABSCESSSES -U-
AUTHOR-(04)-OSTROVERKHOV, G.YE., NIKOLSKIY, A.D., KOTOV, I.A., MURASHEVA,
Z.H.
COUNTRY OF INFO--USSR

SOURCE--KHIRURGIYA, 1970, NR 4, PP 75-79

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--VEIN, LIVER, ANTIBIOTIC DRUG EFFECT, DIAGNOSTIC METHODS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1983/1229

STEP NO--UR/0531/70/000/004/0075/0079

CIRC ACCESSION NO--AP0054124

UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0054124

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

ABSTRACT. THE AUTHORS ANALYZE THE RESULTS OF TRANSUMBILICAL INJECTION OF ANTIBIOTICS AND OTHER SUBSTANCES IN 8 PATIENTS WITH ABSCESSSES OF THE LIVER, 6 OF WHOM RECOVERED. IN PATIENTS WITH HEPATIC ABSCESSSES THE AUTHORS RECOMMEND THE USE CANNULIZATION OF THE UMBILICAL VEIN FOR DIAGNOSTIC PORTOHEPATOGRAPHY AND SUBSEQUENTLY FOR PROLONGED INTRAPORTAL INFUSION OF MEDICINAL SUBSTANCES AS A SEPARATE METHOD 4F TREATMENT OR IN COMBINATION WITH OPENING AND DRAINAGE OF ABSCESSSES. THE THEORETICAL SUBSTANTIATION OF THE EMPLOYMENT OF TRANSUMBILICAL INJECTION OF ANTIBIOTICS AND DRUGS IN THE TREATMENT OF PATIENTS WITH PYOGENIC ABSCESSSES OF THE LIVER WITH THE AID OF MICROBIOLOGICAL TECHNIQUES THE AUTHORS DEMONSTRATE BY THE FACT OF GREATER CONCENTRATION OF DRUGS IN THE ZONE OF THE PATHOLOGICAL FOCUS, THUS ENSURING A MORE PRONOUNCED CURATIVE EFFECT.

UNCLASSIFIED

Acc. Nr: AP0044858

Ref. Code: UR0531

PRIMARY SOURCE: Khirurgiya, 1970, Nr. M, pp 62-66

THROMBOSIS OF MESENTERIC VEINS

T. V. Nartsisov, V. Ya. Vasjutkov, Z. M. Murashena

Problems relative to the diagnosis and treatment of obstruction of mesenteric vessels are the most complicated in emergency surgery of the abdominal cavity. On the basis of analysis of 13 observations of thrombosis of mesenteric veins the authors arrived at the conclusion that the high lethality and severity of this affection are associated with the diagnostic difficulties and late hospitalization of patients for the operation. The most typical symptoms of obstruction of mesenteric veins are given. An early operation (thrombectomy or resection of the intestine) is the main method of treatment. Early and wide employment of direct anticoagulants is indicated in view of the fact that progressing thrombosis and affection of the portal vein is the cause of lethal outcomes.

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02 DI

REEL/FRAME
19771713

1/2 007 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--PYROLYTIC DECOMPOSITION OF HYDROLYSIS LIGNIN -U-
AUTHOR-(03)-MURASHKEVICH, T.V., SKRIGAN, A.I., KHATKO, A.I.
COUNTRY OF INFO--USSR
SOURCE--VESTSI AKAD. NAVUK BELARUS. SSR, SER. KHIM. NAVUK 1970, (1), 80-4
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, MATERIALS
TOPIC TAGS--PYROLYSIS, LIGNIN, PHENOL, WOOD CHEMICAL PRODUCT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1999/1874
CIRC ACCESSION NO--AP0123662
STEP NO--UR/0419/70/000/001/0080/0084
UNCLASSIFIED

2/2 007

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0123662

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TO INCREASE THE YIELD OF PYROLYSIS PRODUCTS, ESP. PHENOLS AND TAR, ACID LIGNIN CONTG. 65-70PERCENT H SUB2 O WAS TREATED WITH 20-5PERCENT NH SUB4 OH SOLN. AND THEN PRESSED (HOT OR COLD) AT 50 KG PER CM PRIME2. PYROLYSIS WAS CARRIED OUT IN A LAB. AUTOCLAVE AT 300DEGREES BY USE OF SUPERHEATED STEAM IN AN AMT. OF 50-120PERCENT BY WT. BASED ON DRY LIGNIN. FACILITY: INST. FIZ.-ORG. KHIM., MINSK, USSR.

UNCLASSIFIED

USSR

MIRASHKIN, P., Chief Psychiatrist of the Oblast Department of Public Health,
Moscow

"On the Job Treatment"

Moscow, Meditsinakay Gazeta, 11 August 1972, p 2

Abstract: A brief report is given on the experience of the narcologic complex established in 1967 under the Moscow Oblast Psychiatric Hospital No 5 for the treatment of alcoholism. The basic goals of the complex are to discover the patients suffering from chronic alcoholism, especially in the early stages, begin treatment on an out-patient or hospitalized basis, provide dynamic observation of the patient by the dispensary-hospital-dispensary system and control of the patient to ascertain that he carry out the doctor's orders. Work therapy by which the patient does not cease to engage in socially useful activity is considered highly important. The effectiveness of treatment depends on prolonged contact between the doctor and the patients with sessions once or twice a month over a 2 to 3 year period. Requiring that hospitalized patients work at industrial enterprises has been found expedient. Mandatory treatment of chronic alcoholics is recommended over voluntary submission. The need for mandatory treatment is to be determined by the commissions on control of

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USSR

MURASHKIN, R., Meditsinskaya Gazeta, 11 August 1972, p 2

alcoholism under the executive committees of the Councils of Workers' Deputies. Treatment under these circumstances must not exceed 6 months, the job and seniority of the worker must be maintained for him, he must receive compensatory wages and other considerations.

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- 88 -

Corrosion

2

UDC: 620.199

USSR

TSIRMAN, A. I., DEGTYAREVA, V. K., NEYMAN, N. S., KASSINSKAYA, T. L., KUZUB, V. S., and MURASHKINA, A. A., Severodonetsk Branch, State Institute of the Nitrogen Industry; Zhdanov Plant of Heavy Machinery

M

"Determining the Tendency of Kh18N10T Chromium Nickel Steel to Intergranular Corrosion by the Method of Potentiostatic Etching"

Moscow, Zashchita Metallov, Vol. 6, no. 4, Jul-Aug 70, pp 475-478

Abstract: Commercial melts of Kh18N10T and OKh18N10T steels were used for elaborating the process of potentiostatic etching in order to determine the tendency of steel to intergranular corrosion (TIC). A total of 88 experimental melts have shown agreement of results of potentiostatic etching (PE) with the "AM" method specified in GOST 6032-58. The new method also makes it possible to observe the nature of dissolution on a longitudinal polished end. A curve in the original article shows anodic polarization of OKh18N10T steel at potential application rate of 1 v/hr in 20% H₂SO₄, 50% H₂SO₄, 1 n H₂SO₄ + 0.003 n KCNS, 1 n H₂SO₄ + 0.05 KCNS. Another figure showing the anodic polarization

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USSR

TSEMAN, A. I., et al, Zashchita Metallov, Vol. 6, no. 4, Jul-Aug 70, pp 475-478.

curve obtained on OKh18N10T steel in 50% H₂SO₄ at a potential application rate of 1 v/hr reflects the TIC of the steel. At a potential of 0.28 v a longitudinal ground end of steel with TIC, after 30 minutes of etching, showed a clear lattice of etched grain boundaries. For steels with a strongly pronounced TIC the intergranular etching pattern appears within 10--15 minutes.

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1/2 029 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--PREPARATION AND PROPERTIES OF FIBERS FROM THE LACTAM OF 4
AMINOCYCLOHEXANECARBOXYLIC ACID -U-
AUTHOR--(05)--VOLOKHINA, A.V., MURASHKINA, S.I., KHARITONOVA, A.S.,
TUZHKOVA, S.S., ROLEY, M.YA.
CCUNTRY OF INFO--USSR

SOURCE--KHIM. VOLOKNA 1970, (2), 67-8

DATE PUBLISHED--70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--COPOLYMERIZATION, LACTAM, CAPROLACTAM, SULFURIC ACID,
SYNTHETIC FIBER, ELONGATION, NYLON, AMINE, CYCLOHEXANE, CARBOXYLIC ACID

CONTRL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/0831

STEP NO--UR/0183/70/000/002/0067/0068

CIRC ACCESSION NO--AP0124498

UNCLASSIFIED

2/2 029

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124498

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE COPOLYMN. OF THE TITLE LACTAM (I) (PREPD. BY HEATING CIS 4 AMINOCYCLOHEXANECARBOXYLIC ACID AT 300DEGREES IN AN AUTOCLAVE) WITH EPSILON CAPROLACTAM (II) WAS DONE AT 185-240DEGREES DEPENDING ON THE I-II RATION IN THE PRESENCE OF K METAL AND II N ACETYL DERIV. THE POLYMER MELTS CANNOT BE SPUN INTO FIBERS, BUT 10-12PERCENT SOLNS. IN H SUB2 SO SUB4 WERE SPUN INTO WATER, GIVING EXCELLENT FILAMENTS. THE OPTIMUM MONOMER RATIO WAS 1:1, THE TEMP. 185DEGREES. THE FIBERS PREPD. UNDER THE OPTIMUM CONDITIONS HAD 589 KG-MM PRIME2 MODULUS AT 3PERCENT ELONGATION AND RESISTED 41,080 FLEX CYCLES UNDER 5 KG-MM PRIME2 LOADING IN BOTH CASES, EXCEEDING THESE PROPERTIES OF NYLON 6.

UNCLASSIFIED

USSR

MURASHKINA, Ye. M., BUGROVA, I. A.

"A System of Servicing Programs"

Tr. N.-i. i Proekt. In-ta Mekhaniz. i Avtomatiz. upr Proiz-vom v Avtomob. Prom-sti [Works of Scientific Research and Planning Institute for Mechanization and Automation of Production Control in the Motor Vehicle Industry], No 1, 1971, pp 78-80, (Translated from Referativnyy Zhurnal, Kibernetika, No 3, 1972, Abstract No 3 V524 by the author's).

Translation: A description is presented of a program service system allowing the required programs to be selected from a magnetic tape library without using punch tape. The system includes debugging, editing, magnetic tape access and other programs. Recommendations are given for the use of the service programs in direct operations with the computer.

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USSR

MURASHKO, A. G., SENCHENKO, N. I., TEREENT'YEV, M. D.

"One Method of Formal Description of Analog Computer Structural Plans"

Analogovaya i Analogo-Tsifr. Vychisl. Tekhn. [Analog and Analog-Digital Computer Equipment -- Collection of Works], No 5, Moscow, Sov. Radio Press, 1973, pp 80-86 (Translated from Referativnyy Zhurnal Kibernetika, No 6, 1973, Abstract No 6V641, by the authors).

