

USSR

UDC 617-001.34-07:616-009.939.6

MOICHANOV V. V. and SOLUN, V. S., Saratov Medical Institute

"Changes in Blood Protein Metabolism in Vibration Disease"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 10, 1971, pp 43-45

Abstract: Total proteins and changes in the blood protein fractions were studied in 94 persons who had been exposed to local vibration for varying lengths of time: 34 still using vibrating tools at the time of the examination and 60 no longer doing so because symptoms of vibration sickness had been detected. Both groups showed changes in protein metabolism -- decrease in albumins, hyperglobulinemia (increase in the α_2 , α_2 , and γ fractions), and decrease in the albumin-globulin ratio. These changes were more pronounced in the first group, especially among the female workers. Dysproteinemia intensified with length of time on the job; being particularly severe in those with 16 to 20 years of experience. Protein metabolism exhibited a tendency to return to normal in those no longer exposed to vibration.

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USSR

UDC 669.046.5

SHIRER, G. B., KOMEL'KOV, V. K., VOINOV, S. G., SHALIMOV, A. G., PEGOV, V. G.,
MOLCHANOVA, A. A., TSIBUL'NIKOV, A. I., and MOKHIR, Ye. D.

"Refining of Ball Bearing Electrical and Martin Steels by Synthetic Lime-Alumina Slag with High Silica Content"

Moscow, V sb. "Sovremennyye problemy kachestva stali" (MISIIS). (Collection of Works. Modern Problems of Steel Quality) (Moscow Institute of Steel and Alloys), Izd-vo "Metallurgiya," No 61, 1970, pp 247-249

Translation of Abstract: Results are presented of the refining of ShKh15 steel melted in 100-ton electric furnaces using synthetic slag with high silica content in a ladle. With respect to sulfur content and the level of contamination by sulfide impurities, the obtained steel is similar to metal refined with conventional synthetic slag containing not more than 3% of silica, although the former is more contaminated with oxide and globular impurities. Data are presented on production testing of the described slag at a Martin plant, at which the quality of the 12KhIMF and 20 K steels for pipes was found to be similar to a steel refined with the usual synthetic slag. The production cost of the slag with high silica content is given (It is approximately 30 rubles/ton cheaper than the ordinary slag). 3 tables.

+5

USSR

UDC:669.046.558.7

PEGOV, V. G., ANISINOV, M. Ye., SHIRER, G. B., ABRAMOVA, A. A., KOMEL'KOV, V. K., MOLCHANOVA, A. A., VOINOV, S. G., SHALIMOV, A. G., and PRONICHKIN, A.A.

"Influence of Deoxidation of Metal With Silicocalcium and Addition of Soda to Synthetic Slag on Contamination of Type ShKh15 Steel With Nonmetallic Inclusions"

Proizvodstvo Chernykh Metallov [Production of Ferrous Metals--Collection of Works], No 75, Metallurgiya Press, 1970, pp. 215-226

Translation: When type ShKh15 steel is made in 100-T electric furnaces with treatment by synthetic slag in the ladle, the addition of 2.5-3.0% calcinated soda allows the content of oxygen in the steel to be reduced by 25% and the contamination with sulfides, oxide, and globular inclusions to be significantly reduced. Deoxidation of ShKh15 steel with silicocalcium 2.0-2.5 kg/T with simultaneous processing with synthetic slag decreases the content of sulfides and oxides, but causes an increase in the content of globular inclusions in the steel. 3 tables; 5 biblio. refs.

1/1

1/2 009 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--ALKYLATION OF METHYLCYCLOHEXANE BY PROPYLENE IN THE PRESENCE OF
PROMOTED ALUMINUM CHLORIDE IN NITROMETHANE -U-
AUTHOR--(02)-GAVRILOV, B.G., MOLCHANOVA, G.K.
COUNTRY OF INFO--USSR
SOURCE--NEFTEKHIMIYA 1970, 10(2), 183-8
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ALKYLATION, CYCLOHEXANE, PROPYLENE, ALUMINUM CHLORIDE,
CATALYST
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/0957 STEP NO--UR/0204/70/010/002/0183/0188
CIRC ACCESSION NO--AP0134675
UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0134675

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TECH. ALCL SUB3 WAS MORE ACTIVE THAN PURE ALCL SUB3. THE BEST CATALYST FOR THE TITLE ALKYLATION WAS ALCL SUB3 PROMOTED WITH 5PERCENT FECL SUB3 IN MENO SUB2. THE OPTIMUM RATIO OF THE REACTION MIXT. WAS 1:1:0.5:0.2 CYCLOHEXANE,C SUB3 H SUB6,MENO SUB2,(ALCL SUB3,FECL SUB3). THE ALKLYATION YIELDED METHYLISOPROPYLCYCLOHEXANE, METHYLPROPYLCYCLOHEXANE, METHYLISOHEXYLCYCLOHEXANE, TRIMETHYLCYCLOHEXANE, AND DI, TRI, AND TETRAMERS OF C SUB3 H SUB6. FACILITY: LENINGRAD. GOS. UNIV. IH. ZHDANOVA, LENINGRAD, USSR.

UNCLASSIFIED

UDC: 621.9.048.4

USSR

MOROZENKO, V. N., ONUFRIYENKO, I. P., GASIK, L. N., ZHURA, V. I., MOLCHANOVA, L. V.

"Electrospark Production of Polymetallic Compositions"

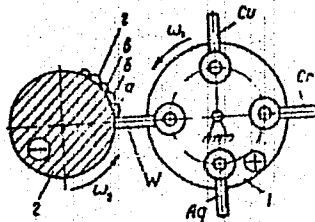
Kishinev, Elektronnaya Obrabotka Materialov, No 4(46), Aug/Sep 72; pp 8-12

Abstract: The paper gives the results of experimental studies of electrospark formation of polymetallic compositions produced by the set-up shown in the figure. Hinged to rotor 1 are anode rods of tungsten, copper, chromium and silver. Swinging out as the rotor turns, the anodes periodically approach the surface of cathode 2. By properly combining the rotational velocities ω_1 and ω_2 on the one hand, and velocity ω_1 and the pulse repetition frequency of the spark oscillator on the other hand, the transfer of anode material can be regulated so as to form overlapping alloyed zones $\alpha, \sigma, \beta, \gamma$. Experimental studies show that this method of alloying can be used to produce intermetallic compounds in surfacing which cannot be made in any conventional metallurgical process. By proper selection of parameters, surfaces with any desired physical properties can be produced.

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MOROZENKO, V. N. et al., Elektronnaya Obrabotka Materialov, No 4(46),
Aug/Sep 72, pp 8-12



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07

1/2 015 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--HEPARINE EFFECT ON FIBRIN CLOT STABILIZATION -U-
AUTHOR--(03)--RUSTAMOVA, B.A., MOLCHANOVA, L.V., KUDRYASHOV, B.A.
COUNTRY OF INFO--USSR
SOURCE--VOPROSY MEDITSINSKOY KHIMII, 1970, VOL 16, NR 3, PP 290-293
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--BLOOD COAGULATION FACTOR, HEPARIN, FIBRIN
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1998/0147 STEP NO--UR/0301/70/015/003/0290/0293
CIRC ACCESSION NO--AP0120847
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--23OCT70

2/2 015

CIRC ACCESSION NO--A0120847

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

ABSTRACT. HEPARINE EFFECT ON STABILIZATION OF CLOTS OBTAINED BY MEANS OF FIBRIN MONOMER POLYMERIZATION HAS BEEN STUDIED. HEPARINE AT APPROPRIATE CONCENTRATIONS EXERTS STABILIZING ACTION ON PRE FORMED CLOT. IN THIS CASE AS WELL AS AFTER STABILIZATION OF FIBRIN BY FACTOR XIII THE CLOT LOST THE ABILITY OF DISSOLVING MONOCHLOROACETIC ACID. BUT, THE CLOT WAS MORE LIABLE TO FIBRINOLYSIN AFTER HEPARINE ACTION AS STABILIZATION BY FACTOR XIII LEADS TO THE INCREASE OF RESISTANCE OF CLOT TO FIBRINOLYSIN ACTION. SUCCESSIVE ACTION OF PURE FIBRIN, HEPARINE AND FACTOR XIII ON THE CLOT LEADS TO THE TRUE STABILIZATION OF CLOT, I. E. TO THE INCREASE ITS RESISTANCE TO FIBRINOLYSIS ACTION. HENCE THE "STABILIZATION" BY HEPARINE AND STABILIZATION BY FACTOR XIII GO INDEPENDENTLY AND HAVE DIFFERENT BIOLOGICAL NATURE AND PHYSIOLOGICAL SIGNIFICANCE. FACILITY: LABORATORY OF PHISIOLOGY AND BIOCHEMISTRY OF BLOOD COAGULATION, STATE UNIVERSITY, MOSCOW.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--ON THE NATURE OF LYTIC EFFECT OF FIBRINOGEN HEPARIN AND TYROXIN
HEPARIN COMPLEXES ON FIBRIN -U-
AUTHOR--KUDRYASHOV, B.A., LYAPINA, L.A., MOLCHANOVA, L.V., RUSTAMOVA, B.A.
COUNTRY OF INFO--USSR
SOURCE--VOPROSY MEDITSINSKOY KHIMII, 1970, VOL 16, NR 2, PR 161-168
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--FIBRINOGEN, HEPARIN, THYROXINE, FIBRIN, FIBRINOLYSIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1986/0794 STEP NO--UR/0301/70/016/002/0161/0168
CIRC ACCESSION NO--AP0102757
UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0102757

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE COMPLEX TYROXIN HEPARIN (TYRH) POSSESSING BOTH IN VIVO AND IN VITRO BY ANTITHROMBIN AND LYTIC ACTION ON FIBRIN IN MODEL SYSTEM WAS OBTAINED. FIBRINOLYTIC ACTIVITY OF THE COMPLEX IS PRESERVED IN THE PRESENCE OF EPSILON AMINOCAPROIC ACID OR ANTIPLASMIN. THE COMPARATIVE STUDY OF TYRH AND FIBRINOGEN HEPARIN (FH) COMPLEXES SHOWED THE IDENTITY OF THEIR ANTITHROMBIN AND LYTIC ACTION. IT WAS ESTABLISHED THAT THESE COMPLEXES DO NOT POSSESS BY THE TRUE FIBRINOLYTIC ACTIVITY AND ACT AS SOLVENTS OF ONLY UNSTABILIZED FIBRIN. INASMUCH AS TYRH COMPLEX DOES NOT CONTAIN PROTEIN IN THE STRUCTURE, ITS LYTIC ACTIVITY IS NOT OF THE ENZYMATIC NATURE. TYRH AND FH COMPLEXES CAN BE CHARACTERIZED AS "PHYSIOLOGICAL SOLVENTS" OF UNSTABILIZED FIBRIN. THE MAXIMAL ACTIVITY OF THE COMPLEXES IS OBSERVED DURING THEIR INCORPORATION INTO THE CLOT OF FIBRIN POLYMER. FH COMPLEX ALSO POSSESS BY THE INHIBITORY ACTION ON THE PROCESS OF FIBRIN STABILIZATION BY XIII FACTOR. IT WAS PUBLISHED EARLIER THAT FH COMPLEX ARISES IN THE BLOOD AS THE DEFENCE REACTION OF THE ORGANISM ON I. V. THROMBIN ADMINISTRATION. THEREFORE THE "PHYSIOLOGICAL SOLVENTS" OF UNSTABILIZED FIBRIN ARE THE NATURAL HUMORAL AGENTS OF ANTICOAGULATING SYSTEM.

UNCLASSIFIED

UDC 541.8+532.77

USSR

MOLCHANOVA, N. R., DULOVA, V. I., ZHURAVLEVA, L. P., and PAVLIN, A. T.,
Dnepropetrovsk Chemical-Technological Institute imeni M. E. Dzerzhinskiy
and the Institute of Organic Chemistry, Ukrainian Academy of Sciences

"The Strength of Phosphonic Acids in Certain Nonaqueous Solvents"

Leningrad, Zhurnal Obshchey Khimii, Vol XL, No 12, Dec 70, pp 2631-2634

Abstract: In inert solvents phosphonic acids are dimerized, or may yield more complex aggregates; in solvents capable of forming hydrogen bonds, there is decomposition of these associates with subsequent dissociation of the acid molecules.

The present research was aimed at determining the strength of phosphonic acids and β -naphthylphosphonic acid in alcohols, ketones and ether. The bufferless indicator method was used, with a photocolormeter, at $25 \pm 3^\circ$.

Constants σ_ϕ were determined for 12 substituents, from the dissociation of the acids. In agreement with the Hammett equation the indexes of the dissociation constants of phosphonic acids correlate linearly with the constants σ_ϕ .

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1/2 009 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--STRENGTH OF PHOSPHORIC ACIDS IN NONAQUEOUS SOLVENTS -U-
AUTHOR--(02)-MOLCHANOVA, N.R., DULOVA, V.I. *M*
COUNTRY OF INFO--USSR
SOURCE--ZH. FIZ. KHIM. 1970, 44(6), 1542-4
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--PHOSPHORIC ACID, HYDROGEN ION CONCENTRATION, NONAQUEOUS SOLUTION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605012/F04 STEP NO--UR/0076770/044/006/1542/1544
CIRC ACCESSION NO--AP0140332
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0140332

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE STRENGTH OF H SUB3 PO SUB4 AND OF (RO) SUB2 PO SUB2 H (R EQUALS PH, CYCLOHEXYL, ISO-C SUB5 H SUB11, C SUB8 H SUB17, AND BU) WERE REPORTED IN TERMS OF PKA IN BUOH, ISO-BUOH, TERT BUOH, CYCLOHEXANOL, CYCLOHEXANONE, AND ACME, AND AS PK OF CONVERSION TO ION PAIRS IN PHOME, 4:1 PHOME, BU SUB2 O, BUOAC, AND (BUO) SUB3 PO. THE ACIDS WERE STRONGEST IN ISO-BUOH AND WEAKEST IN PHOME. OF THE ACIDS STUDIED, THE STRONGEST WAS H SUB3 PO SUB4 AND THE WEAKEST.

FACILITY: DNEPROPETROVSK. KHIM.-TEKHNOL. IM. UZERZHINSKOGO, DNEPROPETROVSK, USSR.

UNCLASSIFIED

MOLCHANOVA, N. S.

med

J-8448

VOENNO-MEDITSINSKIY ZHURNAL, NO. 4, 1970, pp. 52-54

PROTEIN FRACTIONS OF THE BLOOD SERUM IN ULCER DISEASE

PREPARED

by
G.G. Makinof, Lt. Col. of Med. Serv. A
N.S. Molchanova, M.D.

Thus to electrophoretic examinations of the serum proteins in recent years certain changes were established in the protein metabolism of peptic ulcer patients. L.I. Anonimov, S.G. Nadykova, K.T. Stenashkina, Y. Ye. Frankina, E.I. Zerkina and others observed in the majority of ulcer patients hypoproteinemia and decreased in the albumin-globulin ratio. Other authors (L.Ye. Shadrina, I.Ye. Abasov) did not find substantial changes in the serum protein in this pathology. The majority of authors attribute the cause of disturbed protein metabolism in ulcer disease to the disturbed protein-forming function of the liver. Thus, S.M. Hyma, A.A. Shaturova found functional liver disturbances and hepatomegaly in 25.8% S.O. Belykh noted hepatomegaly almost in one half of the ulcer patients. In the opinion of L.I. Anonimov (1967) the disturbed protein metabolism in ulcer disease is caused by secondary disturbance of digestion, and absorption of food substances in the small bowel.

To elucidate the composition of protein fractions, we examined 108 men suffering from ulcer disease within the 19-23 year age group. Among them 109 patients had duodenal ulcer and 8 had gastric ulcer. The duration of ailment was less than one year in 32 persons, 1 to 5 years in 66, 5 to 10 years in 6, more than 10 years in 4.

In 46 persons, the following associated ailments appeared: cholecystitis, gastritis, lambliasis, chronic gastritis, helminthiasis. Severity and increased acidity; acidity was normal in 29, and depressed in 4. In 88 patients radiography showed a niche, while 20 had typical electrical ulcerose deformation without a niche syndrome. Total protein was determined by the method of Phillip and Vannalyke, the protein fractions studied with the aid of paper electrophoresis. The protein metabolism was examined at the exacerbation of the ailment and after a course of antilulcerous treatment.

For a more objective evaluation of the observed changes, 50 young donors were examined in advance. Here, the following serum protein and protein fraction content was found: total protein 7.5 ± 0.62% (albumin 5.5 ± 0.36; alpha 1-globulin 1.4 ± 0.05; alpha 2-globulin 1.5 ± 0.36; beta-globulin 1.5 ± 0.36; gamma-globulin 1.4 ± 0.18).

Moderately marked hypoproteinemia was found in 49 patients. Their average total protein was 6.2 ± 0.3%. There was no relationship between the total protein level, the duration of the ailment, and the acid-forming function of the stomach. At the examination of protein fractions, hypalbuminemia was found in 58 (54%). The average albumin content was 50.2 ± 4.3%. Among gastric ulcer patients, hypalbuminemia was observed in 49, more often in cases of severe acid-forming function. Hypalbuminemia was found in 50 out of 88 patients with niche symptom, and in 8 out of 20 with electrical ulcerose deformation. Thus, in patients with niche symptom the albumin-forming hepatic function was comparatively more often disturbed than in patients who did not have niche. In presence of niche symptom, evidently, other

1/2 022 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--SPECIFIC PROPERTIES OF $BaTiO_3$ -BASED SOLID SOLUTIONS -U-
AUTHOR-(02)-KOMAROV, V.D., MOLCHANOVA, R.A. M
COUNTRY OF INFO--USSR
SOURCE--AKADEMIIA NAUK SSR, IZVESTIIA, VENNYI UNIVERSITET, ROSTOV USSR.
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, CHEMISTRY
TOPIC TAGS--BARIUM TITANATE, SOLID SOLUTION, BIBLIOGRAPHY, CURIE POINT,
ELECTRIC PROPERTY, NIOBIUM, TANTALUM, ANTIMONY, LANTHANUM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/0951 STEP NO--UR/0363/70/006/000/0054/0058
CIRC ACCESSION NO--AP0118117
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--16JCT70

2/2 022

CIRC ACCESSION NO--AP0118117

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

ABSTRACT. STUDY OF THE TEMPERATURE DEPENDENCE OF THE ELECTRICAL PROPERTIES OF BaTiO_3 SPECIMENS CONTAINING Nb , Ta , Sb AND La , BY USING BRIDGE CIRCUIT OR RESONANCE TECHNIQUES AT VARIOUS FREQUENCIES. THE SPECIMENS WERE PREPARED FROM BaCO_3 AND TiO_2 BY A CONVENTIONAL CERAMIC TECHNIQUE OR BY THE DECOMPOSITION OF BARIUM TITANYL OXALATE AT 820DEGC. IT IS FOUND THAT THE TEMPERATURE DEPENDENCES OF PERMITTIVITY ARE ESSENTIALLY THE SAME IN SPECIMENS PREPARED BY EITHER TECHNIQUE. THE CHARACTERISTIC FEATURE OF SPECIMENS WITH 2 AT PERCENT OF ADMIXTURES IN PARTICULAR, IS A BLURRED PERMITTIVITY MAXIMUM AT 30-40 DEG C AND ANOTHER SLIGHT MAXIMUM CORRESPONDING TO THE CURIE POINT OF PURE BaTiO_3 . FACILITY: ROSTOVSKII-NA-DONU GOSUDARST VENNYI UNIVERSITET, ROSTOV, USSR.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--SPECIFIC PROPERTIES OF $BaTiO_3$ -BASED SOLID SOLUTIONS -U-

AUTHOR--(02)-KOMAROV, V.D., MOLCHANOVA, R.A. M

COUNTRY OF INFO--USSR

SOURCE--AKADEMIYA NAUK SSR, IZVESTIYA, VENNYI UNIVERSITET, ROSTOV USSR.

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, CHEMISTRY

TOPIC TAGS--BARIUM TITANATE, SOLID SOLUTION, BIBLIOGRAPHY, CURIE POINT,
ELECTRIC PROPERTY, NIOBIUM, TANTALUM, ANTIMONY, LANTHANUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/0951

STEP NO--UR/0363/70/006/000/0054/0058

CIRC ACCESSION NO--AP0118117

UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0118117

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STUDY OF THE TEMPERATURE DEPENDENCE OF THE ELECTRICAL PROPERTIES OF $BaTiO_3$ SPECIMENS CONTAINING NB, TA, SB AND LA, BY USING BRIDGE CIRCUIT OR RESONANCE TECHNIQUES AT VARIOUS FREQUENCIES. THE SPECIMENS WERE PREPARED FROM $BaCO_3$ AND TiO_2 BY A CONVENTIONAL CERAMIC TECHNIQUE OR BY THE DECOMPOSITION OF BARIUM TITANYL OXALATE AT 820DEGC. IT IS FOUND THAT THE TEMPERATURE DEPENDENCES OF PERMITTIVITY ARE ESSENTIALLY THE SAME IN SPECIMENS PREPARED BY EITHER TECHNIQUE. THE CHARACTERISTIC FEATURE OF SPECIMENS WITH 2 AT PERCENT OF ADMIXTURES IN PARTICULAR, IS A BLURRED PERMITTIVITY MAXIMUM AT 30-40 DEG C AND ANOTHER SLIGHT MAXIMUM CORRESPONDING TO THE CURIE POINT OF PURE $BaTiO_3$. FACILITY: ROSTOVSKII-NA-DONU GOSUDARST VENNYI UNIVERSITET, ROSTOV, USSR.

UNCLASSIFIED

USSR

UDC 669.295.5

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

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

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

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

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

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

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USSR

ANDRUSHCHUK, A. O., MOL'CHENKO, E. F., RADCHENKO, N. O., and LISYANA, T. O.

"Quantitative Characteristics of Immunoglobulins During Acute Respiratory Infections of Children"

Pediatrya, Akusherstvo i Ginekol (Pediatry, Obstetrics and Gynecology) 1973, No 4, pp 6-7 (From RZh - Biologicheskaya Khimiya, No 22, Nov 73, Abstract No 1705)

Translation: One hundred twenty six children were studied during acute respiratory illness (ARI). The studies carried out explained the changes in the concentration of immunoglobulins in blood serum, in relationship to age, type of the disease, and complications. Children up to 1 year of age ailing with grippe and ARI of unknown etiology exhibited a lower concentration of immunoglobulin G and an increased content of the immunoglobulin A. In the 1-3 year group of children sick with grippe and pneumonia a significantly increased content of immunoglobulin G was noted with lower concentration of the immunoglobulin A. The macroglobulins of these children exhibited a tendency to an enlargement, in case of children ailing with pneumonia this elevation was statistically significant. With otitis complications the concentration of immunoglobulin M increased steadily.

1/1

Theoretical Automation

USSR

UDC: 62-50

MOLDABAYEV, S. M.

"On the Problem of Controlling Linear Stationary Systems in the Presence of Random Perturbations"

Alma-Ata, Izvestiya Akademii Nauk Kazakhskoy SSR, No 5, Sep/Oct' 73, pp 42-47

Abstract: The author examines the problem of constructing a regulator which guides a linear system from a given initial position to a given vicinity of the coordinate origin in a finite time in the presence of random perturbations. The random perturbation is described by a Markov probabilistic process with a known probabilistic transfer function.