Translation: One method of formal description of structural plans for analog computers is studied. One version of the internal language of an analog computer is suggested and examples of the application of this language for the description of structural plans are studied.

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USSR

UDC 51:155.001.57:612.82

MURASHKO, A. G., TISHCHENKO, V. V.

~~_____~~
"Mathematical Model of Vibration Sensitivity"

Probl. Bioniki. Resp. Mezhved. Nauchno-tekhn. Sb. [Problems of Bionics, Republic Interdepartmental Scientific and Technical Collection], No 4, 1970, pp 82-85, (Translated from Referativnyy Zhurnal, Kibernetika, No 6, 1971, Abstract No 6 V679 by the authors).

Translation: A method is suggested for construction of a mathematical model of the vibration sensitivity as one source of perception of information by man.

USSR

UDC: 681.3

MURASHKO, A. G., TEREENT'YEV, M. F., GREBENNIK, L. A.

"On One Principle of Constructing Combination Computers"

V sb. Analogovaya i analogo-tsifr. vychisl. tekhn. (Analog and Analog-Digital Computer Technology--collection of works), vyp. 4, Moscow, "Sov. radio", 1971, pp 60-66 (from RZh-Kibernetika, No 9, Sep 71, Abstract No 9V551)

Translation: This article considers formulation of the problem of constructing a computer system with controllable precision and speed. The structure of such a system is briefly described. Authors' abstract.

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USSR

VOROB'YEV, A. A., MURASHKO, L. T., Tomsk Polytechnical Institute imeni S. M. Kirov

"Formation of Cavities in the Breakdown of Ionic Crystals"

Leningrad, Fizika Tverdogo Tela, Vol. 14, No. 1, Jan 72, pp 256-258

Abstract: Three stages in the electrical breakdown of solid dielectrics are considered: the stage of discharge formation, the stage of completion of the discharge, and the post-breakdown stage. It is noted that mechanical breakdown of the dielectric between electrodes is characteristic of the stage of discharge completion and the post-breakdown stage and appears in the form of breakdown channel formation and crack formation. The authors observed that a different type of mechanical breakdown of the structure of a sample was observed in the breakdown of alkali-halide crystals: the formation of cavities within the crystal. This cavity formation was observed in the breakdown of NaCl, KCl, and KBr. The samples were subjected to a pulsed voltage of from 2.5 to 4 kv, and cavity formation occurred in the majority of the samples. The size and number of the pores were different. Single pores were formed in some samples, and in others there were whole clusters; the largest pores were

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USSR

VOROB'YEV, A. A., MURASHKO, L. T., Fizika Tverdogo Tela, Vol. 14, No. 1, Jan 72, pp 256-258

observed in KBr samples, and their linear dimensions were as high as 50 μ . Pore formation was observed only in those samples where electric breakdown occurred. Cavities were not observed in samples subjected to voltage but that did not break down. It is hypothesized -- on the basis of this fact and the fact that the shape of the boundaries of the segment on which the pores are formed, which are close to circular in shape -- that pore formation is associated with the two last stages in the breakdown: the stage of the completion of the discharge and the post-breakdown stage, which end with the rise of the shock wave. The shock wave has spherical symmetry if the diameter of the breakdown channel is commensurable with the distance between the electrodes. It is concluded that (1) quantitative estimates are still difficult and can only be very approximate, since a large number of dislocations are formed, together with vacancies, in the plastic deformation of a sample in an electric field by the shock wave and that (2) the mechanism for the formation of cavities in metals and ionic crystals is far from clear and therefore the study of the formation of cavities in electric breakdown and the possibility of their visual observation can provide new information for an understanding of this mechanism.

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USSR

UDC: 621.311.016.31:681.3

KRUMM, L. A., ~~MURASEKO, N. G.~~, and MURASEKO, N. G., Irkutsk

"Complex Computation of Short-Term Electrical Power System Modes Using the Reduced Gradient Method"

Moscow, Izvestiya Akademii Nauk SSSR--Energetika i transport, No. 1, January-February, 1971, pp 3-15

Abstract: The authors assert that for modern combined, and especially single electrical power systems, it is extremely important to develop methods, algorithms, and programs for the complex computation of permissible modes and the optimization of active and reactive generator power, voltages, and transformation factors in short-term daily or weekly cycles. To satisfy this requirement, the first-named author above developed the reduced gradient method in 1961, and on the basis of this method an algorithm and programs for complex optimization of twenty-four hour electric power system operation were prepared for low-power BESM-2 and Ural-2 electronic computers. The purpose of the present paper is to refine the reduced gradient method, first proposed by L. A. Krumm in the

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USSR

KRUMM, L. A., et al. Izvestiya Akademii Nauk SSSR -- Energetika i transport, No 1, January-February 1971, pp 3-15

Gradientnyy metod optimizatsii rozhima ob"yedinennykh energosistem
(The Gradient Method of Optimizing Combination Power System Operation), read before the All-Union Conference on Voltage Quality and Control in Electrical Nets and Systems, and published in the Collection of Reports of the Power Engineering Institute imeni G. M. Krzhizhanovskiy, 1961. In the present paper, the method is put in more general form, and is more systematically used in combination with the group relaxation method. The problem of computing the permissible mode is solved in general form, the concept of subsystem equivalency is used, the methods and algorithms for hydroelectric station cascading are made practical, a simplified method for optimizing the state of operating hydroelectric stations is obtained, and the characteristics of hydroelectric stations under limited 24-hour control are considered.

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UDC: 621.311.016.31:681.3

USSR

KRUMM, L. A., MURASHKO, A. A., and MURASHKO, N. G., Irkutsk

"Complex Computation of Short-Term Electrical Power System Modes
Using the Reduced Gradient Method"

Moscow, Izvestiya Akademii Nauk SSSR--Energetika i transport, No. 1,
January-February, 1971, pp 3-15

Abstract: The authors assert that for modern combined, and especially single electrical power systems, it is extremely important to develop methods, algorithms, and programs for the complex computation of permissible modes and the optimization of active and reactive generator power, voltages, and transformation factors in short-term daily or weekly cycles. To satisfy this requirement, the first-named author above developed the reduced gradient method in 1961, and on the basis of this method an algorithm and programs for complex optimization of twenty-four hour electric power system operation were prepared for low-power BESM-2 and Ural-2 electronic computers. The purpose of the present paper is to refine the reduced gradient method, first proposed by L. A. Krumm in the

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USSR

KRUMEN, L. A., et al, Izvestiya Akademii Nauk SSSR -- Energetika i transport, No 1, January-February 1971, pp 3-15

Gradientnyy metod optimizatsii rezhima ob'yedinennykh energosistem
(The Gradient Method of Optimizing Combination Power System Operation), read before the All-Union Conference on Voltage Quality and Control in Electrical Nets and Systems, and published in the Collection of Reports of the Power Engineering Institute imeni G. M. Krzhizhanovskiy, 1961. In the present paper, the method is put in more general form, and is more systematically used in combination with the group relaxation method. The problem of computing the permissible mode is solved in general form, the concept of subsystem equivalency is used, the methods and algorithms for hydroelectric station cascading are made practical, a simplified method for optimizing the state of operating hydroelectric stations is obtained, and the characteristics of hydroelectric stations under limited 24-hour control are considered.

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I/2 025 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--THERMAL CONVERSION OF DELTA-FeOOH TO ALPHA-Fe SUB2 O SUB3 STUDIED
BY MOESSBAUER SPECTROSCOPY AND X RAY DIFFRACTION METHODS -U-
AUTHOR--(05)-VLASOV, A.YA., LOSEVA, G.V., MAKAROV, YE.F., MURASHKO, N.V.,
PETUKHOV, E.P.
COUNTRY OF INFO--USSR
SOURCE--FIZ. TVERD. TELA 1970, 12(5), 1499-503
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS, CHEMISTRY
TOPIC TAGS--MOSSBAUER EFFECT, SPECTROSCOPY, CRYSTAL STRUCTURE, X RAY
DIFFRACTION, IRON OXIDE, HEMATITE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3005/0953 STEP NO--UR/0181/70/012/005/1499/1503
CIRC ACCESSION NO--AP0133039
UNCLASSIFIED

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2/2 025

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0133039

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

UNCLASSIFIED

USSR

UDC: 801.51

MURASHKO, V. A., KRIVITSKIY, V. A., SHEVCHENKO, T. Ye.

"An Information Language for Finding Documents on Automation of Metallurgical Production"

V sb. Prom. kibernetika. Vyp. 3 (Industrial Cybernetics--collection of works. No 3), Kiev, "Nauk. dumka", 1971, pp 21-33 (from RZh-Kibernetika, No 9, Sep 71, Abstract No 9V653)

[No abstract]

6610

CSO: 1843-W

- END -

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1/2 023 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--THE DIAGNOSIS OF PULMONARY METASTASES OF CHORIONEPITHELIOMA -U-

AUTHOR--MURASHKO, V.YE.

COUNTRY OF INFO--USSR

SOURCE--KLINICHESKAYA MEDITSINA, 1970, VOL 48, NR 3, PP 114-119

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--OBSTETRICS, GYNECOLOGY, FETUS, TUMOR, LUNG, METASTASIS,
DIAGNOSTIC MEDICINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/1447

STEP NO--UR/0497/70/048/003/0114/0119

CIRC ACCESSION NO--AP0125081

UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0125091

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PAPER SETS FORTH THE RESULTS OF OBSERVATIONS OVER THE COURSE OF PULMONARY METASTASES OF CHORIONEPITHELIOMA IN 6 PATIENTS AND DIAGNOSTIC CRITERIA OF THEIR RECOGNITION. IN CONTRAST TO THE EXISTING VIEWPOINT THAT THE DETECTION OF PULMONARY METASTASES OF CHORIONEPITHELIOMA IS FEASIBLE ONLY FOR THE ROENTGENOLOGIST, DATA OF OBSERVATION POINT TO TWO IMPORTANT CIRCUMSTANCES: 1) SPECIALLY (INTRAVASCULAR) FORMS OF PULMONARY CHORIONEPITHELIOMA METASTASES IN CERTAIN STAGES OF DEVELOPMENT REMAIN ROENTGENONEGATIVE, 2) CONSIDERATION OF THE FEATURES PECULIAR TO THE COURSE OF THE DISEASE ENABLES TO ESTABLISH THE DIAGNOSIS OF CHORIONEPITHELIOMA METASTASES ON THE BASIS OF ONLY GENERAL CLINICAL DATA. IN THE RECOGNITION OF PULMONARY METASTASES OF CHORIONEPITHELIOMA ESSENTIAL ARE THE FOLLOWING SIGNS: 1) ATYPICAL COURSE OF THE INFLAMMATORY DISEASE OF THE LUNGS, 2) AN ALWAYS PROGRESSING COURSE OF THE AFFECTION, 3) NO EFFECT OF ANTIPHLOGISTIC THERAPY, 4) A COMBINATION OF PULMONARY MANIFESTATIONS OF THE DISEASE WITH NONPULMONARY IMPAIRMENT OF THE MENSTRUAL CYCLE IN WOMEN OF THE REPRODUCTIVE PERIOD WITH ANEMIZATION. FACILITY: GOR'KOVSKOGO MEDITSINSKOGO INSTITUTA.