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1/2 010 UNCLASSIFIED PROCESSING DATE--20NOV70
 TITLE--PYRAZOLIDINE CHEMISTRY. XIV. EFFECT OF ENOLIZATION --U--
 AUTHOR--(C3)-MULDAVER, B.L., ARONSON, M.YE., PAPIRNIK, M.P.
 COUNTRY OF INFO--USSR M
 SOURCE--KFI. GETERETSIL. SUEVIN. 1970, (3), 407-9
 DATE PUBLISHED-----70
 SUBJECT AREAS--CHEMISTRY
 TOPIC TAGS--BENZENE DERIVATIVE, ORGANIC AZOLE COMPOUND, ORGANIC OXYGEN
 COMPOUND, MOLECULAR STRUCTURE, CHEMICAL SYNTHESIS
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRA--3002/0443 STEP NO--UR/0409/70/000/003/0407/0409
 CIRC ACCESSION NO--AP0128013
 UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0128013

ABSTRACT/EXTRACT--(U) GP-Q- ABSTRACT. THE FOLLOWING I WERE OBTAINED BY KNOWN METHODS (4, R PRIME1, AND M. P. GIVEN): H, H, 178DEGREES; ET, H, 108DEGREES; BU, H, 104-5DEGREES; PH, H, 184-5DEGREES; ME SUB2 NCH SUB2 CH SUB2, H (II), 228-30DEGREES; PHCH SUB2, H, 133-4DEGREES; AND BU, ME (III), 112DEGREES. ALSO PREPD. WAS IV, M. 84-5DEGREES. I AND IV WERE HYDROGENATED 3 HR OVER RANEY NI AT ROOM TEMP. TO YIELD PHNHCOARR PRIME1 CONHPPH (V). II (0.25 G) REFLUXED 3 HR IN 20 ML ETOH WITH 1 G RANEY NI GAVE 0.2 G V (R EQUALS H, R PRIME1 EQUALS CH SUB2 CH SUB2 NET SUB2), M. 152-3DEGREES. SIMILARLY, III GAVE V (R EQUALS ME, R PRIME1 EQUALS BU), M. 195-6DEGREES. III (1.25 G) WAS HYDROGENATED 3 HR IN ALK. ETOH SOLN. OVER 4 G RANEY NI AT 20DEGREES TO GIVE PHNHCOARR SUB2 H, M. 108-9DEGREES. FACILITY: LENINGRAD. KHIM.-FARM. INST., LENINGRAD, USSR.

UNCLASSIFIED

Physiology

USSR

UDC 612.821

KOL'CHENKO, N. V., and MOLDAVSKAYA, S. I., Department of the Higher Nervous Activity at the Institute of Physiology Imeni A. A. Bogomolets, Academy of Sciences Ukrainian SSR, Kiev

"The Effect of Prolonged Hypokinesia on the State of Higher Nervous Activity of Humans"

Kiev, Fiziologichnyy Zhurnal, Vol 19, No 4, Jul/Aug 73, pp 435-440

Translation: Investigation of higher nervous activity with prolonged hypokinesia carried out on healthy volunteer subjects has shown that strict bed confinement without immobilization lasting up to 10 days did not have a negative influence on the state of higher nervous activity; strict bed confinement without immobilization lasting from 10 to 30 days and strict bed confinement with immobilization of lower extremities by means of plaster bandages lasting from 5 to 10 days leads to a deterioration of the performance of the brain, increased latent period of the optic-motor reflex, decreased number of scanned symbols in correction tables over a period of 10 minutes, and an increased percentage of error. Return of these indexes to the starting level occurs about 8 days after discontinuation of hypokinesia. The magnitude and the direction of changes in higher nervous activity with

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USSR

KOL'CHENKO, N. V., and MOLDAVSKAYA, S. I., Fiziologichnyy Zhurnal, Vol 19,
No 4, Jul/Aug 73, pp 435-440

hypokinesia depend on individual typological characteristics of higher
nervous activity.

2/2

- 43 -

Acc. Nr.

AP0042031

Abstracting Service:
CHEMICAL ABST.

4/70

M

Ref. Code

AP 0366

89678j Photochemical interaction of N-chloroperfluoro(methylethyl)amine with sulfur chloride pentafluoride. ~~Moldavskii~~
D. D.; Temchenko, V. G. (USSR). Zh. Org. Khim. 1970, 6(1), 185-8 (Russ). The irradi. of 1:1 F₂CNC₂H₅Cl-SF₅Cl mixt. in a quartz bulb at 20°/760 mm gave 70% F₂CC₂F₄NN-C₂F₅CF₃, ~30% F₂CC₂F₄NSF₅Cl, and small amts. of S₂F₁₀. The yields of F₂CC₂F₄NSF₅Cl decreased to approx. 10% when the mixt. was irradiated in a Pyrex glass bulb. CPJR

see

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REEL/FRAME

19751928

7

USSR

UDC 621.165.018.001.24

VLASOV, Ye. N. and MOLDAVSKIY, N. L.

"Selection of the Optimal Parameters in a Low-Power Supersonic Steam Turbine"

Tr. Un-ta Druzby Narodov im. Patrisa Lumumby (Works of the University of Peoples' Friendship imeni Patrice Lumumba), No 61, 1972, pp 68-81 (from Referativnyy Zhurnal--Turbostroyeniye, No 2, 1973, Abstract No 2.49.22)

Translation: In calculations of low-power supersonic steam turbines, account should be taken of the relationship of the velocity coefficient ϕ to the angle of nozzle inclination α_1 ; this requires the accumulation of experimental material. At small values of flow rates G 1000 kg/h, the optimal nozzle angle is $\alpha_1 = 12 - 10^\circ$. For a steam flow rate of 5000 -- 10000 kg/h, $(\alpha_1)_{opt} = 16 - 14$. The low nozzle height of 10 -- 11 mm, usually employed in low-power turbines, should be considered satisfactory for a steam flow rate of 1 -- 2 t/h, overstated at smaller flow rates and understated at larger flow rates. 12 figures. 2 tables. 14 references.

1/1

1/2 013 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--PURIFICATION OF WASTE WATERS BY USING OIL SHALE ASH -U-

AUTHOR--(02)--MOLDER, H., TEPAKS, L.

COUNTRY OF INFO--USSR

SOURCE--BUM. PROM. 1970, (5), 18-19

DATE PUBLISHED-----70

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

TOPIC TAGS--PAPER INDUSTRY, INDUSTRIAL WASTE, WATER POLLUTION, WATER
PURIFICATION EQUIPMENT, OIL SHALE, CALCIUM OXIDE, OXIDATION, LIGNIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605002/C04 STEP NO--UR/0329/70/D00/005/0018/0019

CIRC ACCESSION NO--AP0139427

UNCLASSIFIED

2/2 013

UNCLASSIFIED

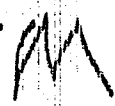
PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0139427

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

ABSTRACT. A SYSTEM FOR 2 STAGE PURIFICATION OF KRAFT MILL EFFLUENTS HAS BEEN DEVELOPED. PRELIMINARY PURIFICATION OF WHITE WATER IN A WACO FILTER AND DEODORIZATION OF BLACK LIQUOR BY AERATION GIVEN PRODUCTS WHICH ARE COMBINED FOR FURTHER 2 STAGE PURIFICATION. THE COMBINED EFFLUENT HAS A BOD SUB5 OF SIMILAR TO 200 MG-L. THE 1ST PURIFICATION STAGE CONSISTS OF TREATMENT WITH OIL SHALE ASH, AS A CAO CONTG. REAGENT, TO CAUSE COAGULATION AND REDN. OF COLOR. THIS REDUCES THE BOD BY 13PERCENT, AND THE VOL. OF THE SLUDGE IS SIMILAR TO 15PERCENT OF THE INITIAL EFFLUENT VOL. IN THE 2ND STAGE, THE PARTIALLY PURIFIED EFFLUENT SEPD. FROM THE SLUDGE IS TREATED WITH HS UB2 SO SUB4 TO LOWER ITS PH AND, AFTER ADDN. OF NUTRIENT SALTS, IS SUBJECTED TO BIOL. PURIFICATION IN TANKS WITH LOW INTENSITY AERATION. THE OVERALL REDN. OF BOD IS 88PERCENT, OF COD 65PERCENT. IN THE INDUSTRIAL PURIFICATION EQUIPMENT, THE 1ST STAGE PURIFICATION IS COMBINED WITH HYDRAULIC REMOVAL OF EXCESS ALKALI FROM OIL SHALE ASH. ADVANTAGES OF THE PROCESS ARE ELIMINATION OF THE NEED FOR LIME, LOWER POWER CONSUMPTION FOR AERATION, AND A 65PERCENT REDN. OF THE ORG. COMPS. IN THE EFFLUENT WHICH ARE DIFFICULT TO OXIDIZE (MAINLY LIGNIN).
FACILITY: TALLIN. POLITEKH INST., TALLIN, USSR.

UNCLASSIFIED

1/2 011 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--PHASE COMPOSITION AND STRENGTH OF HIGHLY BASIC MANGANESE SINTERS
-U-
AUTHOR--(03)-UTKOV, V.A., MOLEVA, N.G., MILLER, V.YA. 
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, METAL 1970, (1), 3-6
DATE PUBLISHED-----70
SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, MATERIALS
TOPIC TAGS--SINTER, MANGANESE, IRON ORE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1984/0169 STEP NO--UR/0370/70/000/001/0003/0006
CIRC ACCESSION NO--AP0054965
UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--A0054965

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

ABSTRACT. THE COMPN. OF MN CONC. AND ORE WAS
FE 2.4 AND 3.1, MN 26.7 AND 19.3, CAO 8.0 AND 8.4, SIO SUB2 15.8 AND
19.6, MGO 2.4 AND 2.2, AL SUB2 0 SUB3 2.0 AND 4.4PERCENT, RESP.
EIGHT, 10, KG SINTERS WERE PREPD. IN CRUCIBLES. HIGHLY BASIC SINTERS WITH
STRENGTH COMPARABLE TO THOSE FROM FE ORE WERE PREPD. BY THE ADDN. OF FE
ORE. THE BINDING PHASES IN THE HIGHLY BASIC LOW FE AND HIGH FE SINTERS
WERE HAUSMANNITE AND CA FERRITE, RESP.

UNCLASSIFIED

1/2 011 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--TRIAMINO,S,HEPTAZINE -U-
AUTHOR--(05)-ZAGRANICHNYI, V.I., NOLEY, I.I., KARLIK, V.M., MOLEVA, V.P.,
MUSHKIN, YU.I.
COUNTRY OF INFO--USSR
SOURCE--U.S.S.R. 264,388
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--03MAR70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--AMINE, ORGANIC AZINE, CHEMICAL PATENT, PYROLYSIS, ORGANIC
SYNTHESIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3002/1565 STEP NO--UR/0482/70/000/000/0000/0000
CIRC ACCESSION NO--AA0128960
UNCLASSIFIED

2/2 011 UNCLASSIFIED PROCESSING DATE--13NOV70
CIRC ACCESSION NO---AA0128960
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TRIAMOND, S, HEPTAZINE IS PREPD. BY
PYROLYZING CYANURIC ACID AT 350-450DEGREES UNDER PRESSURE OF THE GASES
SEPG. IN THE REACTION.

UNCLASSIFIED

1/2 011 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--TRIAMINO,S,HEPTAZINE -U-

AUTHOR--(05)-ZAGRANICHNYI, V.I., MOLEY, I.I., KARLIK, V.M., MOLEVA, V.P.,
MUSHKIN, YU.I.
COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 264,388
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--03MAR70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--AMINE, ORGANIC AZINE, CHEMICAL PATENT, PYROLYSIS, ORGANIC
SYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3002/1565

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

CIRC ACCESSION NO--AA0128960

UNCLASSIFIED

2/2 011 UNCLASSIFIED PROCESSING DATE--13NOV70
CIRC ACCESSION NO--AA0128960
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TRIAMOND,S,HEPTAZINE IS PREPD. BY
PYROLYZING CYANURIC ACID AT 350-450DEGREES UNDER PRESSURE OF THE GASES
SEPG. IN THE REACTION.

UNCLASSIFIED

Extraction and Refining

UDC: 669.35:669.046.54/55

USSR

STREL'TSOV, F. N., TRANKOVSKIY, Ye. G., MOLDAVSKIY, O. D.

"Refining of Copper of Impurities upon Melting in a Vacuum Furnace"

Moscow, Tsvetnyye Metally, No 8, Aug 73, pp 40-43.