UNCLASSIFIED

USSR

UDC 577.1:612.12.015

MURASHOV, B. F., MARKIZOVA, N. F., MITINA, A. P.

"Functional State of the Hypophysial-Adrenal System Under the Effect of Small Doses of Ionizing Radiation"

Sb. nauch. rabot. Voen.-med. fak. pri Kuybyshev. med. in-te (Collected Scientific Works. Military Medicine Department, Kuybyshev Medical Institute), 1971, No 3, pp 101-105 (from RZh-Biologicheskaya Khimiya, No 21, Nov 71, Abstract No 21F1606)

Abstract: The authors studied some indices of the functional state of the hypophysial-adrenal system in 52 persons working under conditions of long-term exposure to small doses of x-rays (roentgenologists, x-ray technicians, petroleum well loggers, and also persons who have worked under conditions of constant exposure to phosphors for 5-10 years). It was found that the investigated group of people is characterized by a certain reduction of daily elimination of 17-ketosteroids and 17-hydroxysteroids in the urine, as well as a reduction in the effect of an ACTH injection on these indices. These changes were more pronounced in men than in women. No appreciable anomalies were observed in
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USSR

MURASHOV, B. F., et al, Sb. nauch. rabot. Voen.-med. fak. pri Kuybyshev. med. in-te, 1971, No 3, pp 101-105

the exchange of electrolytes in the contingent studied. According to the data of biological sampling (effect on concentration of ascorbic acid in the adrenal glands of a rat), the blood plasma of the studied group of people contains a high quantity of ACTH.

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- 9 -

USSR

UDC 616.432+616.453]-057:613.647:538.3

YERMAKOV, Ye. V., Doctor of Medical Sciences, and MURASHOV, B. F., Candidate of Medical Sciences

"Pathogenesis of Neuroendocrine Disturbances After Prolonged Exposure to Microwave Field"

Moscow, Sovetskaya Meditsina, No 9, Sep 70, pp 138-139

Abstract: A study was made of 37 persons who had been occupationally exposed to microwave fields for 2 to 8 years and who exhibited symptoms of asthenic and autonomic-vascular disturbances and endocrine shifts. Pathological EEG's were recorded in half the patients, and even in those with a normal baseline EEG, reflexes in response to light and sound were weak, distorted, or nonexistent. The skin galvanic reaction to a flashing light was abnormally intense and prolonged. A low content of 17-hydroxyketosteroids in blood plasma and urine as well as other signs of diminished secretion of the adrenal cortex, were noted in almost half the patients. The hypoadrenocorticism is regarded as a secondary symptom arising as a result of a weakening of the hormonal (adrenocorticotropic) activity of the hypophys.

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Radiobiology

UDC 616.839:616-001.26

USSR

YERMAKOV, YE. V., and MURASHOV, B. F.

"Pathogenesis of Autonomic Disorders After Prolonged Exposure to Ionizing Radiation"

Moscow, Voenno-Meditsinskiy Zhurnal, No 2, 1971, pp 39-41

Abstract: Examination of 68 x-ray technicians and radiologists exposed to low doses of radiation for 3 to 10 years showed much lower levels of 17-hydroxycorticosteroids (17-H) in the blood and urine compared with the control, the extent of the decrease being directly proportional to the severity of the process. The lowest hormonal levels were found in individuals with pronounced chronic radiation lesions. Administration of ACTH to these individuals raised the 17-H levels considerably. This clear-cut response of the adrenals to exogenous ACTH indicates that the insufficiency of the hypothyseal-adrenal system after chronic irradiation is caused not by exhaustion of the adrenal cortex but by a weakening of the stimulating effect of the hypophysitis due to diminished elaboration of such hormones as ACTH. EEG abnormalities were also detected in those suffering from chronic radiation lesions: mainly decreased amplitude of the alpha rhythm and appearance of slow low-voltage activity. The electrophysiological data and results of the hormonal

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USSR

YERMAKOV, YE. V., and MURASHOV, B. F., Voenno-Meditsinskiy Zhurnal, No 2,
1971, pp 39-41

studies suggest that it is the CNS that is primarily affected by prolonged ionizing radiation, first the reticular formation and hypothalamus and then the hypophyseal-adrenal system. Impairment of the regulatory function of the higher autonomic centers situated in the hypothalamus is manifested by a variety of autonomic changes.

2/2

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MURASHOV, B. P.

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J-9979

55

ON THE PATHOGENESIS OF VEGETATIVE DISTURBANCES WITH LONG-TERM IONIZING RADIATION EXPOSURE (pp 39-42)

By Professor Colonel Medical Service Ya. V. Yatsuzak and Dezent Lieutenant Colonel Medical Service B. P. Murashov

The functional state of a hypophysial system -- the adrenocortical human system -- subjected to the chronic influence of penetrating radiation has remained insufficiently studied. No data is also available on the functional reserve possibilities of the adrenal cortex in this pathological state. Our work was a study the disturbances of the hypophysial-adrenal and central nervous systems, to determine certain aspects of the mechanism governing the appearance of atypical and vegetative symptoms, quite characteristic of the lengthy impact of small doses of ionizing radiation.

A total of 68 men, aged 40 to 45 (V-ray technicians, roentgenologists, and others), bedridden as a result of long exposure (three to ten years) of ionizing radiation in small doses, were subjected to a complex examination. Past violations of safety rules and inadequate dosimetric control were the reasons for the atony-vegetative and hematological changes which occurred in some of them. Due to the lack of precise dosimetric data, the diagnosis was determined clinically on the basis of professional anamnesis. The examination covered only individuals whose thorough examination failed to reveal any parallel illnesses. The control group consisted of 125 practically healthy people.

In all of the patients the functional state of the adrenal cortex was examined by determining the volume of 17-oxyprogesterone (17-OCS) in the blood as well as in the urine over 24 hours. The 17-OCS content in the blood plasma was determined through the Silber and Forster method, as modified by S. A. Vydryev and Yu. A. Fankov; the same method was used for the urine, modified by I. S. Balakhovskiy and I. A. Lunakaya. The functional mobility of the adrenal cortex (the detection of existing functional reserves) was studied on the basis of the changed 17-OCS level in blood plasma prior to and after two hours of the intramuscular administration of 25 active units of ACTH.

The first group numbered 12 people suffering from light chronic radiation injuries (first stage); 33 (second group) showed the initial manifestations of the illness; the third group (23 people) included military nuclear survivors.

Aug 71

USSR

UDC: 669.243.51:661.937

MURASHOV, V. D., CHERMAK, L. L., TOLSTOGUZOV, A. D., CHERNYSHEV, D. P., and
REZNIK, I. D.

"Experience on Adopting Oxygen in Shaft Melting of Nickel Sinter at the
Yuzhuralnikel' Combine"

Moscow, Tsvetnyye metally, No 3, Mar 72, pp 1-3

Abstract: The use of 24.3% oxygen blast in shaft melting during the first six months of 1971 increased the absolute fusion of the sinter by 13.4% and the per-unit fusion by 22.2% against the 1968 level-prior to oxygen introduction. The per-unit coke consumption dropped by 17%, amounting to 21.9% of the sinter weight. Nickel content in the slags increased from 0.16 to 0.18%, which is ascribed to greater iron contents in the processed ores. The reduction in operating costs through the use of the two new oxygen blast lines (with 23.2% O₂) plus the profit from additional production outputs in the 1969-70 period show yearly savings of one million rubles. (2 tables, 7 bibliographic references).

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USSR

MURASHOV, L. S., NIKANOROV, S. I., PARYGIN, V. N.

"Cathode-Ray Tube with an Electro-Optical Screen"

Checkhov, Tekhnika Kino i Televideniya, No 10, 1972, p 54

Abstract: A study was made to determine the possibility of using a cathode ray tube with an electrooptical screen in television equipment. The tube design was similar to that described previously [T. A. Kuliyev, et al., Vestnik Moskovskogo Universiteta, No 5, 1971]. In the investigated model, the electro-optical plate was cooled to temperatures close to the phase transition points of the electro-optical potassium dihydrophosphate crystal KH_2PO_4 ($T_b = -150^\circ\text{C}$).

Both the equilibrium and nonequilibrium methods of recording the relief potential on the electro-optical crystal were used. The resolution of the device was basically defined by the size of the electron beam if the following condition was satisfied:

$$2r_m \geq \min(d, \lambda\sqrt{\epsilon_{\perp}/\epsilon_{\parallel}}),$$

where r_m is the radius of the electron beam cross section; d is the distance from the crystal to the collector; λ is the thickness of the crystal; ϵ_{\perp} and ϵ_{\parallel} are the dielectric constants of the electro-optical crystal orthogonally and along the optical axis respectively. The simplest method of increasing the 1/2

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USSR

MURASHOV, L. S., et al., *Tekhnika Kino i Televideniya*, No 10, 1972, p 54

resolution of the cathode ray tube with an electro-optical screen was bringing the collector closer to the crystal with simultaneous constriction of the electron beam. It is theoretically possible to obtain a complete television image with a contrast of more than 50:1 on a crystal $60 \times 60 \times 1 \text{ mm}^3$ ($d = 0.05 \text{ mm}$, $2r_m = 0.04 \text{ mm}$). A contrast of 110:1 was obtained experimentally when recording a single line. This resolution makes it possible to use the device not only in systems with ordinary image representations also in holographic television. The primary deficiency of the device, nitrogen cooling, can be eliminated by using such electro-optical crystals as KD_2PO_4 [Ye. R. Mustel', et al., *Metody modulyatsii i skanirovaniya sveta*, Nauka, 1970]. Use of such crystals offers the possibility of using a semiconductor cooling device or if the information is not to be stored for a long period of time, operation at room temperature. A light beam of almost any power can be used to display the image on the electro-optical plate, and therefore the device can be used in projection television systems, including large-screen systems and in a number of other areas of television engineering.

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1/2 014 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--SPECTROPHOTOMETRIC STUDY OF THE REACTION OF TELLURIUM (IV) WITH
BROMIDE IONS IN STRONGLY ACID SOLUTIONS -U-
AUTHOR--(02)-BAKUNINA, L.I., MURASHOVA, V.I.
COUNTRY OF INFO--USSR
SOURCE--ZH. ANAL. KHIM. 1970, 25(1), 142-6
DATE PUBLISHED--70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--SPECTROPHOTOMETRIC ANALYSIS, CHEMICAL REACTION, SODIUM
BROMIDE, TELLURIUM COMPOUND, COMPLEX COMPOUND, CHEMICAL STABILITY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/2170 STEP NO--UR/0075/70/025/001/0142/0146
CIRC ACCESSION NO--AP0125750
UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125750

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A COLORED COMPLEX IS FORMED ON THE INTERACTION OF TE(IV) WITH NABR IN A STRONGLY ACID MEDIUM. ABSORPTION CURVES OF THE COMPLEX IN H SUB2 SO SUB4, HClO SUB4, AND H SUB3 PO SUB4 SOLNS. PRACTICALLY MERGE. MOLAR ABSORPTIVITIES AT 320 AND 440 NM ARE 1.6 TIMES 10 PRIME4 AND 3.015 TIMES 10 PRIME3 IN 7M H SUB2 SO SUB4 AND 0.05M NABR, RESP. HIGH ACIDITY OF THE SOLN. AND EXCESS NABR PROMOTE THE FORMATION OF THE STABLE COMPLEX (TEBR SUB6) PRIME2 NEGATIVE. THE INSTABILITY CONST. OF THE COMPEX IS 1.38 TIMES 10 PRIME NEGATIVE11. BEER'S LAW IS OBEYED IN THE 1-75 MU G TE(IV)-ML RANGE. FACILITY: URAL. POLYTECH. INST., SVERDLOVSK, USSR.

UNCLASSIFIED

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UNCLASSIFIED PROCESSING DATE--17JUL70 /
TITLE--TRANSUBILICAL INFUSION OF MEDICINAL SOLUTIONS AND BLOOD -U-

AUTHOR--ESTHOVERKFCV, G.YE., NIKOLSKIY, A.C., KOTOV, I.A., KOMAROV, I.A.,
MURASHOVA, Z.M.
COUNTRY OF INFO--USSR

SOURCE--KHIRURGIYA, 1970, NR 1, PP 59-62

DATE PUBLISHED-----70

*22
5/27*

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--VEIN, LIVER, HEMODYNAMICS, HEART, MEDICINE, BLOOD, ABDOMEN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PRECEDENCE REEL/FREAME--1977/1696

STEP AC--UR/C531/70/000/001/0059/0062

CIRC ACCESSION NO--APCC44841

UNCLASSIFIED

Acc. Nr: APO044841

Ref. Code: UR 0531

PRIMARY SOURCE: Khirurgiya, 1970, Nr 1, pp 59-62

TRANSUMBILICAL INFUSION OF MEDICINAL SOLUTIONS
AND BLOOD

Ostroverkhov, G. Ye.; Nikol'skiy, A. D.; Kctov, I. A.
Komarov, I. A.; Murashova, Z. M.

In 23 cases the authors used transumbilical infusion of medicamentous solutions to normalize venous pressure. Intraportal introduction of such solutions was found to bring down the pressure in peripheral veins, thereby improving the work of the right heart. Transumbilical infusion of medicinal agents practised in operations on the organs of the abdominal cavity contributes to the normalization of metabolism, raises antitoxic function of the liver and acts beneficially on the regulation of hemodynamics.

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02 31

REEL/FRAME
19771696

Radiation Chemistry

USSR

UDC 541.15

MURATBEKOV, M. B., ZATONSKIY, S. V., and SARAYEVA, V. V., Moscow State University imeni M. V. Lomonosov

"The Effect of Charged-Particle Acceptors on the Gamma-Radiolysis of 2,2,4-Trimethylpentane (Isooctane)"

Moscow, Khimiya Vysokikh Energiy, Vol 5, No 2, Mar-Apr 71, pp 134-139

Abstract: A study was carried out of the effect of addition of nitrous oxide (N_2O) as an acceptor of electrons, and of ammonia as an acceptor of protons, on γ -radiolysis of Isooctane. The results obtained led to a conclusion that during the decomposition of secondary excited molecules found in ion-electron neutralization in which the C-C bonds are broken, both free radicals and stable products are formed. The secondary excited molecules yield primarily atomic hydrogen and Isooctyl radicals, while the "molecular" isomeric octenes are the products of primary excited molecules. During radiolysis of Isooctane molecular ions incapable of transferring a proton to ammonia are formed in considerable quantities. It was assumed that such ions have their charge located on the quaternary carbon atom.

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USSR

UDC 611.839.611.1]:612.014.477

MURATIKOVA, V. A., Chair of Normal Anatomy, First Leningrad Medical
Institute imeni I. P. Pavlov

"The Effect of Transverse Accelerations on Blood Vessels of the Sympathetic
Trunk"

Leningrad, Arkhiv Anatomii, Gistologii i Embriologii, No 7, 1971, pp 76-83

Abstract: Rabbits were subjected to transverse accelerations (- 10.2 units) in a centrifuge for 3 to 45 minutes. Three minutes' exposure resulted in constriction of the blood vessels in the cranial cervical ganglion and formation of avascular fields. Ten minutes' exposure dilated the veins throughout the sympathetic trunk and made their course more tortuous. Exposure for more than 10 minutes increased the diameter of the efferent veins and caused varicose changes in the walls. The rabbits began to die after 20 minutes of accelerations. Preliminary training enabled the animals to tolerate the accelerations for a longer period of time than did controls and reduced the intensity of the vascular changes.

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1/2 018 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--INVESTIGATION OF THE RENAL BLOOD CIRCULATION IN CLINICAL PRACTICE

-U-
AUTHOR--(04)-GINZBURG, V.S., GRINSHPUN, S.M., DIMANT, I.N.,
MURATKHODZHAYEV, N.K.

COUNTRY OF INFO--USSR

SOURCE--TERAPEVTICHESKIY ARKHIV, 1970, VOL 42, NR 5, PP 26-28

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--RENAL BLOOD CIRCULATION, GOLD ISOTOPE, LIVER, CIRRHOSIS,
DIAGNOSTIC MEDICINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/0698

STEP NO--UR/0504/70/042/005/0026/0028

CIRC ACCESSION NO--AP0126410

UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0126410

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TO COMPARE AND FIND OUT THE DIAGNOSTIC POSSIBILITIES OF THE METHODS OF RHEOHEPATOGRAPHY AND INVESTIGATION OF RENAL BLOODFLOW BY MEANS OF AU PRIME198 THE AUTHOR EXAMINED 52 PATIENTS WITH LIVER CIRRHOSIS AND 14 WITHOUT PATHOLOGY OF HEPATOLIENAL SYSTEM. THE DATA OBTAINED SHOWED THAT THE SHAPE OF RHEOHEPATOGRAPHIC CURVE CHANGED AND THE FRACTIONAL RENAL BLOODFLOW GREATLY REDUCED IN PATIENTS WITH LIVER CIRRHOSIS. THE BEST RESULTS WERE OBTAINED WHEN COMPARING BOTH METHODS. FACILITY: N-1 INSTITUT RENTGENOLOGII, RADIOLOGII I ONKOLOGII MINISTERSTVA ADRAYOUKHRANENIYA UZBEKSKOY SSR, TASHKENT.

UNCLASSIFIED

MURATOV, A.F.

Suprs 59208
6.73

VI-11a. INHOMOGENEITIES OF THE DISTRIBUTION OF THE RESIDUAL IMPURITY IN HIGH-RESISTANCE SILICON CAUSED BY THE SPECIFIC NATURE OF THE GROWTH OF SINGLE CRYSTALS AND THEIR EFFECT ON THE PROCESS OF MANUFACTURING NUCLEAR RADIATION DETECTORS

Article by A. K. Muratov, Tashkent, Novosibirsk, Ill. Sibirskiy po. Proizrasnanie Povera i Sibirskiy Sotrudnichestvo Etskizatsion 2 P. Izvestiya, Krasnoyarsk, 12-17 June, 1971, p. 231

In this paper a study was made of the inhomogeneities of the distribution of residual impurities in high-resistance single crystals of silicon manufactured by nonrecrystalline zone melting.

The bars of silicon having conduction channels caused by the face effect (n-type silicon) and distribution (inhomogeneity) of the residual impurity caused by the crystallization front in the high-resistance p-type silicon do not permit the manufacture of detectors with good characteristics. It was also demonstrated that the most acceptable for the manufacture of both the surface-barrier and the lithium-drift detectors is silicon grown in a plane differing from (111), for example, (100) or (110) without dislocations, pits-ups of vacancies and other structural disturbances.

MURATOV, A.F.

TPAS 59808
6.73

VI-LIB. VACUUM MATERS OF THE EPIT ETCHING HOLES IN HIGH-RESISTANCE DISLOCATION-
LESS SILICON MANUFACTURED BY THE NONRECTANGULAR ZONE MELTING. THEIR EFFECT ON THE
PROCESS OF MANUFACTURING NUCLEAR RADIATION DETECTORS

[article by A. P. Muratov, Tashkent; Korovskiy, III Simpozium po Protektsii
Soveta i Sostavna Reintegratsionnaya Nizkostatnaya i Plenok, Fovsian, 12-17 June,
1972, p. 22.]

The defects detected in dislocationless silicon from nonrectable zone
melting, so-called microvoids, were investigated.

Using the various etching agents, studies were made of the shape and form
of the investigated defects, the distribution with respect to volume and their
volumetric nature. Their charge type was determined using the measurements
and by etching in the etching agent to discover the p-n-junctions. The distri-
bution of the specific resistance in the specimens having the investigated
defects in large number (measured by the two-needle "band" method) was demon-
strated. In this paper a study was made of the process of discharge of the
vacancies with respect to the dislocations.

In addition, an effort was made to manufacture detectors based on silicon
with microdefects of the microvoid type. A unique conclusion was drawn
that the dislocation of single crystals of silicon are unuitable for manu-
facturing nuclear radiation detectors in the presence of a large number of
empty etching holes.

AA 0043546



UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

2/70

243231 FATIGUE TESTING MACHINE for flexible components provides rapid effects in the interest of productivity by the use of two drums studded with percussive elements which alternately strike a flexible test piece held between them. The diagram shows the two drums 5 held in the main frame 2, driven by belt 3 from a motor, and having cams 6 disposed on some chosen pitch circle diameter on both of them. The flexible test piece 7 is held by straining gear 1 in a position where alternate percussive bending by the cams takes place.

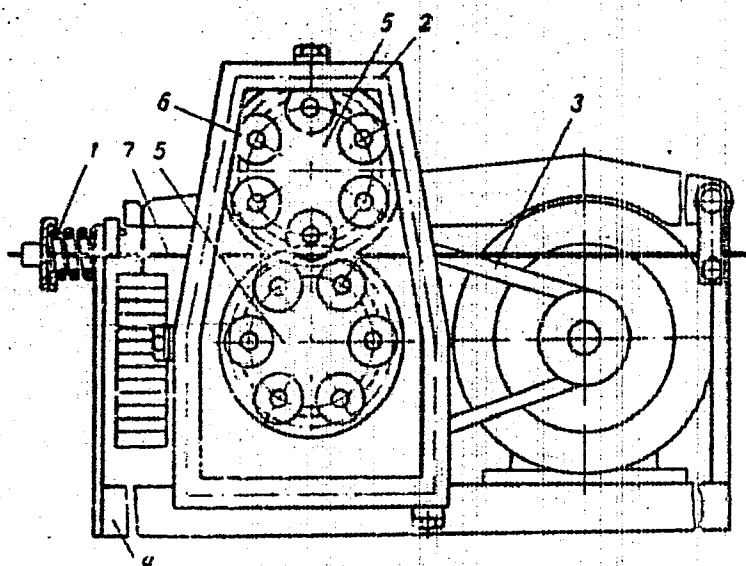
21.1.67 as 1128332/25-28. L.V. MURATOV & V.P. CHEBANENKO (23.9.69.) Bul 16/5.5.69. Class 42k. Int.Cl.G 01n.