Abstract: It is demonstrated that the degree of refining of liquid copper is determined by the volatility of the components and is accompanied by evaporation of the copper. During melting in vacuum induction furnaces, the degree of refining is insignificant, while during melting in cathode-ray furnaces it is higher, but is accompanied by greater losses of copper.

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UDC 576.858.75.095.57

USSR

PODCHERNYAYEVA, R. Ya., SOKOLOV, M. I., PARASYUK, N. A., MYASNIKOVA, I. A.,
BASOVA, E. A., SOKOLOVA, N. N., and MOLIBOG, Ye. V., Institute of Virology
imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR

"Study of Genetic Markers and Their Variability in Influenza Virus Isolated
During the 1968-1969 Influenza Epidemic. II. Variability of Genetic
Markers in Influenza Type A₂ (Hongkong) Virus In Passages in Mice at Low
Temperatures"

Moscow, Voprosy Virusologii, No 5, 1971, pp 543-548

Abstract: Ten passages of influenza type A₂ (Hong Kong) virus in mice re-
sulted in variants that produced lung changes typical of influenza in mice.
After the 20th passage, the pathogenic variants exhibited increased repro-
ductive activity at 36 and 40°C. All strains, except A₂ (Hong Kong) 1/68
M₂₀, resisted heating to 56°C. Like the original strains, they were com-
pletely adsorbed on chick erythrocytes but were more readily eluted from
them. Neuraminidase activity was half that in the original strains. The
pathological variants remained sensitive to normal animal serum inhibitors
and did not agglutinate mouse erythrocytes. They resembled the original
strains in resistance to trypsin, urea, and ultraviolet irradiation.

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JSSR

PODCHERNYAYEVA, R. Ya., et al., Voprosy Virusologii, No 5, 1971, pp 543-548

After 10 passages of A2 (Hong Kong) 1/68 and its pathogenic variant A2 (Hong Kong) 1/68 M₂₀ in chick embryos incubated after inoculation at 28°C both strains reproduced actively and remained able to do so even at 40°C.

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USSR

UDC 576.858.75.095 5

SOKOLOV, M. I., PODCHERNYAYEVA, R. Ya., PARASYUK, N. A., ~~MYASNIKOVA, I. A.~~,
MEN'SKIKH, L. K., MOLIBOG, Ye. V., SOKOLOVA, N. N., and STAKHANOVA, V. M.,
Institute of Biorology imeni D. I. Ivanovskiy, Academy of Medical Sciences,
USSR, Moscow

"Study of Genetic Properties and Their Variability in Viruses Isolated in the
1968-1969 Influenza Epidemic. Communication 1: Biological Properties of
Strains of A2/Hong-Kong 1/68"

Moscow, Voprosy Virusologii, No 6, Nov/Dec 70, pp 677-680

Abstract: A study was made of the inhibitor ratio, thermal stability, neuro-
midase and eluent activities, stability against UV light, and pathogenic and
toxic effects on white mice of the A2/Hong-Kong 1/68 flu strain and two similar
strains isolated in the USSR. The latter strains did not differ significantly
from the former. On the basis of the test results, it is assumed that evolu-
tion of the A2 virus in nature does not involve reversion to strains of group
AO. Additional studies with laboratory varieties are required to elucidate
this problem.

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USSR

UDC: 539.1.074

(2)

GRAMMATIKATI, V. S., GRINEV, M. P., YERSHOVA, Z. F., KOZLOV, L. I.,
LITVINOVA, T. G., MIKHAYLOV, L. M., MOLIN, A. A., PANGHENKOV, G. M.

"Color Indicators for Visual Evaluation of Dose During Radiation
Sterilization"

Dozimetriya i Radiats. Protsessy v Dozimetr. Sistemakh [Dosimetry and
Radiation Processes in Dosimetric Systems -- Collection of Works], Tashkent,
Fan Press, 1972, pp 113-118 (Translated from Referativnyy Zhurnal
Metrologiya i Izmeritel'naya Tekhnika, No 3, 1973, Abstract No 3.32.1403),
from the resume.

Translation: It is suggested that a plasticized PVC film containing an acid-
sensitive dye be used as a color dose indicator for the 0.1-5.0 Mrad range.
The sensitivity of indicators to radiation as a function of film composition
and dye used is studied. Color dose indicators are calibrated using the
ferrosulfate method and calorimetry. A method is suggested for instrumental
testing of changes in the color of indicators using spectrophotometry of
irradiated specimens, allowing doses to be measured with errors of $\pm 10-12\%$.
Practical recommendations are presented for the use of color dose indicators
to check radiation sterilization. 2 figures, 1 biblio. ref.

1/1

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1/2 031 UNCLASSIFIED PROCESSING DATE--23OCT7
 TITLE--YIELDS OF FLUORINE 18 DURING THE IRRADIATION OF SODIUM, MAGNESIUM,
 AND ALUMINUM BY HELIUM 3 IONS AND THE IRRADIATION OF SODIUM BY ALPHA
 AUTHOR--(05)-KRASNOV, N.N., DMITRIYEV, P.P., DMITRIYEVA, Z.P.,
 KONSTANTINOV, I.D., MOLIN, G.A.
 COUNTRY OF INFO--USSR

M

SOURCE--AT. ENERG. 1970, 28(3), 257

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--FLUORINE ISOTOPE, SODIUM, MAGNESIUM, ALUMINUM, IRRADIATION,
 ALPHA PARTICLE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRA--1997/1578

STEP NO--UR/0089/70/029/003/0257/0257

CIRC ACCESSION NO--AP0120357

UNCLASSIFIED

242 . 031

UNCLASSIFIED

PROCESSING DATE--23OCT7

CIRC ACCESSION NO--AP0120357

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE YIELDS OF PRIME18 F (DISINTEGRATIONS-SEC-MU A-HR) FROM PRIME23 NA (PRIME3 HE, 2 ALPHA) PRIME18 F AND PRIME23 NA (ALPHA, 2 ALPHA N) PRIME18 F WERE SIMILAR TO 3 TIMES 10 PRIME6 AT SIMILAR TO 27.5 MEV AND SIMILAR TO 55 TIMES 10 PRIME6 AT SIMILAR TO 44 MEV, RESP. FOR PRIME24 MG (PRIME3 HE, 2 ALPHA N) PRIME18 F YIELDS PRIME18 F, THE YIELD WAS SIMILAR TO 5 TIMES 10 PRIME6 AT SIMILAR TO 28 MEV AND FOR PRIME27 AL (PRIME3 HE, 3 ALPHA) PRIME18 F. IT WAS SIMILAR TO 2.5 TIMES 10 PRIME6 AT 29.5 MEV.

UNCLASSIFIED
 TITLE--YIELD OF CARBON 11 FROM PRIME9 BE (PRIME3 HE, N) PRIME11 C AND
 PRIME9 BE (ALPHA, 2N) PRIME11 C REACTIONS -U-
 AUTHDR--(05)--KRASNOV, N.N., DMITRIYEV, P.P., DMITRIYEVA, Z.P.,
 KONSTANTINOV, I.O., MOLIN, G.A.
 COUNTRY OF INFO--USSR
 SOURCE--AT. ENERG. 1970, 28(3), 258
 DATE PUBLISHED-----70
 SUBJECT AREAS--PHYSICS, NUCLEAR SCIENCE AND TECHNOLOGY
 TOPIC TAGS--CARBON ISOTOPE, ION BOMBARDMENT, ALPHA BOMBARDMENT, BERYLLIUM
 ISOTOPE, ION ENERGY, ALPHA SPECTRUM
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRA--1994/1236
 STEP NO--UR/0089/70/029/003/0258/0258
 IRC ACCESSION NO--AP0115253
 UNCLASSIFIED

M

2/2 021

UNCLASSIFIED

PROCESSING DATE--16OCT70

IRC ACCESSION NO--AP0115253

BSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE YIELD OF PRIME11 C IN THE PRIME9 BE (PRIME3 HE, N) PRIME11 C REACTION INCREASES ALMOST LINEARLY (0.05-1.60) TIMES 10 PRIME9 DECAYS-(SEC MUA HR) WHEN THE PRIME3 HE IONS ENERGY IS INCREASED 2-30 MEV; THE YIELD OF PRIME11 C IN THE PRIME9 BE(ALPHA, 2N)PRIME11 C REACTION INCREASES FROM 0 TO (0.125-0.75) TIMES 10 PRIME9 DECAYS-(SEC MUA HR) WHEN THE ALPHA PARTICLES ENERGY IS INCREASED FROM 20 TO 27-44 MEV, RESP. THE ABOVE YIELDS WERE MEASURED BY BOMBARDING THE BE IN A CYCLOTRON.

UNCLASSIFIED

USSR

UDC: 621.315.592

MOLIN, V. N., VASIL, O. I., SKRIPKINA, P. A., ASEYEV, A. L.,
PETROSYAN, V. I., STENIN, S. I., and TAVGER, B. A., Institute of
Semiconductor Physics, Novosibirsk

"Connections of the Electrophysical Characteristics and Structure
of Dimension-Quantized InSb Films"

Leningrad, Fizika i tekhnika poluprovodnikov, No 8, 1972, pp 1447-
1451

Abstract: The purpose of this paper is to establish a connection between the structure and the electrical characteristics of InSb films with quantum dimensional effects. In the form of wedges, the specimens were prepared by pulse sputtering in a vacuum of 10^{-5} mm Hg on mica sheets measuring 10x80 mm. The specimens were given two types of structure by two modes of annealing. A photograph of these structures is reproduced, and curves are plotted for the mobility as a function of the thickness of the InSb films for the two structural types and for nonstoichiometric films with excess Sb, for the mobility as a function of the polycrystalline film temperature and the textured film temperature. The authors express their gratitude to E. I. Dagman and L. M. Rodnikova for their assistance.

1/1

USSR

UDC 669.76:539.216.2:5317.311.3

PETROSYAN, V. I., MOLIN, V. N., DAGMAN, E. I., TAGVER, B. A., SKRIPKINA, P. A.,
and ALEKSANDROV, L. N., Institute of Semiconductor Physics, Siberian Department
of the Academy of Sciences USSR

"Characteristics of Quantum Size Effects in Thin Untextured Polycrystalline
Films of Bismuth Produced by the Electric Explosion Method"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 31, No 4, Apr 71, pp 725-730

Abstract: Possibilities of the occurrence of quantum size effects (QSE),
their peculiarities in untextured polycrystalline bismuth films, and the
role of crystallographic anisotropy in QSE were investigated on the basis of
oscillation (period $\sim 200 \text{ \AA}$) dependences of the specific resistance ρ and
the Hall constant R on the thickness in untextured polycrystalline foils.
The foils were produced by the electric explosion method in the thickness
interval of 50-700 \AA . In contrast to previous findings, the Hall constant
was found to be negative. The experimental results are discussed by ref-
erence to diagrams showing temperature dependences of ρ and R and densities
of electron and hole conditions as functions of the film thickness. Control
measurements made on the same films, annealed at 70°C, on which the texture
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USSR

PETROSYAN, V. I., et al., Fizika Metallov i Metallovedeniye, Vol 31, No 4, Apr 71, pp 725-730

originated, demonstrated that the derived characteristics are related to a polycrystallinity. Three figures, six formulas, eight bibliographic refs.