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UDC 619.616.42-075:636.4

USSR

MURATOV, S. I., BURDEYNYY, V. V., Ivanovo Agricultural Institute, KISELEV,
Yu. T., Ivanovo Oblast Veterinary Laboratory, and ZAV'YALOV, N. D.,
Vladimir Oblast

"The Serum Ring Test in the Diagnosis of Brucellosis in Swine"

Moscow, Veterinariya, No 11, 1972, pp 61-62

Abstract: Muratov's serum ring test (SRT) can detect the presence of brucellosis in a herd of animals within a few hours. Early studies showed it to be effective in diagnosing the disease in buffalos, reindeer, and mink. This report reveals that the test is specific when applied to swine serum. The results of the SRT test were compared with those of the agglutination and complement-fixation tests performed on blood samples from 424 swine (115 on 2 affected farms and 309 on 10 healthy farms). The positive results of the SRT coincided with those of the other tests only in the case of animals on the affected farms. The reactions were negative in the case of animals on the healthy farms.

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USSR

UDC 621.391.82:621.317.743:[621.396.2:622]

MURATOV, V. I.

"Noise Level Measurements and Studies of High Frequency Signal Propagation over a Shaft Contact Network"

Vopr. radiotekhniki—V sb. (Problems of Radio Engineering), Tula, Tula Polytechnical Institute, 1970, pp 171-175 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4A242)

Translation: Some measurements were taken to determine the basic data for developing equipment for communications between the dispatcher and the drivers of shaft electric locomotives. The maximum distance of the electric locomotive from the dispatcher is 3-5 km. The possibility of realizing high frequency communications using a contact network was investigated, and the receiver and transmitter parameters were selected. The highest noise level was obtained at frequencies below 30 kilohertz. With an increase in frequency, the signal damping increases. For the high-frequency communications equipment, a frequency of 50 kilohertz was adopted. The sensitivity of the receiver must be 300-500 millivolts, the transmitter power 5 watts, and the receiver pass band 50 ± 2.5 kilohertz. The developed equipment insures communications at a distance up to 5 km.

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UDC 669.15⁷⁴-194:669.14.018.27

USSR

TUSHINSKIY, L. I., TIKHOMIROVA, L. B., and MURATOV, V. M., Novosibirsk
Electrical Engineering Institute

"Deformation Aging of 65G Steel Hardened by Thermomechanical Working"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 9, 1970,
pp 67-68

Abstract: A study was made of deformation aging (DA) of 65G steel after thermomechanical working. Deformation aging of 65G steel should be performed in combination with isothermal austenitic conversion, since the yield point is increased by 27 kg/mm² (18%) with a slight decrease in plasticity. The optimal mode of deformation aging of 65G steel is deformation (3%) and aging at 250°C.

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USSR

UDC 669.15-194:669.74-15:539.389.3

TUSHINSKIY, L. I., TIKHOMIROVA, L. B., and MURATOV, V. M.,
Novosibirsk Electro-technical Institute

"Precipitation Hardening of 65G Steel "

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy -- Chernaya
Metallurgiya, No 2, 1970, pp 121-122

Translation: The article presents results of precipitation
hardening of 65G steel after austempering and temper hardening.
It was established that precipitation hardening 65G steel is
expedient after austempering inasmuch as the yield point in
this case increases by 16 to 18% while reduction of ductility
is negligible.

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UDC: 539.3/.5

RENSKIY, A. B., MURATOV, Ya. M.

"On the Problem of Determining Errors in Measurements of Internal Deformations"

Sb. tr. Azerb. NII stroymaterialov i sooruzh. (Collected Works of the Azerbaydzhani Scientific Research Institute of Construction Materials and Structures), 1970, No 34, pp 254-261 (from RZh-Mekhanika, No 7, Jul 71, Abstract No 7V1275)

Translation: It is shown that in order to evaluate the stressed and deformed state of autoclave-set concretes in the process of hygrothermal treatment, it is necessary to make reliable measurements of deformations both on the surface and within concrete volumes. Since measurement of internal deformations necessarily involves the distorting effect of the primary pickup device on the force field in the zone where it is located, this paper proposes a method for determining the coefficient of distortion of deformation which characterizes the error of such measurements. On the basis of solution of a problem in mathematical elasticity theory, the authors determine the coefficient of distortion of deformation and plot a

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RENSKIY, A. B., MURATOV, Ya. M., Sb. tr. Azerb. NII stroymaterialov i sooruzh., 1970, No 34, pp 254-261

graph for this coefficient as a function of the ratio of the reduced moduli of elasticity of the medium and the pickup. It is shown that the resultant graph can be used to judge the magnitude of the overall error which determines the deviation of the measured deformation from its true value as well as the magnitude of the differential error which characterizes the change in readings of the pickup of deformation when there is a change in the modulus of elasticity of the medium during measurements. N. A. Petrova.

UDC 547.26'118:541.49

USSR

KERAMSHIN, I. Ya., MURATOVA, A. A., YARKOVA, E. G., MUSINA, A. A., IZMAYLOVA, F. Kh., and PUDOVIK, A. N., Kazan' State University imeni V. I. Ul'yanov-Lenin

"S-Alkyl Esters of the Thio- and Dithioacids of Phosphorus (IV) and Their Complexes With Tin"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 7, Jul 73, pp 1456-1466

Abstract: A series of thio- and dithioesters of thiophosphoric and thio- and dithiophosphinic acids was synthesized and characterized. Their IR and NMR spectra were studied. It was shown that the conformational isomerism in S-methyldialkylthio- and dithiophosphinates is caused by the P-C bond rotation. Complexes of S-alkylthiophosphates and thiophosphinates with tin tetra- and alkylhalides were obtained. Their IR and NMR spectra were studied. It was shown that in solutions the complexes $[R_2P(O)(SCH_3)]_2SnX_4$ exist as mixtures of geometrical isomers. It was shown that with coordination, a redistribution of the electronic density of the P-S bond takes place on account of the inductive and mesomeric effects. Both in the free state and as complexes the thioesters $R_2P(O)(SR')$ exhibit conformational isomerism. Based on the IR and NMR data, the electron donor ability of S-methyldialkyl-dithiophosphinates in relationship to tin halides was analyzed.

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USSR

UDC 547.26'118,541.49

BASHKIROV, S. H., KURAMSHIN, I. YA., MANAPOV, R. A., MURATOVA, A. A., SAFIN, I. A., and KHRAMOV, A. S., Kazan' State University, Kazan'

"The Effect of the Ligand Size on the Magnitude of the Quadrupole Splitting of the Nuclear Gamma Resonance Spectra of S-Alkyl Esters of Thio- and Dithiophosphorus Acids with Stannic Tetrahalides"

Moscow, Zhurnal Strukturnoy Khimii, Vol 14, No 5, Sep-Oct 73, pp 935-937

Abstract: The nuclear gamma resonance spectra of compounds $/R_2P(Y)(SR')/2$. $\cdot SnX_4$ (R = Me, Et, n-Pr, i-Pr, Bu, EtO, n-PrO, i-PrO, BuO; R' = Me, Et, Pr; Y = O, S; X = Cl, Br) were determined. With an increasing volume of R in $R_2P(O)(SR')$ of the complex, an electrical field gradient at the Sn nucleus developed which caused quadrupole splitting. This effect depended on the geometric configuration of the complexes and also on the spatial configuration of the organic ligand. In complexes $/R_2P(S)SMo/2 \cdot SnX_4$ (R = Et, i-Pr, n-Bu), quadrupole splitting did not take place irrespective of the volume of R, although the donor-acceptor interaction was smaller for $S \rightarrow Sn$ than for $O \rightarrow Sn$.

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Organophosphorus Compounds

UDC 547.241:541.49

(2)

USSR

PUDOVIK, A. N., KURAMSHIN, I. YA., YARKOVA, E. G., MURATOVA, A. A., MJSINA, A. A., and MANAPOV, R. A., Kazan' State University imeni V. I. Ul'yanov-Lenin

"Study of the Reaction of Methyl Ester and Acid Chloride of Dimethylphosphinic Acid and Their Thione Analogues With Tin Halides"

Leningrad, Zhurnal Obshchey Khimii, Vol 43(105), No 6, Jun 73, pp 1229-1236

Abstract: Complexes of O-methyldimethylphosphinate and acid chloride of dimethylphosphinic acid with tin tetra- and alkyl halides have been obtained and characterized. Their IR, NMR, and NGR spectra have been studied, establishing that the coordination is due to the donor properties of the phosphoryl group oxygen. It has been shown that $\Delta \nu(P=O)/\nu_{\rho}(P=O)$ of the O-methyldimethylphosphinate and acid chloride of the dimethylphosphinic acid changes symbatically with $\sum \sigma^*$ of the substituents at the tin atom. A linear relationship has been established for the stannic chloride complexes with dimethylphosphinic acid between $\Delta \nu(P=O)/\nu_{\rho}(P=O)$ and $\sum \sigma_{\rho}$ of the substituents at the phosphorus atom. It has been shown that the thiophosphoryl sulfur has a lower donor ability than the phosphoryl oxygen. Geometrical structure of the obtained complexes has been discussed.

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UDC 547.241:541.49

USSR

FUDOVIK, A. N., MURATOVA, A. A., KURAMSHIN, I. Ya., YARKOVA, E. G., and
VINOGRADOV, L. I., Kazan State University imeni V. I. Ul'yanova - Lenina

"Reaction of o-Methylmethylphosphones of Dialkylphosphinic and Dialkylthio-
phosphonic Acids With Stannic Chloride and Stannic Bromide"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), Vyp 5, 1972, pp 979-986

Abstract: The title reaction -- for alkyl = methyl, butyl, cyclohexyl, and
phenyl -- proceeds in methylene chloride forming complexes of the general
form $[R, R'P(O)OH]_2SnX_4$ or $[RR'P(O)SH]_2SnX_4$ for equimolar mixtures of the
two starting compounds. IR studies of the products of a starting mixture
having a 2:1 ratio of reactants indicate that dimerization has occurred.
When the reaction occurs with the elimination of the halogen acids, the
salt $[RR'P(O)]_2SnX_2$ is formed which indicates an intramolecular rearrange-
ment resulting in a polymer. A number of conclusions about the nature of
these complexes were drawn from detailed NMR and IR studies.

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USSR

UDC 547.26'118:541.49

MURATOVA, A. A., YARKOVA, E. G., PLEKHOV, V. P., SAFIULLINA, N. R., MUSINA, A. A., and PUDOVIK, A. N., Kazan' State University Imeni V. I. Ul'yanov-Lenin

"Stereoisomers of Partial Esters of Phenylphosphonous Acid and Their Complexes With Stannic Chloride"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 8, Aug 73, pp 1692-1696

Abstract: Complexes of partial esters of phenylphosphonous acid with stannic chloride were synthesized yielding $[(RO)C_6H_5P(O)H]_2 \cdot SnCl_4$ where R - methyl, ethyl, n-propyl, iso-propyl, and n-butyl. A detailed analysis of IR- and PMR- spectral data was carried out. It was proposed that the stereoisomerism of these complexes is due to different orientation of the phenyl ring plane in the phenylphosphonite with respect to the P-H bond.

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USSR

UDC 547.26'117:541.49

PUVOVIK, A. N., MURATOVA, A. A., MEDVEDEVA, M. D., and YANALIYEVA, L. N.,
Kazan State University Imeni V. L. Ul'yanova-Lenina

"Study of the Reaction of Trialkyl Phosphites With Ten Alkyl Halides"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), Vyp 11, 1972, pp 2402-2407

Abstract: A study was made of the reaction triethyl-, tri-normal-propyl-, and tri-normal-butyl phosphites with the monoethyl-, diethyl-, and triethyl-halides of tin, having the general formula $(C_2H_5)_n SnX_{4-n}$ for X = Cl, Br, I and n = 1, 2, 3. The reaction was followed by differential thermal analysis (DTA) in conjunction with simultaneous measurements of the electrical conductivity. Reactions were carried out in anhydrous pentane under dry CO₂ at -10 to -20°C. Complexes of two types were formed: $[(RO)_3P]_2 \cdot SnX_3C_2H_5$ and $[(RO)_3P]_2 \cdot SnX_3C_2H_5$. Both the temperature of the initiation of the thermal effect and the temperature of maximum thermal effect decreased in the order chlorine, bromine, and iodine. Both the reactivity and the acceptor strength decrease in the above order for SnX_4 and $C_2H_5SnCl_3$; however, the order is 1/2.

USSR

PUVOVIK, A. N., et al., Zhurnal Obshchey Khimii, Vol 42(104), Vyp 11, 1972,
pp 2402-2407

reversed for the compounds $(C_2H_5)_2SnCl_2$ and $(C_2H_5)_3SnCl$. The authors explain
this difference as being due to different reaction mechanisms. IR data and
NMR data using Cl^{35} are also given.

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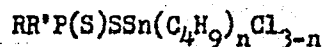
UDC 547.26'118:541.49

PUDOVIK, A. N., MURATOVA, A. A., KURAMSHIN, I. YA., and YARKOVA, E. G.,
Kazan State University imeni V. P. Ul'yanova-Lenina

"The Interaction of O,O-dimethyl Methylphosphonates With Ten Salts of the
Dithiol Acids of Phosphorous"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), Vyp 11, 1972, pp 2408-2412

Abstract: A study was made of the acceptor characteristics of ten salts of
the title compounds having the general formula



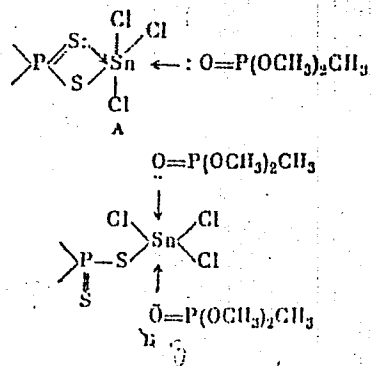
Where $R = R' = CH_3O, C_2H_5O$; $R = CH_3, R' = CH_3O$, for $n = 0, 1, \text{ or } 2$

and $R_2P(S)S_2SnCl_2$ for $R = C_2H_5$ and $C_3H_7, (C_4H_9)_n SCl_{4-n}$. The former can
accept one pair of electrons and will therefore form a 1:1 complex with the
phosphorus ethers; the latter two will accept 2 pairs and therefore form
1:2 complexes with these ethers. The electron donors were dimethyl ethers of
methylphosphonic acids. Ratios of 1:1 and 1:2 of the above reagents were
used for the following reaction:

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PUDOVIK, A. N., et al., Zhurnal Obshchey Khimii, Vol 42(104), Vyp 11, 1972, pp 2408-2412



A comparison of the spectra indicates the 1:1 complexes have a weaker tendency to dissociate than the 1:2 complexes. Preparation and physical data for the above compounds are given.

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USSR

UDC 547.26'118:541.49

MURATOVA, A. A., YARKOVA, E. G., PLEKHOV, V. P., ZAGETOVA, R. G., and
YUDOVIK, A. N.

"Study of Complexes of Dialkylphosphinous Acids With Tin, Titanium, and
Zirconium Halides"

Abstract: The authors studied reactions of di-n-butylphosphinous, diphenyl-
phosphinous, dicyclohexylphosphinous, di-n-hexylphosphinous, di-n-octyl-
phosphinous acids with tetrachlorides of tin, titanium, and zirconium and
with tin tetrabromide. The obtained complexes had an $[R_2P(O)H]_2 \cdot MeX_4$
composition. Their infrared spectra were studied in the $400-4000 \text{ cm}^{-1}$
region. The results are shown in a table containing information on 21
complexes.

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USSR

UDC 547.26'118:541.49

MURATOVA, A. A., PLEKHOV, V. P., YARKOVA, E. G., and PUDOVNIK, A. N., Kazan' State University Imeni V. I. Ul'yanov-Lenin

"Deamination of N,N-Diethylamidoisopropyl Phosphite in a Stannic Chloride Complex"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 2, Feb 73, pp 436-437

Abstract: Reaction of a 1:1 mixture of N,N-diethylamidoisopropyl phosphite and stannic chloride yields a complex -- a viscous colorless product which is stable only at low temperature. At room temperature it breaks down precipitating a white solid of the composition $(C_2H_5)_2NH \cdot SnCl_2$. Evidently a redox process occurs with the elimination of the P-N bond and formation of a secondary amine.

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USSR

UDC 541.6+541.49

PUDOVIK, A. N., KURAMSHIN, I. YA., MJRATOVA, A. A., MANAPOV, R. A., YARKOVA, E. G., and MIRSATTOVA, G. M., Kazan' State University Imeni V. I. Ul'yanov-Lenin

"S-Alkyl Diethylthiophosphinites and Their Complexes with Stannic Chloride"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 5, May 73, p 1196

Abstract: IR spectra were studied of S-ethyl diethylthiophosphinite (I), S-n-propyl diethylphosphinite (II), diethylchlorophosphine (III), diethyl sulfide (IV) and tributylphosphine (V) in liquid state using solvents with different polarity. Analysis of the data on (I) and (II) indicated that these compounds exist as mixtures of two conformers arising from the rotation around the P-C bond, even though the rotation around the S-C bond could not be excluded. Following complexes were synthesized and studied: $[(C_2H_5)_2PR]_2SnCl_4$ where $R=C_2H_5S$, $n-C_3H_7S$, $[(C_2H_5)_2S]_2SnCl_4$ and $[(C_4H_9)_3P]_2SnCl_4$. These complexes were formed because of the donor properties of the phosphorus atom.

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UDC 547.26'118:541.49

FUDOVIK, A. N., MURATOVA, A. A., and MEDVEDEVA, M. D., Kazan' State University
Imeni V. I. Ul'yanov-Lenin

"Reaction of n-Butyl Ester of Diethylphosphinous Acid With Triethyl Chlorostannate"

Leningrad, Zhurnal Obshchey Khimii, Vol 42 (104), No 9, Sep 72, pp 1910-1913

Abstract: The reaction of n-butyl diethylphosphinite with triethyl chlorostannate was investigated in detail. On the basis of differential-thermal analysis it has been shown that the reaction begins at 150-160° and is completed at 200-250°. Analysis of reaction products indicated that the reaction may go in two parallel directions: isomerization of the phosphinite with formation of a complex and an oxidation-reduction reaction between the donor and acceptor yielding several products. The later reaction is favored with increasing radicals of the phosphinite-alkoxy group and with transition from iodo- to bromo- to chloro-derivatives of tin.

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USSR

UDC 547.26'118

PUDOVIK, A. N., MURATOVA, A. A., KURAMSHIN, I. Ya., and YARKOVA, E. G.,
Kazan' State University imeni V. I. Lenin-Ul'yanov

"IR-Spectral Study of the Reaction of Some Methylphosphonic Acid Chlorides
With Tin Tetrachloride"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(103), No 2, Feb 72, pp 317-322

Abstract: The authors investigated the reaction of stannic tetrachloride with methylmonothiophosphonic acid dichloride and with the acid chlorides of O,O'-dimethylmonothiophosphoric, O-methylmethyl-, O-n.-butylmethyl-, O-isobutylmethyl-, and O-sec.-butylmethylmonothiophosphonic acids. It is found that the donor capacity of the phosphoryl oxygen with respect to stannic chloride is greater than that of the thiophosphoryl group which increases with a reduction in the $\Sigma\sigma_p$ of the substituents at the phosphorus atom. It is shown that when O-alkylmethylmonothiophosphonic acid chlorides react with stannic chloride, formation of an unstable intermediate complex via the phosphoryl group takes place on the first stage, while thion-thiol isomerization and dealkylation takes place at the second step of the reaction.

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USSR

UDC 547.26'118:541.49

PUDOVIK, A. N., MURATOVA, A. A., MEDVEDEVA, M. D., YARKOVA, E. T., and
LOGINOVA, E. I., Kazan' State University imeni V. I. Ul'yanov-Lenin

"Investigation of the Reaction of Diethylphosphinous Acid Esters With
Trialkyl and Dialkyl Halides of Tin"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(103), No 2, Feb 72, pp 327-333

Abstract: The authors study reactions of methyl, ethyl, n-propyl, isopropyl, n-butyl and n-hexyl esters of diethylphosphinous acid with triethyl and diethyl chlorides, bromides and iodides of tin. It was found that diethylphosphinous acid esters react with trialkyl and dialkyl halides of tin to form stable complexes containing trialkylphosphine oxide and an alkyl halide of tin. As the radical of the alkoxy group increases, the reactivity of the phosphinite in these reactions decreases. The activity of alkyl halides of tin drops with a transition from dialkyl to trialkyl halides, and also with a transition from iodine to chlorine derivatives of tin.