2/2

- 53 -

1/2 010 UNCLASSIFIED PROCESSING DATE--27NOV70
 TITLE--MANIFESTATION OF STRUCTURAL FEATURES OF AQUEOUS ORGANIC MIXTURES IN
 THE KINETICS OF THE REACTION BETWEEN IRON II IONS AND
 AUTHOR--(03)-ZUSMAN, R.I., LEVINA, A.S., MQLIN, YU.N.
 COUNTRY OF INFO--USSR
 SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(5), 1060-2
 DATE PUBLISHED-----70
 SUBJECT AREAS--CHEMISTRY
 TOPIC TAGS--SULFONE, BENZENE DERIVATIVE, HYDRAZINE ORGANIC COMPOUND, IRON,
 REACTION KINETICS
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAE--3005/0788 STEP NO--UR/0020/70/191/005/1060/1062
 GIRC ACCESSION NO--AT0132886
 UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AT0132886

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. KINETIC DATA WERE SHOWN GRAPHICALLY FOR REACTION OF FE PRIME2 POSITIVE WITH SULFONATED DIPHENYLPICRYLHYDRAZYL STABLE RADICAL IN AQ. MEQH, ETOH, PRQH, ME SUB3 COH AND DIOXANE SYSTEMS IN THE 15-25 DEGREES INTERVAL. GENERALLY THE RATE CONST. DECLINED IN THE REGION OF HIGH CONCNS. OF THE SUBSTRATE, POSSIBLY OWING TO DECLINING CHARGE ON THE REACTANTS AS A RESULT OF THEIR ASSOEN. WITH COUNTERIONS IN MEDIA OF LOW DIELEC. CONST. A MIN. IN THE RATE CONSTANT WAS OBSD. AT SIMILAR TO 0.1 MOLE FRACTION CONC. OF THE ORG. COMPONENT OF THE SYSTEM AND THE LIKELY REASONS FOR THIS WERE BRIEFLY DISCUSSED. FACILITY: INST. KHIM. KINET. GORENIYA, NOVOSIBIRSK, USSR.

UNCLASSIFIED

1/2 009

UNCLASSIFIED

PROCESSING DATE--16OCT70

TITLE--PROTON MAGNETIC RESONANCE STUDY OF THE INTERACTION OF AMINO ACIDS AND DIPEPTIDES WITH SRNA -U-

AUTHOR--(03)-BEKKER, ZH.M., MOLIN, YU.N., SOROKIN, A.S.

M

COUNTRY OF INFO--USSR

SOURCE--BIOCHEM. BIOPHYS. RES. COMMUN. 1970, 38(5), 871-4

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PROTON RESONANCE, RNA, AMINO ACID, PEPTIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1997/0310

STEP NO--US/0000/70/033/005/0871/0874

CIRC ACCESSION NO--AP0119297

UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0119297
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. PRELIMINARY RESULTS ARE REPORTED OF A PMR STUDY OF THE INTERACTION OF SOME AMINO ACIDS AND DIPEPTIDES WITH SRNA. THE PMR SIGNALS OF GLYCYGLYCINE EXPERIENCED EXTREME LINE BROADENING IN THE PRESENCE OF SRNA, THE LINE WIDTH OF N₁ TERMINAL GLYCINE, ALPHA, CH SUB2 PROTONS CHANGING MORE THAN THE C TERMINAL. THERE WERE NO CONSIDERABLE CHANGES IN THE SPECTRA OF N₁ ACYLGLYCINE AND N₁ FORMYLGLYCYLGLYCINE IN THE PRESENCE OF S RNA, CONFIRMING THE ELECTROSTATIC NATURE OF THE SORPTION OF AMINO ACIDS AND DIPEPTIDES ON SRNA, AND INDICATING THAT ALL OTHER INTERACTION ARE LESS IMPORTANT. NEVERTHELESS, THE SPECIFICITY OF SUBSTITUTED AMINO ACIDS WAS MANIFEST IN THE INTERACTION OF DIPEPTIDES WITH SRNA. FACILITY: INST. CHEM. KINETICS COMBUST., NOVOSIBIRSK, USSR.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--EMULSION POLY,VINYL CHLORIDE, FOR LOW VISCOSITY PLASTISOLS -U-
AUTHOR--(04)-SOLDATOV, V.M., KIRILLOV, A.I., MOLKOV, A.D., SHARIKOVA, L.I.
COUNTRY OF INFO--USSR
SOURCE--PLAST. MASSY 1970, (6), 5-6
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, MATERIALS
TOPIC TAGS--EMULSION POLYMERIZATION, POLYVINYL CHLORIDE, FLUID VISCOSITY,
ORGANOSODIUM COMPOUND, SULFONIC ACID, LATEX, PARTICLE SIZE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/0920 STEP NO--UR/0191/70/000/006/0005/1006
CIRC ACCESSION NO--AP0134649
UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0134649

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ADDING FINER PARTICLES TO COARSE PARTICLES OF EMULSION POLYMD. POLY(VINYL CHLORIDE) (I) LOWERED THE VISCOSITY OF PLASTISOLS OF I IN DIOCTYL PHTHALATE. THE SIZE OF I PARTICLES FROM EMULSION POLYMN. DEPENDED ON THE QUANT. AND TYPE OF EMULSIFIERS NA C SUB12-18 ALKANESULFONATES (II), NA DODECANESULFONATES (III), OR NA DECANESULFONATES AND C SUB17-20 FATTY ALCS. (IV). ADDING 9PERCENT 0.25 MU I PARTICLES TO 1 MU I PARTICLES FROM DRIED LATEXES STABILIZED WITH 1-1.2PERCENT III (0.5PERCENT ADDED AT THE BEGINNING AND THE REST DURING AND AFTER POLYMN.) AND 0.5PERCENT IV GAVE LOWER PLASTISOL VISCOSITY THAN THOSE OF PLASTISOLS CONTG. 1 MU PARTICLES OR 1 MU PARTICLES AND 18-36PERCENT 0.25 MU PARTICLES. LATEXES PREPD. WITH 0.01PERCENT IV AND 1-1.2PERCENT II AND SEEDED WITH LATEXES. CONTG. 0.7-0.8MU AND 0.4 MU PARTICLES IN 2:1 AND 3:1 RATIOS HAD 0.1-1.5 MU PARTICLES, WHICH GAVE THE LOWEST VISCOSITY PLASTISOLS.

UNCLASSIFIED

1/2 012 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--SYNTHESIS AND SOME REACTIONS OF DIETHYL (ALPHA, (TERT-BUTYLPEROXY)
ETHOXY) THALLIUM -U-
AUTHOR--(04)-RAZUVAYEV, G.A., MITROFANOVA, YE.V., DODONOV, A.A., MOLKOVA,
L.A. M
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM, 1970, (2), 465-6
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--CHEMICAL SYNTHESIS, ALKOXIDE, THALLIUM COMPOUND, PEROXIDE,
CHEMICAL DECOMPOSITION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1997/0841 STEP NO--UR/0062/70/000/002/0465/0466
CIRC ACCESSION NO--AP0119745
UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0119745

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ADDING 1.39 G ME SUB3 COOCHMEOH IN ET SUB2 O TO 3.03 G ET SUB3 TI AT 5DEGREES GAVE C SUB2 H SUB6, AND AFTER 15 MIN, THE MIXT. WAS COOLED TO MINUS 75DEGREES TO PPT. 50-5PERCENT ET SUB2 TIOCHMEOOCME SUB3, M. 10DEGREES. THIS IN DEGASSED C SUB6 H SUB6 HEATED 24 HR AT 50DEGREES GAVE ET SUB2 TIOAC AND ME SUB3 COH. SIMILARLY IN CUMENE THE PEROXIDE DECOMP. AT ROOM TEMP. IN 2.5 DAYS TO YIELD ET SUB2 TIOAC, ME SUB3 COH, DICUMYL, AND ET SUB2 TIOH; A LOW YIELD OF ACH WAS DETECTED ALSO. REACTIONS WITH ISO, PRBR AND ME SUB3 CBR IN C SUB6 H SUB6 GAVE ET SUB2 TIOAC AND ME SUB3 COH. FACILITY: LAB. STABIL. POLIM., GORKI, USSR.

UNCLASSIFIED

Organometallic Compounds

USSR

UDC 542.91 + 541.459 + 547.214

ZUBAYEV, G. A., MITROFANOVA, YE. V., DODONOV, V. A., and MOL'KOVA, L. N., Laboratory of Polymer Stabilization, Academy of Sciences USSR

"Synthesis and Some Reactions of Diethylthalliumethoxy- α -peroxy-tert.-butyl"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 2, Feb 70, pp 465-466.

Abstract: The interaction of triethylthallium with α -hydroxy-tert.-butyl peroxide gives diethylthalliumethoxy- α -peroxy-tert.-butyl. The latter is an organometallic peroxide compound which decomposes on heating in benzene, cumene, isopropyl bromide and tert.-butyl bromide with cleavage of the oxygen-oxygen bond to give diethylthallium acetate and tert.-butyl alcohol.

I/3 017 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--ON THE COMPLEX NATURE OF THE PARADOXICAL SLEEP IN THE CAT -U-
AUTHOR--(03)-ONIANI, T.N., MOLNAR, P., NANEYSHVILI, T.L.
COUNTRY OF INFO--USSR
SOURCE--FIZIOLOGICHESKIY ZHURNAL SSSR IMENI I. M. SECHENOVA, 1970, VOL 56,
NR 5, PP 689-695
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--SLEEP, -CAT, ELECTRODE, HIPPOCAMPUS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3001/0248 STEP NO--UK/0239/70/056/005/0589/0695
CIRC ACCESSION NO--AP0126021

UNCLASSIFIED

2/3 017

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0126021

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SPECTRAL ANALYSIS OF THE CORTICO AND SUBCORTICOGRAMS RECORDED WITH IMPLANTED ELECTRODES SHOWED THE PARADOXICAL SLEEP TO BE COMPOSED OF THREE DISTINCT PERIODS. 1) THE HIPPOCAMPAL DESYNCHRONIZATION PERIOD, WITHOUT RAPID EYE MOVEMENTS AND MUSCLE TWITCHES, DURING THE SLOW WAVE SLEEP. 2) THE THETA PERIOD OF HIPPOCAMPAL SYNCHRONIZATION, WITH THE SUDDEN APPEARANCE OF THETA BURSTS, ACCOMPANIED BY RAPID EYE MOVEMENT, MUSCLE TWITCHES AND ARRHYTHMIC HEART RATE AND RESPIRATION. 3) THE DELTA PERIOD OF HIPPOCAMPAL SYNCHRONIZATION, I.E. THE GRADUAL SLOWING OF THE HIPPOCAMPAL ACTIVITY, WITHOUT MUSCLE TWITCHES AND WITH OCCASIONAL EYE MOVEMENTS, FURTHERMORE WITH A DECREASE OF THE HEART RATE. THE LATTER PERIODS OF HIPPOCAMPAL SYNCHRONIZATION REPEATEDLY APPEARED DURING EACH PARADOXICAL SLEEP PHASE. THE APPEARANCE OF THE SLOW WAVE SLEEP WAS FOUND TO BE PRECEDED BY HIPPOCAMPAL SYNCHRONIZATION PERIOD, I.E. DELTA PERIOD USUALLY. ACCEPTING THE VIEW THAT THE NEURAL ESSENCE OF THE PARADOXICAL SLEEP WOULD BE THE LIBERATION OF THE RETICULAR ACTIVATING SYSTEM FROM THE INHIBITORY INFLUENCE OF THE PONTINE SYNCHRONIZING STRUCTURES (12), AND TAKING INTO CONSIDERATION THE ROLE OF THE HYPOTHALAMIC STRUCTURES IN THE GENESIS OF THE HIPPOCAMPAL SYNCHRONIZATION (15), THE RETICULAR FORMATION WAS SUPPOSED TO RISE THE HIPPOCAMPAL DESYNCHRONIZATION, AND THE HYPOTHALAMUS TO RISE THE TWO HIPPOCAMPAL SYNCHRONIZATION PERIODS.

UNCLASSIFIED

3/3 017

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0126021

ABSTRACT/EXTRACT--THE RECENT DATA OF THE GRASYAN'S GROUP (14) AS WELL AS THE CONTROL STIMULATION EFFECTS IN THE PRESENT STUDY SUGGEST THE LATERAL HYPOTHALAMIC ORIGIN OF THE THETA PERIOD WITH RELATIVE FUNCTIONAL DOMINANCE OF THE MEDIAL STRUCTURES DURING THE DELTA PERIOD OF THE PARADOXICAL SLEEP.

FACILITY: INSTITUTE OF PHYSIOLOGY GEORG.

SSR, TBILISI.