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USSR

UDC 547.26'118:541.4

PUDOVIK, A. N., MIRATOVA, A. A., and MEDVEDEVA, M. D., Kazan' State University imeni V. I. Ul'yanov-Lenin

"Reaction of Phosphinites With Titanium Tetrachloride"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(103), No 2, Feb 72, p 469

Abstract: It was shown that O-alkyl diethyl- and O-alkyl di-phenyl-phosphinites react with titanium tetrachloride at -40 to -50°C to form extremely unstable intermediate crystalline complexes $(\text{R}_2\text{POR}')\cdot\text{TiCl}_4$. The structure of the resultant compounds is confirmed by IR-spectroscopy. Intermediate complexes $[(\text{C}_2\text{H}_5)_2\text{POR}]\cdot\text{TiCl}_4$ eliminate alkyl halide to form a viscous dark green product — interstitial complex $(\text{C}_2\text{H}_5)_2\text{P}\text{-OTiCl}_3$. Intermediate compound $[(\text{C}_6\text{H}_5)_2\text{POC}_2\text{H}_5]\cdot\text{TiCl}_4$ is analogously converted to $(\text{C}_6\text{H}_5)_2\text{P}\text{-OTiCl}_3$.

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UDC 547.26'118:541.49

YARKOVA, E. G., MUSINA, A. A., PLEKHOV, V. P., MURATOVA, A. A., and
PUDOVNIK, A. N., Kazan' State University imeni V. I. Ul'yanov-Lenin

"Electron Effect of an Acceptor on the Rotational Isomers of Certain
Organophosphorus Ligands"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 11, Nov 1971, pp 2,576-2,577

Abstract: Infrared and paramagnetic resonance spectral data on several rotational isomers of organophosphorus ligands were obtained. Specifically, the complex $[(CH_3O)C_2H_5P(O)H]_2 \cdot SnCl_4$ exhibited the presence of the 1040, 1060, and 810, 823 cm^{-1} bands, instead of the two bands $\nu C-O$ (1030 and 1070 cm^{-1}) and $\nu P-O$ (790 and 805 cm^{-1}) in the spectrum of the methyl ester of ethylphosphonous acid, while unexpected doublets appeared in the p. resonance spectrum of the starting ester. The existence of complexes with several different isomers of the methyl ester of ethylphosphonous acid is suggested by the spectral data. Variation in the $^3J(P-O-C-H)$ constants suggests a mesomeric effect in the case of one isomer, owing to its favorable spatial location, with corresponding reduction in length of the P-O bond and a certain loosening of the O-C bond. Other structural effects are postulated.

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UDC 547.26'118

MURATOVA, A. A., YARKOVA, E. G., KURAMSHIN, I. YA., and PUDOVIK, A. N.,
Kazan' State University imeni V. I. Ul'yanov-Lenin

"Study of the Reaction of Phosphorus Monothioacids With Tin Tetrahalides"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 8, Aug 71, pp 1668-1672

Abstract: For purposes of establishing the coordination center in monothio-phosphoric acid esters during their reaction with tin tetrahalides, the authors studied the IR spectra of complexes of O,O-diethyl-, O,O-di-butyl-monothiophosphates and O-methyl methylmonothiophosphonate with stannic chloride and bromide, as well as the complex of O,O,S-triethyl thiophosphate with stannic chloride. It was found that complexing is due to donor properties of the oxygen of the phosphoryl group. The absorption bands of complexes of the acids with stannic chloride and bromide at 2470-2500 cm^{-1} and solutions in chloroform and carbon tetrachloride at $\sim 2570 \text{ cm}^{-1}$ and solutions in benzene at $\sim 2520 \text{ cm}^{-1}$ are assigned to stretching vibrations of the sulfhydryl group.

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USSR

UDC 547.26'118

MURATOVA, A. A., KURAMSHIN, I. Ya., YARKOVA, E. G., and PUDOVIK, A. N.,
Kazan' State University imeni V. I. Ul'yanov-Lenin

"Reaction of Some Dithiophosphorus Acids With Tin Tetrahalides"

Leningrad, Zhurnal Obshchey Khimii, Sep 71, Vol 41, No 9, pp 1967-1972

Abstract: A study is presented of the reaction of O,O-dialkyldithiophosphoric (Alk=CH₃, C₂H₅, iso-C₄H₉) and O-methylmethyldithiophosphonic acids with tin chloride and bromide in 2:1 and 1:1 ratios. The reaction results in the formation of products of the composition R(R')P(S)SSnX₃. The reaction of O,O-dimethyldithiophosphoric acid with tin bromide results in thione-thiol isomerization concurrent with elimination of hydrogen bromide. It is shown that the donor capacity of thiophosphoryl sulfur of R(R')P(S)S- to trichloro- and tribromotin salts increases with an increase in the total +I effect of the substituents at the phosphorus atom. The dissolution of the O,O-dimethyldithiophosphoric acid -- tin bromide system in chloroform is attended by a considerable drop in the absorption intensity at 1150 cm⁻¹ and an increase of absorption in the 3000-3600 cm⁻¹ region which points to dissociation of the isomerized complex. These spectral changes suggest that the free O,S-dimethyldithiophosphoric acid in chloroform is primarily of a thion form, which correlates well with literature data.

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UDC 547.26'118:541.49

PUDOVIK, A. N., MURATOVA, A. A., MEDVEDEVA, M. D., and YARKOVA, E. G., Kazan' State University imeni V. I. Ul'yanov-Lenin

"Study of the Reactions of Phosphonite and Phosphinite Esters With Tin Tetrachloride"

Leningrad, Zhurnal Obshchey Khimii, Vol 41 (103), No 4, Apr 71, pp 766-771

Abstract: The reactions of trivalent-phosphorus-acid esters with SnCl_4 were carried out at a molar ratio of 2:1 in pentane or benzene at 0 to -15° under CO. When the precooled starting materials were combined, an exothermic reaction took place leading to the formation of crystalline products in most cases. It was determined that the reactions of ethyl-, phenylphosphonic, ethylphenyl-, and diphenylphosphinic acids with SnCl_4 occur in three stages: formation of the complexes $[\text{RR}'(\text{R}'\text{O})\text{P}]_2 \cdot \text{SnCl}_4$, followed by their isomerization to $[\text{RR}'\text{R}'\text{P}:\text{O}]_2 \cdot \text{SnCl}_4$, and in case of phosphonic acid complexes, elimination of alkyl halides with the formation of a P-O-Sn compound. The ease with which the first step occurs decreases in order of substituents: ethyl-, phenylphosphonic, phosphorous, ethylphenyl-, and diphenylphosphinic acid. The products are donor-acceptor type complexes in which the coordinate bond is formed by the phosphorus atom's unshared pair of electrons.

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USSR

UDC 547.26'118

YAKOVA, Ye. G., DURANSHIN, I. Ya., MURATOVA, A. A., and PUDOVIK, A. N.,
Kazan State University imeni V. I. Ul'yanov-Lenin

"Infrared Spectral Study of the Reaction of Dialkylphosphoric Acids with Tin
Tetrahalides"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 5, May 1971, pp 1003-1008

Abstract: In examining the IR spectra of dimethyl- and diethylphosphonate complexes as formed with chlorinated and brominated tin, it was established that the reaction occurs at the position of the oxygen in the phosphoryl group. The structures were confirmed by spectrum analysis. It was also shown, that in this reaction chelated compounds are formed with the liberation of hydrochloric acid.

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USSR

UDC 547.26.118

MURATOVA, A. A., YARKOVA, E. G., PLEKHOV, V. P., MUSINA, A. A.,
PUDOVIK, A. N., Kazan' State University imeni V. I. Ul'yanov-Lenin,
Kazan, Ministry of Higher and Secondary Specialized Education RSFSR

"Study of the Complexes of Tin Halides With Incomplete Esters of
Ethylphosphonous and Dialkylphosphinous Acids"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 9, Sep 70,
pp 1978-1982

Abstract: Complexes of tin tetrachloride, tetrabromide, and tetra-
iodide with methyl, ethyl, n-propyl, isopropyl, and n-butyl esters
of ethylphosphonous acid and of tin tetrachloride with di-n-butyl,
di-n-hexyl and di-n-octylphosphonous acids were synthesized and
studied by IR spectroscopy. Comparison of the IR spectra of
phosphonous and phosphinous acids and their complexes with tin
tetrahalides in the range of 400-4000 cm^{-1} shows that the type of
changes observed is analogous to spectral changes of the dialkyl-
phosphorous acids and their complexes. Consequently, all of them
participate in these complexes in their pentavalent state. It was
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MURATOVA, A. A., et al, Zhurnal Obshchey Khimii, Vol 40, No 9,
Sep 70, pp 1978-1982

shown that the coordination bond is through the oxygen of the
phosphoryl group. The P-H bond was found to be sensitive both to
the changes in the structure of the addendum and towards the ability
of tin halides to act as electron acceptors.

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Organometallic Compounds

UDC 547.26'118

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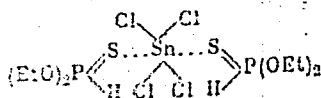
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MURATOVA, A. A., PLEKHOV, V. P., and PUDOVIK, A. N., Kazan' State University imeni V. I. Ulyanov Lenin, Kazan, Ministry of Higher and Secondary Specialized Education RSFSR

"Interaction of Diethyl Thiophosphite With Mercuric Chloride and Stannic Chloride"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 5, May 70, pp 1168-1169

Abstract: The reaction of mercuric chloride with diethyl thiophosphite, in which phosphorus is in the tetracoordinate state, gives diethyl chlorophosphite with a trivalent phosphorus atom. The interaction of diethyl thiophosphite with stannic chloride at room temperature gives a complex mixture of products with the structure



1/2 021 UNCLASSIFIED PROCESSING DATE--04DEC70
 TITLE--CALCULATION OF THE THERMAL CONDUCTIVITY OF BINARY GAS MIXTURES -U-
 AUTHOR-(103)-DULNEY, G.N., ZARICHNYAK, YU.P., MURATOVA, B.L.
 COUNTRY OF INFO--USSR
 SOURCE--INZH.-FIZ. ZH. 1970, 18(5), 849-55
 DATE PUBLISHED-----70
 SUBJECT AREAS--PHYSICS
 TOPIC TAGS--THERMAL CONDUCTIVITY, GAS STATE, CALCULATION
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRA--3007/1131 STEP NO--UR/0170/70/018/005/0849/0355
 CIRC ACCESSION NO--AP0136551
 UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--04DEC70

2/2 021

CIRC ACCESSION NO--AP0136551

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

ABSTRACT. CALCNS. OF THE THERMAL CONDS.,
LAMBDA, OF BINARY GASEOUS MIXTS. BASED ON THE EQUATION DEVELOPED BY D.,
ET AL. (1968) ARE COMPARED WITH EXPTL. DATA. LAMBDA WAS MEASURED OVER
THE WHOLE RANGE OF CONCNS. IN THE TEMP. INTERVAL 273-1100DEGREEK.
VALUES OF LAMBDA CALCD. FOR MIXTS. CONTG. H WERE 10PERCENT LOWER THAN
EMPIRICAL DATA, WHILE THE DEVIATION FOR SYSTEMS WITHOUT H DID NOT EXCEED
PLUS OR MINUS 4PERCENT.

FACILITY: INST. TOCHNOI MEKH. OPT.,

LENINGRAD, USSR.