UNCLASSIFIED

1/2 026 UNCLASSIFIED PROCESSING DATE--18OCT70
TITLE--RESULTS OF A SPECTRAL ANALYSIS OF THE ELECTROENCEPHALOGRAM DURING
SLEEP AND WAKEFULNESS -U-
AUTHOR--(03)-ONIANI, T.N., MOLNAR, P.P., BADRIDZE, I.K.
COUNTRY OF INFO--USSR
SOURCE--AKADEMIIA NAUK GRUZINSKOI SSR, SOOBSHCHENIIA, VOL. 57, JAN. 1970,
P. 173-176
DATE PUBLISHED----JAN70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--ELECTROENCEPHALOGRAPHY, SLEEP, ELECTROPHYSIOLOGY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/0210 STEP NO--UR/0251/70/057/000/0173/0176
CIRC ACCESSION NO--AP0119206
UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0119206

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INVESTIGATION, BY SPECTRAL ANALYSIS AND INTEGRATION OF ELECTROENCEPHALOGRAMS OF CATS WITH PERMANENTLY IMPLANTED ELECTRODES, OBTAINED DURING VARIOUS PHASES OF THE SLEEP WAKEFULNESS CYCLE. GRAPHS SHOWING THE ELECTRICAL ACTIVITY OF THE AUDITORY AND VISUAL PORTIONS OF THE NEOCORTEX AND THE DORSAL HIPPOCAMPUS OF A SLEEPING CAT AND THE CHANGES IN THIS ACTIVITY DUE TO ELECTRIC STIMULATION OF THE RETICULAR FORMATION OF THE MIDBRAIN INDICATE THAT SLOW HIGH AMPLITUDE OSCILLATIONS PREVAIL IN ALL THESE STRUCTURES PRIOR TO STIMULATION. DELTA, THETA, AND ALPHA RYTHMS DOMINATE IN THE AUDITORY REGION OF THE NEOCORTEX DURING SLEEP. THRESHOLD EXCITATION OF THE RETICULAR FORMATION LEADS TO SUBSTANTIAL CHANGES IN THE ELECTRICAL ACTIVITY OF THE NEOCORTEX, WHICH MANIFEST THEMSELVES IN A PRONOUNCED INHIBITION OF THE DELTA, THETA, AND ALPHA RHYTHMS. THESE RHYTHMS ARE ALSO INHIBITED IN THE HIPPOCAMPUS, BUT TO A LESSER DEGREE.

FACILITY: AKADEMIIA NAUK GRUZINSKOI SSR, INSTITUT FIZIOLOGII, TIFLIS GEORGIAN SSR.

UNCLASSIFIED

USSR

UDC 591.1 + 612-019

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ONIANI, T. N. (Corresponding Member, Academy of Sciences Georgian SSR), MOLINAR, P. P., and BADRIDZE, I. K., Institute of Physiology, Academy of Sciences, Georgian SSR

"Results of Spectral Analysis of Electroencephalogram During Sleep and Wakefulness"

Tbilisi, Soobshcheniya Akademii Nauk Gruzinskoy SSR, Vol 57, No 1, 1970, pp 173-176

Abstract: Different cortical rhythms recorded with the use of chronically implanted electrodes in several phases of the sleep waking cycle were investigated by the method of spectral analysis and integration. During spontaneous as well as evoked arousal (by means of alimentary conditioned signal or by electrical stimulation of the reticular formation), high voltage slow waves (delta, theta, and alpha) were inhibited in different neocortical territories, and for a short period in the hippocampus as well. In place of the generally reported increase of the low-voltage fast activity components (1 and 2), a decrease in these rhythms was found.

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USSR

LITVINOV, V. F., ~~MOLOCHEV, V. I.~~, MOROZOV, V. N., NIKITIN, V. V.,
SEMENOV, A. S., and KHATYREV, N. P.

UDC: 621.375.826+539.219.1

"Light Pulse Transmission Through a Two-Component Semiconductor
Medium"

Moscow, Kvantovaya elektronika, No 7, 1972, pp 89-92

Abstract: This brief communication is concerned with the interaction of the radiation from an injection laser and a two-component semiconductor medium. This is defined as a medium which can be used for amplifying or absorbing light, depending on the controlling injection current applied to the semiconductor. The measurements described in the paper were made with a combination light-pulse oscillator and two-component semiconductor made of a single GaAs diode, one of the ends of the planar specimen coinciding with the (110) plane while the opposite end is set at a 10° angle with respect to the first to reduce positive light feedback. A diagram of this arrangement is shown. Measurements were conducted at a temperature of 80° K on specimens in which the oscillator was 0.8 mm long and the two-component medium 2 mm long. Curves for experimental and computed amplitude characteristics of the two-component medium are plotted, and show close agreement.

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1/2 014
UNCLASSIFIED
PROCESSING DATE--23OCT70
TITLE--APPARATUS FOR FORCED CONVECTIVE MIXING DURING CONTROLLED
CRYSTALLIZATION -U-
AUTHOR--(02)-HOLDCHKO, V.A., KURDYUNOV, G.M.
COUNTRY OF INFO--USSR
SOURCE--KHIM. PROM. (MOSCOW) 1970, 46(2), 156
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--CRYSTALLIZATION, CHLORIDE, BROMIDE, ZONE REFINING
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1996/1668
STEP NO--UR/0064/70/046/002/0156/0156
CIRC ACCESSION NO--AP0118646
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--23OCT70

2/2 014

CIRC ACCESSION NO--AP0118646
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. FORCED CONVECTIVE MIXING OF THE LIQ. PHASE (IN A SPECIAL VERTICAL COLUMN APP.) IN DIRECTIONAL CRYSTN. PROCESSES (E.G., ZONE REFINING) CAUSES A MARKED DECREASE IN THE RESIDUAL IMPURITIES CONTENT OF VARIOUS SUBSTANCES (GECL SUB4, SIBR SUB4, ASCL SUB3, ETC.); IN THE PURIFICATION OF ME SUB2 SO AT A CRYSTN. RATE OF 0.8 CM-HR, THE RESIDUAL IMPURITIES CONTENT AFTER CRYSTN. WITH OR WITHOUT SUCH MIXING WAS SMALLER THAN OR EQUAL TO 1 TIMES 10 PRIME NEGATIVE4 AND 2.7 TIMES 10 PRIME NEGATIVE3PERCENT, RESP., FOR AN INITIAL IMPURITIES CONTENT OF 5.5 TIMES 10 PRIME NEGATIVE3PERCENT.

1/2 013 UNCLASSIFIED PROCESSING DATE--04DEC70
 TITLE--PRODUCTION OF HIGH PURITY GERMANIUM TETRACHLORIDE BY REMOVING
 PHOSPHORUS IMPURITY -U-
 AUTHOR--(05)-FEDOROV, P.I., MOLOCHKO, V.A., KURDYUMOV, G.M., GALOCHKINA,
 V.G., SMIRNOVA, T.YU.
 COUNTRY OF INFO--USSR
 SOURCE--IZV. VYSSH. UCHEB. ZAVED., TSVET. MET. 1970, 13(1), 82-6
 DATE PUBLISHED-----70
 SUBJECT AREAS--CHEMISTRY
 TOPIC TAGS--CHEMICAL PRODUCTION, GERMANIUM COMPOUND, CHLORIDE, PHOSPHORUS,
 CHEMICAL SEPARATION, CRYSTALLIZATION, PHOSPHORUS CHLORIDE
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAME--3008/0632 STEP NO--UR/0149/70/013/001/0082/0086
 CIRC ACCESSION NO--AT0137717
 UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AT0137717

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DTA INDICATED THAT PCL SUB3, POCL SUB3, AND PCL SUB5 ARE INACTIVE COMPONENTS AND ARE PRESENT IN THE EUTECTIC. VERY SMALL QUANTITIES OF PCL SUB3 AND POCL SUB3 ARE SOL. IN GECL SUB4 SOLID PHASE. THE EQUIL. DISTRIBUTION COEFF. AND THE SOLIDUS LINE ARE DEFINED FOR VERY SMALL AMTS. OF POCL SUB3 AND PCL SUB3 IN GECL SUB4. THE MEANS FOR CALCG. THE THICKNESS OF A DIFFUSION LAYER DURING CRYSTN. REFINEMENT IS PROPOSED. FOR PURIFICATION OF GECL SUB4, RECRYSTN. IS THE MOST SUITABLE METHOD. FACILITY: MOSK. INST. TONKOI KHIM. TEKHNOL., MOSCOW, USSR.

UNCLASSIFIED

M

UDC 620.17

USSR

KONOVALOV, Ye. G., KULESHOV, V. A., and MOLOCHKO, V. I., Physicotechnical Institute of the Academy of Sciences Belorussian SSR, Minsk Radiotechnical Institute

"Determination of an Ideally Stochastic Body With Constant Yield Point and Variable Young's Modulus"

Minsk, Izvestiya Akademii Nauk BSSR, Seriya Fiziko-Tekhnicheskikh Nauk, No 2, 1970, pp 104-109

Abstract: The article considers the random state function of an ideally stochastic body in which the yield point is constant and Young's modulus is a random variable which varies according to the law of uniform density.

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UDC 621.791.753.042.4:669.018.45:539.434

USSR

LOZITSKIY, L. P., Doctor of Technical Sciences, BEREZLEV, V. F., Engineer, IVANENKO, A. A., Candidate of Technical Sciences, KOROLEVA, Z. G., Candidate of Technical Sciences, MUSIYENKO, B. I., Engineer, and MOLCHHKOV, N. A., Candidate of Technical Sciences, Kiev Institute of Civil Aviation Engineers

"Thermal Fatigue Resistance of Welded Joints of EP99 Alloy Performed with Electrodes of Different Marks" (Reported at the All-Union Conference "Estimate of the Supporting Power of Materials and Welded Joints According to Breakdown Mechanics," Kiev, Dec 72)

Kiev, Avtomaticheskaya Svarka, No 1(250), Jan 74, pp 39-42

Abstract: An experimental study was made of the effects of heating temperature and thermal cycling on the depth of thermal fatigue cracks and the mechanical properties of welded joints of EP99 alloy welded with NIAT-8 and NIAT-7 electrodes. The parameters characterizing the injuriousness of the specimens in the process of thermal fatigue tests are the depth of cracks, their growing rate, and changes in residual strength, plasticity, and structure. The results are discussed by reference to diagrams showing the depth of crack dependence on maximum cycling temperature and on the quantity of thermal
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USSR

LOZITSKIY, I. P., et al., Avtomaticheskaya Svarka, No 1(250), Jan 74,
pp 39-42

cycling and the residual strength and relative narrowing dependences on the maximum temperature after 2000 heat cycles. Specimens welded with NIAT-8 electrodes possessed higher thermal fatigue strength in comparison with specimens welded with NIAT-7 electrodes. The increased Cr content (up to 21%) of the joint welded with the NIAT-7 electrode resulted in decreased thermal fatigue strength of the welded specimen. Four figures, two tables, two bibliographic references.

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USSR

UDC 539.4

MOLOCHUKOV, M. A., IVANENKO, A. A., VEGROV, A. N., SITNICHENKO, V. P., PULYAYEV-SKIY, V. A., KOVESHNIKOV, N. A.

"The Effect of the Stress Concentrator on Fatigue Strength in Male Cone Joints for Titanium Alloy Pipe"

Sb. nauch. tr. Kiev. in-t inzh. grazhd. aviatsii (Collection of Scientific Works of the Kiev Institute of Civil Aviation Engineers), 1971, vyp. 1, pp 78-81 (from RZh-Mekhanika, No 11, Nov 71, Abstract No 11V1112)

Translation: By testing samples of 7M titanium alloy pipe 12 × 1.5 for fatigue, it was demonstrated that stress concentration in the investigated joint is higher than the theoretically calculated concentration. When testing with a frequency of 200 hertz on a 10^7 cycle base, the effective concentration factor was 3.2 with a fillet radius of 0.5 mm. The reduction in fatigue strength is ascribed to significant residual strains reaching 15% in the diameter transition zone.

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UNCLASSIFIED PROCESSING DATE--02/01/70

FILE--EXTRACTION OF USEFUL MINERALS FROM THE BOTTOM OF SEAS AND OCEANS -U-

INDEX--(05)--NUROK, G.A., KOSTIN, V.N., BRUYAKIN, YU.V., KUBIS, YU.V., POLICHIKOV, L.N.

COUNTRY OF INFO--USSR

SOURCE--(DUBYCHAPLEZNYKH ISKOPAYEMYKH SO DNA MUREY I OKEANOV) MOSCOW, NEDEKA, 1970, 238 PP

DATE PUBLISHED-----70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, MATERIALS

TOPIC TAGS--GOLD, TIN, TITANIUM, DIAMOND, MINERAL, OCEAN BOTTOM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

COPIES REEL/FRA--1993/1993

STEP NO--UR/0000/70/000/000/0001/0235

ARC ACCESSION NO--AM0114384

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--02 OCT 70

72 018

RC ACCESSION NO--AM0114334

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

ABSTRACT. TABLE OF CONTENTS: INTRODUCTION
 3. CHAPTER I USEFUL MINERALS OF SEAS AND OCEANS 8. CHAPTER II
 PROSPECTING AND SAMPLING UNDERWATER ALLUVIAL DEPOSITS 40. CHAPTER III
 THE TECHNOLOGY OF UNDERWATER EXPLOITATION OF DEPOSITS OF USEFUL
 MINERALS FROM THE BOTTOM OF SEAS AND OCEANS 71. CHAPTER IV TECHNICAL
 MEANS FOR THE EXTRACTION OF USEFUL MINERALS FROM THE BOTTOM OF SEAS AND
 OCEANS 142. CHAPTER V ENRICHMENT OF SEA SANDS OF USEFUL MINERALS 205.
 CHAPTER VI TASKS AND WAYS TO SOLVE THE PROBLEM OF UNDERWATER EXTRACTION
 OF USEFUL MINERALS IN THE USSR 233. LITERATURE 237. GIVEN ARE: A
 GEOLOGICAL CHARACTERISTIC OF SEA ALLUVIAL DEPOSITS, METHODS OF
 PROSPECTING AND SAMPLING THESE DEPOSITS; INFORMATION IS GIVEN ON THEIR
 PRESENCE IN SEAS AND OCEANS AND THE RECOVERABILITY AFTER CONDUCTING
 EXPLOITATION WORK. CITED ARE DATA ON THE TECHNOLOGY OF UNDERWATER
 EXTRACTION OF GOLD, TIN, TITANIUM CONTAINING AND MAGNETITE SANDS,
 DIAMONDS AND OTHER USEFUL MINERALS. GIVEN ARE ECONOMIC RESULTS OF
 UNDERWATER EXTRACTION AND METHODS TO DETERMINE THE ECONOMIC
 EFFECTIVENESS AND ALSO THE DIRECTION OF THE DEVELOPMENT OF THIS
 TECHNOLOGY.

UNCLASSIFIED

USSR

UDC 632.95

MOLOCHNIKOV, V. V., MOCHALOV, V. I., and MORGUKOVA, A. P.

"Procedure for Determining Some Chlorine-Containing Pesticides in Milk and Dairy Products by the Gas Chromatography Method"

Tr. 2-go Vses. soveshch. po issled. ostatkov pestitsidov i profilakt. zagryazneniya imi produktov pitaniya, kornov imesh sredi (Transactions of the Second All-Union Conference on the Study of Pesticide Residues and Prevention of Their Contamination of Food Products, Fodder and the External Environment), Tallinn, 1971, pp 81-84 (from RZh-Khimiya, No 13, 10 Jul 72, Abstract No 13N441 by T. A. Belyayeva)

Translation: Preparations are extracted from the investigated sample with organic solvents (CHCl_3 -acetone) and the extract undergoes purification on a column with silica gel ASK [expansion unknown] and analysis on a gas chromatograph with an electron capture detector. The columns used have SE-30 on chromosorb W (80-100 mesh) or 2% QF-1 on chromosorb W. Solid carriers are silanized. Column temperature 190° (QF-1) or 200° (SE-30), injection temperature respectively 200° or 210° , detector temperature $180-185^\circ$ or $190-195^\circ$. Flow rate of carrier gas (N_2) 30 ml/min (QF-1) or 100 ml/min (SE-30).

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USSR

UDC 543.8:632.93

Candidates of Biological Sciences MOLOCHNIKOV, V. V., and ZHAVORONKOV, N. I.,
Candidate of Technological Sciences POLYAROVA, V. N., and MOCHALOV, V. I.,
All-Union Institute of Experimental Veterinary Sciences

"Investigation of Solvents' Distillation Methods for the Purpose of Determining Certain Pesticides With the Use of Gas Chromatography"

Moscow, Doklady Vsesoyuznoy Ordena Lenina Akademii Sel'skokhozyaystvennykh Nauk imeni V. I. Lenin, No 7, July 1971, pp 32-33

Abstract: The ever increasing use of chemical pesticides in agriculture necessitates the development of analytical methods which make it possible to determine the residue content of these chemicals in food products, water, soil, stock feed, and so on in quantities as small as 0.001 to 1.000 micrograms per kilogram. Among such methods is gas chromatography. For this purpose processes which make it possible to distil and evaporate solvents containing the pesticides to lowest concentration volumes are required.

The object of the investigations described in the article was to determine the efficacy of different distillation methods when applied for the

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USSR

MOLOCHNIKOV, V. V., et al., Doklady Vsesoyuznoy Ordena Lenina Akademii
Sel'skokhozyaystvennykh Nauk imeni V. I. Lenin, No 7, July 1971, pp 32-33

preparation of four of the most widely used pesticides -- 4,4'-dichlorodi-
phenyltrichloroethane (DDT); 4,4'-dichlorodiphenyltrichloroethylene (DDE);
trichlorometaphos-3 (TKhM-3); the gamma-isomer of hexachlorocyclohexane
(lindane) for gas chromatography. One milliliter of a standard mixture
containing 10 micrograms of each of the pesticides was dissolved in 100
milliliters of a mixture of benzene and hexane in a ratio of 3:8. Distil-
lation was carried out in a 500 milliliter round-bottom retort (retort 1);
500 milliliter flat-bottom retort (retort 2); 120 milliliter round-bottom
retort (retort 3); Petri dish; and 250 milliliter round-bottom retort on
an IR-1 evaporator.

The contents of retorts 1, 2, and 3 were distilled as follows: on a boiling
water bath for 12 minutes; on a water bath at 80 degrees Centigrade (C) for
40-60 minutes; on a water bath at 45-50 degrees C. in an air current for
20-40 minutes. The contents of retort 3 were also distilled on a water bath
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USSR

MOLOCHNIKOV, V. V., et al., Doklady Vsesoyuznoy Ordena Lenina Akademii Sel'skokhozyaystvennykh Nauk imeni V. I. Lenin, No 7, July 1971, pp 32-33

at 45-50 degrees under vacuum for 25-30 minutes; of Petri dish in an air current at room temperature for 45-50 minutes; of the 250 milliliter round-bottom retort on a water bath of an IR-1 evaporator at a temperature of 45-50 degrees C. Distillation was continued until volumes of 0.2-0.4 milliliters were obtained. The residue was washed with 10 milliliters of hexane and analyzed. Optimal results were obtained in distillation under vacuum at 45-50 degrees C. Only about 0.5 percent of the lindane was lost, while the other pesticides were determined without loss.

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USSR

UDC 632.95

MOLOCHNIKOV, V. V., and MOCHALOV, V. I.

"Extraction of Pesticides from Milk and Purification of Extracts for Analysis"

V sb. Probl. analit. khimii (Collection of Works: Problems of Analytical Chemistry), Vol 2, Moscow, Nauka, 1972, pp 81-84 (from Referativnyy Zhurnal -- Khimiya, Svodnyy Tom, No 23(II), 1972, Abstract No 23N411 by T. A. Belyayeva)

Translation: In order to determine the degree of extraction of pesticides, the first extraction is made with an acetone solution of n-hexane or petroleum ether (b.p. 40-70°C) with ether in the ratio 1:1, followed by the extract purification with MeCN or dimethylflouramide. To 50 ml. of milk 10 ml. of 5% solution of (COOK)₂ is added, followed by mixing, addition of 100 ml. of acetone, shaking for 2 min, addition of 10 ml. of saturated NaCl solution and 100 ml of the mixture of n-hexane and ether (1:1), shaking for 3-4 min, decanting the upper layer in 10-15 min. Thereafter the extraction of 50 ml. of the n-hexane and ether mixture is repeated. The obtained extracts are combined and evaporated at 45-50°C. This method makes it possible to extract 91.5% DDT, 88.7% DDE, and 96.4% DDD, together with 92% of milk fat. The latter is removed from hexane extracts by a polar solvent, water, and nonpolar solvent with the use of DMFA. When DMFA is used, about 7.6% of the milk fat is still present in the hexane extract, and only 6.4%, when MeCN is used. The losses of DDT, DDE, and DDD amount to 0.3, 9.3, and 4.8%, respectively, during the hexane extract purification.

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USSR

UDC 632.95

HANEVICH, ZH. I., MOLOCHNIKOV, YE. V., and ZHAVORONKOV, N. I.

"Comparative Evaluation of Methods for Gas Chromatographic Determination of Carbamate Pesticide Residues"

Tr. 2-go Vses. soveshch. po issled. ostatkov pestitsidov i profilakt. zagryazneniya imi produktov pitaniya, kormov i vneshn. sredy (Transactions of the Second All-Union Conference on the Study of Pesticide Residues and Prevention of Their Contamination of Food Products, Fodder and the External Environment), Tallinn, 1971, pp 77-80 (from RZh-Khimiya, No 13, 10 Jul 72, Abstract No 13N444 by T. A. Belyayeva)

Translation: Survey. Comparison of VPC carbamate determination methods. The most promising area is the detection of carbamate pesticides in the form of brominated derivatives with the use of an electron capture detector.

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USSR

MOLODCHENKO, G. A., MEL'NIKOVA, L. A.

"Problem of Investigation of Crack Formation in Silo Walls"

Raschet. Konstruktsiy Silos. Sooruzh. [Design of Silo Structures -- Collection of Works], Kiev, Budivel'nik Press, 1972, pp 25-41, (Translated from Referativnyy Zhurnal, Mekhanika, No 10, 1972, Abstract No 10 V1008 by the author's).

Translation: A method is described and results are presented from experiments using centrally extended reinforced concrete specimens with one periodic-profile rod. The percentage of reinforcement was varied (up to 2.5%). The length of specimens was based on the condition of introduction of least error in determination of the distance between cracks and differed for all three series. In all, 12 long and 3 short specimens were tested, weakened by artificial cracks. Results are presented from studies of l_T , ψ_a , a_T and other parameters. 11 Biblio. Refs.