UNCLASSIFIED

1/2 020 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--USE OF A GAMMA ACTIVATION METHOD FOR THE QUANTITATIVE DETERMINATION
OF NITROGEN AND PHOSPHORUS IN MODIFIED CELLULOSE PREPARATIONS -U-
AUTHOR--(05)-YUDASHEV, A.YU., MILLER, R.A., KHAKIMOV, N., MURATOVA, U.M.,
SADYKOV, H.M.
COUNTRY OF INFO--USSR

SOURCE--VYSOKOMOL. SOEDIN., SER. A 1970, 12(4), 957-9.

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, CHEMISTRY

TOPIC TAGS--QUANTITATIVE ANALYSIS, NITROGEN ISOTOPE, PHOSPHORUS ISOTOPE,
CELLULOSE, X RAY RADIATION, NEUTRON ACTIVATION ANALYSIS, GAMMA
RADIATION, RADIOACTIVE DECAY, PHOTONUCLEAR REACTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/1380

STEP NO--UR/0459/70/012/004/0957/0959

CIRC ACCESSION NO--AP2155054

2/2 020

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0139054

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE IRRADN. OF MODIFIED CELLULOSE
CONTG. P AND N WITH GAMMA RAYS OF 15,MEV ENERGY CAUSES THE FOLLOWING
PHOTONUCLEAR PROCESSES: PRIME14 N PLUS GAMMA YIELDS PRIME13 N PLUS N
(ABOVE 10.5 MEV THRESHOLD) AND PRIME31 P PLUS N (ABOVE 12.05,MEV
THRESHOLD). PRIME12 C AND PRIME16 O REQUIRE ENERGIES GREATER THAN 15
MEV TO REACT. SINCE THE HALF LIVES OF PRIME13 N AND PRIME30 P ARE 10.08
AND 2.5 MIN, RESP., MEASUREMENT OF THE RADIOACTIVITY DECAY AFTER IRRADN.
GIVES A MEANS FOR RAPID DETN. OF P AND N. FACILITY: TASHKENT.
GGS. UNIV. IM. LENINA, TASHKENT, USSR.

1/2 020 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--GROWTH AND ELECTROPHYSICAL PROPERTIES OF SINGLE CRYSTAL FILMS OF
CADMIUM AND ZINC CHALCOGENIDES -U-
AUTHOR--(04)--MURAVEVA, K.K., KALINKIN, I.P., ALESKOVSKIY, V.B., BOGOMOLOV,
N.S.
COUNTRY OF INFO--USSR
SOURCE--THIN SOLID FILMS 1970, 5(1), 7-14
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, MATERIALS
TOPIC TAGS--CHALCOGENIDE GLASS, SINGLE CRYSTAL FILM, CADMIUM SULFIDE,
SELENIDE, TELLURIDE, ZINC COMPOUND, EPITAXIAL GROWTH, ELECTRON MOBILITY,
PHYSICAL PROPERTY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/0915 STEP NO--NE/0000/70/005/001/0007/0014
CIRC ACCESSION NO--AP0124576
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--13NOV70

212 020

CIRC ACCESSION NO--AP0124576

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

ABSTRACT. THE EPITAXIAL GROWTH OF CDS, CESE, COTE, ZNS, ZNSE, AND ZNTE FILMS ON MICA BY CONDENSATION IN A VACUUM OF 10 PRIME NEGATIVE 4-5 TIMES 10 PRIME NEGATIVES TORR HAS BEEN INVESTIGATED OVER A WIDE RANGE OF TEMPS. RELATIONS BETWEEN EVAPN. TEMP. T SUBEV AND THE EPITAZIAL TEMP. T SUBEP OF SINGLE CRYSTAL FILMS (T SUBEV EQUALS A SUB1 PLUS T SUBEP AT T SUBEP IS SMALLER THAN OR EQUAL TO 310DEGREES AND T SUBEV EQUALS A SUB2 MINUS 2T SUBEP AT T SUBEP IS GREATER THAN OR EQUAL TO 320DEGREES) AS WELL AS THOSE OF THE TEMP. CONDITIONS OF GROWTH OF SINGLE CRYSTAL FILMS TO MOL. WT. OF CHALCOGENIDES HAVE BEEN OBTAINED. THE MOST PERFECT SINGLE CRYSTAL FILMS GROW AT EPITAXIAL TEMPS. OF 300-320DEGREES. THE RELATION OF THE CURRENT CARRIER MOBILITY AND SP. RESISTANCE TO THE TEMP. CONDITIONS OF THE SINGLE CRYSTAL FILM GROWTH HAS BEEN INVESTIGATED. THE FILMS OBTAINED EXHIBITED A GREAT VARIETY OF PROPERTIES, E.G. SINGLE CRYSTAL CDS FILMS HAVE BEEN SYNTHESIZED WITH SP. RESISTANCE OF THE ORDER OF 10 PRIME 5 OHM CM AND WITH A SP. RESISTANCE OF THE ORDER OF 10 PRIME 1-10 PRIME 2 OHM CM WITH QUITE HIGH ELECTRON MOBILITY OF 20-32 CM PRIME 2-V SEC. FACILITY: LENSOVET INST. TECHNOL., LENINGRAD, USSR.

UNCLASSIFIED

1/2 030 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--PLATINUM BROMONITROMONODAMMINES. REACTION OF CIS-PT(NH SUB3) SUB2(NO
SUB2) SUB2 WITH HYDROGEN BROMIDE -U-
AUTHOR-(02)-MURAVEISKAYA, G.S., ANTOKOLSKAYA, I.I.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(3), 728-34

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--IRRADIATION EFFECT, UV IRRADIATION, CHEMICAL SYNTHESIS, AMINE
DERIVATIVE, PLATINUM COMPLEX, BROMINE COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1993/0733

STEP NO--UR/0078/70/015/003/0728/0734

CIRC ACCESSION NO--AP0113597

UNCLASSIFIED

2/2 030

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0113597

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. WHEN CIS-PT(NH SUB3) SUB2(NO SUB2) SUB2 REACTS WITH HX (X EQUALS CL OR BR) THE PT(II) IS OXIDIZED TO PT(IV) ANALOGOUS TO THE REACTION WITH X SUB2. THE OXIDN. PROCEEDS VIA AN INNER SPHERE OXIDN. MECHANISM INVOLVING NH SUB3 LIGANDS. TRANSITION PRODUCTS, BROWN GREEN CRYST. (PT(NH SUB2 BR)NO SUB2 BR SUB2.25) PRIME NEGATIVE AND BRIGHT RED CRYST. PT(NH SUB2 BR)NO SUB2 BR SUB3 WERE SEPD. IT IS ALSO POSSIBLE THAT THE REACTION PROCEEDS VIA A PT-NOBR INTERMEDIATE. PREPN. OF CSPT(NH SUB3)(NO SUB2) BR SUB2 AND CSPT(NH SUB3) NO SUB2 BR SUB4 IS DESCRIBED. CSPTNH SUB3 BR SUB3 FORMED WHEN CSPT(NH SUB3)(NO SUB2) BR SUB3.25 WAS IRRADIATED BY UV LIGHT.

UNCLASSIFIED

Acc. Nr.: **AP0029570**

M
Ref. Code: UK 0297

PRIMARY SOURCE: Antibiotiki, 1970, Vol 15, Nr 1, pp59-63

ANTITUMOR ANTIBIOTIC TAVROMYCETIN, ITS EFFECT ON ORGANS AND BLOOD
OF EXPERIMENTAL ANIMALS, DISTRIBUTION AND EXCRETION

Vertogradova, T.P.; Kunrat, I.A.; Muraveyskaya, V.S.
Institute for New Antibiotics, Academy of Medical Sciences of the USSR, Moscow

The paper presents data on the effect of tavromycetin on the organs and blood of experimental animals, its distribution in tissues and excretion. It was found that tavromycetin used in toxic doses affected the liver and the kidneys of the animals, decreased the erythrocyte and hemoglobin counts in the peripheral blood and induced thrombocytopenia. After intravenous administration 0.5 per cent of the antibiotic was excreted with urine and 4-5 per cent with bile. After oral administration 0.8-1 per cent of the antibiotic was excreted with bile and no antibiotic was detected in urine.

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REEL/FRAME

19681200

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USSR

UDC: 669.295

MURAVIN, A. G.

"Prospects for the Development of Pigmentary Titanium Dioxide Production by the Chloride Method"

Moscow, Tsvetnyye Metally, No 10, Oct 73, pp 37-39

Abstract: Foreign production of pigmentary titanium oxide is reviewed along with the two main methods for its production: the chloride and the sulfate methods. The general advantages of each are considered and then reanalyzed in terms of the Soviet economic and energy systems along with the raw materials base. It is pointed out that foreign production is suffering from the lack of raw materials. Its solution lies in the successful production of synthetic rutile. In terms of the Soviet situation, the author concludes that plants operating on the sulfate method though cheaper to build have to be located in remote areas because of the waste disposal problem and the raw materials are not as uniform as is the case for plants using the chloride method. Plants using the chloride method can be located in existing industrial areas with developed energy networks and the raw materials are both of good quality and available. For these reasons the chloride method is suggested as the one which should be adopted by Soviet industry for pigmentary titanium dioxide production.

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MURAVITSKIY S.A.

TPRS 59008

U 73

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VIII-6. FORM OF GROWTH OF DISLOCATIONLESS SINGLE CRYSTALS OF SILICON GROWN BY THE AMORPHOUS KNOB HEATING METHOD.

Article by V. V. Kozlov, S. A. Muravitskiy, S. A. Strolov, Novosibirsk; Novosibirsk, III Sibirskiy po Protsessam Estre i Silitsa Poluprovodnikov Khimicheskoy i Priklad'noy Fiziki, Russian, 12-17 June 1972, p 1077.

The dislocation single crystals of silicon are cylindrical and the form of growth of dislocationless single crystals varies as a function of the supercooling of the melt and the coincidence of the crystallographic axis [111] with the growth axis of the bar and with the axis of the thermal field. In individual cases twinning takes place. The disappearance of the faceting elements of single crystals is accompanied by avalanche formation of dislocations.

The form of growth of dislocationless single crystals can be used as the criterion for optimizing the growth conditions.

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UDQ 621.315.592:546.28

USSR

ANTONYAN, V.G., GRINBLAT, S.L., KAMARALI, V.V., MIRAVITSKIY, S.A.

"Some Causes Of Radial Nonuniformity With Respect To Resistivity Of Noncrucible Silicon Monocrystals"

V sb. Tekhnol. materialov elektron. tekhn. (Technology Of Materials For Electronics Technics--Collection Of Works), Krasnoyarsk, 1970, pp 144-147 (from RZh--Elektronika i yeye primeneniye, No 11, November 1970, Abstract No 11B54)

Translation: The uniformity is investigated of the distribution of electrical conductivity in a cross section of crystals grown by the method of noncrucible zone melting. The effects of regimes for the growth of monocrystals on the uniformity are shown, as well as the possibility of reducing the magnitude of the spread of the resistivity from seven to five percent because of their optimum matching. 2 ill. 3 ref. Summary.

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