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1/2 032 UNCLASSIFIED PROCESSING DATE--27NOV70
 TITLE--TIDAL INDUCED DISPLACEMENTS IN AN ELASTIC EARTH WITH ALLOWANCE FOR
 CORIOLIS FORCES -U-
 AUTHOR--MOLODENSKIY, M.S. M
 COUNTRY OF INFO--USSR
 SOURCE--IZVESTIYA AKADEMII NAUK SSSR, FIZIKA ZEMLI, NO 4, 1970, PP 102-107
 DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, EARTH SCIENCES AND OCEANOGRAPHY
 TOPIC TAGS--TIDE GENERATING FORCE, ELASTIC STRESS, SHEAR MODULUS, EARTH
 CORE, EARTH ROTATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAME--3008/0401 STEP NO--UR/0387/70/000/004/0102/0107

CIRC ACCESSION NO--AP0137492
 UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--27NOV70

2/2 032

CIRC ACCESSION NO--AP0137492

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

ABSTRACT. M. S. MOLODENSKIY HAS FOUND A GENERAL SOLUTION OF THE PROBLEM OF TIDAL DISPLACEMENT IN AN ELASTIC EARTH WITH CORIOLIS FORCE TAKEN INTO ACCOUNT. THE PROBLEM IS SOLVED WITH STIPULATED STRESSES AT THE SURFACE AND FOR SMALL VALUES OF THE SHEAR MODULUS IN THE CORE. THE RESULTS PRESENTED HERE ARE ESSENTIAL TO TAKE INTO ACCOUNT IN REFINING A MODEL OF TERRESTRIAL STRUCTURE IN ACCORDANCE WITH NUMERICAL DATA ON CHARACTERISTIC OSCILLATIONS OF THE EARTH, LOVE NUMBERS AND THE AMPLITUDES OF NUTATION AND PERIODS OF FREE NUTATION, USING AVAILABLE INFORMATION ON THE VELOCITIES OF PROPAGATION OF LONGITUDINAL AND TRANSVERSE WAVES. HOWEVER, THE THEORY OF NUTATION AND THE EARTH'S ROTATION MUST BE REFINED. ANOTHER, BUT VERY DIFFICULT PROBLEM IS OBTAINING INFORMATION ON VISCOSITY WITHIN THE EARTH. HOWEVER, THE RESULTS HAVE BROAD APPLICATION IN SOLVING MANY PROBLEMS INVOLVING TIDAL FORCES. AN ESTIMATE OF DISPLACEMENTS AND STRESSES AND THEIR RELATIONSHIP TO PHYSICAL PARAMETERS OF THE EARTH'S INTERIOR IS OF IMPORTANCE ALSO IN EVALUATING COSMOGONIC AND TECTONIC PROCESSES WHICH CAN BE CAUSED BY TIDAL FORCES ON THE EARTH, MOON AND OTHER PLANETS.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--13NOV70
 TITLE--SYNTHESIS AND SOME PROPERTIES OF K SUB4 TH(HPD SUB4) SUB2 NEGATIVE
 (C SUB2 D SUB4) SUB2 .6H SUB2 D --U--
 AUTHOR--(03)--MOLODKIN, A.K., BALAKAYEVA, T.A., KUCHUMOVA, A.N.
 COUNTRY OF INFO--USSR
 SOURCE--ZH. NEORG. KHIM. 1970, 15(4), 1152-3
 DATE PUBLISHED-----70
 SUBJECT AREAS--CHEMISTRY
 TOPIC TAGS--ABSORPTION BAND, CHEMICAL SYNTHESIS, POTASSIUM COMPOUND,
 PHOSPHOROUS COMPOUND, IR SPECTRUM
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAE--1999/1085 STEP NO--UR/0078/70/015/004/1152/1153
 CIRC ACCESSION NO--AP0123078
 UNCLASSIFIED

2/2 021 UNCLASSIFIED PROCESSING DATE--13NOV70
CIRC ACCESSION NO--A0123078
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. WHEN K SUB3 PD SUB4 .7H SUB2 O WAS
ADDED TO AN AQ. SOLN. OF K SUB4 TH(C SUB2 O SUB4) SUB4 FINE CRYST. K
SUB4 TH(HPO SUB4) SUB2 (C SUB2 O SUB4) SUB2 .6H SUB2 O (I) SEPD., WITH N
GAMMA 1.537 AND N ALPHA 1.525. ON HEATING, I LOST H SUB2 O AT SIMILAR
170DEGREES AND THEN H SUB2 O AND CO AT SIMILAR TO 170-400DEGREES TO GIVE
TH(HPO SUB4) SUB2 AND K SUB2 CO SUB3. I HAS BIDENTATE C SUB2 O SUB4
PRIME2 NEGATIVE GROUPS AND ITS IR SPECTRUM SHOWS A SPLIT PD SUB4 PRIME3
NEGATIVE ABSORPTION BAND AT 900-1100 CM PRIME NEGATIVE1.
FACILITY: INST. OBSHCH. NEORG. KHIM. IM. KURNAKOVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 621.372.826:535

MOLODKIN, V. A., KUZNETSOVA, G. I.

"Dispersion Characteristics and Damping of the Natural Waves of Tubular Dielectric Wave Guides"

Tr. ucheb. in-tov svyazi. M-vo svyazi SSSR (Works of the Communication Training Institutes. USSR Ministry of Communications), 1971, vyp. 56, pp 183-186 (from RZh-Radiotekhnika, No 5, May 72, Abstract No 5B163)

Translation: An analysis was made of the dispersion characteristics and damping demonstrating the significant advantages of tubular filaments by comparison with the solid filaments ordinarily used in filament optics. There are 5 illustrations and a 3-entry bibliography.

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1/2 021 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--EQUATION GIVING THE TIME DEPENDENCE OF THE EFFECTIVE VALENCY IN THE
STEP BY STEP DISSOLUTION OF METALS --U-
AUTHOR--MCLUDDY, A.I.
COUNTRY OF INFO--USSR *M*
SOURCE--ELEKTRCKHIMIYA, MAR. 1970, 6, (3), 365-369
DATE PUBLISHED--MAR70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ELECTROLYTE, INDIUM, BIBLIOGRAPHY, METAL CORROSION,
ELECTROCHEMISTRY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/0305 STEP NO--UR/0364/70/006/003/0365/0369
CIRC ACCESSION NO--AP0124064
UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0124064

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE QUESTION AS TO THE EFFECTIVE VALENCY OF METALS DISSOLVING IN A STEP BY STEP MANNER IN ELECTROLYTES (AS IN THE ANODIC DISSOLUTION OF IN) IS DISCUSSED THEORETICALLY, AND AN EQUATION IS DERIVED FOR THE EFFECTIVE VALENCY AS A FUNCTION OF TIME. THE THEORETICAL EQUATION IS IN GENERAL AGREEMENT WITH EXPERIMENTAL DATA. BY ANALYSING THE TIME DEPENDENCE OF THE EFFECTIVE VALENCY A CONSIDERABLE AMOUNT OF INFORMATION REGARDING THE ELECTROCHEMICAL BEHAVIOUR OF THE METAL MAY BE ELICITED, PROVIDED THAT THE AMOUNT OF METAL PASSING INTO THE SOLUTION CAN BE MONITORED CONTINUOUSLY, FOR EXAMPLE, WITH THE HELP OF RADIOISOTOPES.

UNCLASSIFIED

USSR

UDC: 621.317.373(088.8)

MOLODOV, V. D., BOBKOV, Yu. N.

"A Method of Measuring Phase Displacement"

USSR Author's Certificate No 256867, filed 26 Oct 67, published 16 Apr 70
(from RZh-Radiotekhnika, No 11, Nov 70, Abstract No 11A289 P)

Translation: Methods are known for measuring phase difference by multiplying and integrating the input signals. These methods have comparatively low interference resistance and precision, which may be improved by the proposed method. According to the new method, the values of input signals are synchronously determined at equal time intervals and raised to the second power, then added in the course of a period. In addition, the sums of the squares of the instantaneous values are multiplied at the end of the period, the square root of this product is taken and divided by the products of the instantaneous values of the input signals. The value of the unknown phase difference is determined from the result of this last operation (division).
E. L.

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USSR

UDC: 51

MOLODTSOV, D. A.

"Method of Approximate Solution of One Class of Games With Opposing Interests"

Moscow, Tr. 1-y Konf. molodykh uchenykh Fak. vychisl. mat. i kibernet. Mosk. un-t (Transactions of the First Conference of Young Scientists, Department of Computer Mathematics and Cybernetics, Moscow University) 1973, pp 86-91 (from RZh--Matematika, No 1, 1974, Abstract No 1V454)

Translation: A game with two players is considered in which player 1 communicates the game strategy he has chosen to player 2. If the set X of the strategies of player 1 is metric space, the set of strategies of player 2 is naturally also equal to n the set $X_1 \subset X$ of such strategies of player 1, to which the optimal answer of player 2 is uniquely consistent everywhere in X ; then finding the best guaranteed result of player 1 reduces to finding no more than n problems in the maximum of the winning function of player 1.

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USSR

MOLODTSOV, D. A.

"Principle of Balancing in One Problem of the Distribution of Resources in the Case of Non-Opposite Interests"

Zh. vychisl. mat. i mat. fiz. [Journal of Computer Mathematics and Mathematical Physics], 1973, 13, No 2, pp 318-325 (Translated from Referativnyy Zhurnal - Kibernetika, No 8, 1973, Abstract No. 8 V452 by the author)

Translation: A class of games concerning the distribution of homogeneous resources is studied in the case of non-opposite interests. One case of the sequence of moves and available information is developed. The best guaranteed results and strategies realizing them are found.

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USSR

UDC 547.242

GATILOV, YU. F., IONOV, L. B., MOLODTSOV, S. S., and KOVYPZINA, V. P., Kazan'
State Pedagogical Institute

"The Question of the Stereochemistry of Arsinous Acids"

Leningrad, Zhurnal Obshchey Khimii, Vol 42 (104), No 9, Sep 72, pp 1959-1961

Abstract: It was shown that the rearrangement of the enantiomers of tertiary arsine oxides due to the action of methyl iodide leads to the isolation of enantiomers of corresponding arsinous acid esters. Investigation of this rearrangement -- a process occurring by the S_N2 mechanism -- by the differential thermal analysis showed that the inversion of relative configuration took place.

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Alkaloids

USSR

UDC 547.242

GATILOV, YU. F., IONOV, L. B., MOLODTSOV, S. S., Kazan' Pedagogical Institute

"Concerning the Synthesis of Some Enantiomers of Tertiary Arsines and Their Oxides"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), No 7, Jul 72, pp 1535-1537

Abstract: A complex of racemic ethyl-n.-butyl-p-carboxyphenylarsine with morphine was synthesized. The complex has $[\alpha]_D^{20} -96.54^\circ$. Fractional crystallization of compound (I) yielded diastereomers which were colorless well-formed acicular crystal salts which melt with dissociation. They dissolve readily in lower alcohols, acetone and nitromethane, and are insoluble in absolute ether. Separation of the complexes with 0.3 N HCl gives the corresponding enantiomers of ethyl n-butyl-p-carboxyphenylarsine. Enantiomers of other arsines were synthesized by separating the corresponding complexes, using quinine as the optically active agent. Enantiomers of the corresponding oxides were produced by oxidizing the synthesized optically active arsines with nitrogen dioxide. This reaction yielded a number of previously unreported enantiomers of dialkyl- and alkyl(aryl) carboxyphenyl-arsine oxides. All the enantiomers of tertiary arsine oxides were white crystals which dissolve readily in water and alcohol, somewhat less readily in nitromethane, chloro-
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USSR

GATILOV, YU. F., et al., Zhurnal Obshchey Khimii, Vol 42(104), No 7, Jul 72,
pp 1535-1537

form, carbon tetrachloride and benzene, and are insoluble in ether. The
compounds are optically unstable and racemize in the presence of trace
quantities of moisture.

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USSR

KULACHENKO, V. P., and MOLODTSOV, V. K.

"The Action of Electromagnetic Fields on the Vascular System and the Metabolism of Microelements in Animals"

Tr. Tschinogr. S. Kh. in-t. (Proceedings of the Tschinograd Agricultural Institute), 1973, Vol 9, No 5, pp 89-94 (from RZh-Biologicheskaya Khimiya, No 24, Dec 73, Abstract No 24F 1435)

Translation: The effect of electromagnetic fields was studied on the vascular system and some general properties of blood. Data were also obtained on the effect of ultra-high frequency irradiation on the content of microelements in the liver. The effect of the ultra high frequency waves on the exchange of microelements in the liver is intensified with the concurrent action of ephedrine on the sympathetic nervous system.

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MOLODTSOV, V.K.

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11/12

into a rectangular region, a difference grid is introduced, and the equations of the problem are represented in difference form with second-order of accuracy. The system of nonlinear difference equations is solved by the method of successive approximations. Each iteration deals with a system of linear equations, to which the method of successive elimination is applied. In contrast to the numerical method of Babenko, et al. (Babenko, Voskresenskiy, Lyubimov, and Rusanov. *Prostranstvennoye obtekanie glazkikh tel ideal'nym gazom. Three-dimensional flow around smooth bodies by an ideal gas*. Moskva, Nauka, 1964, RZhMekh, 1965, 4B207K), the system of difference equations in the iteration process is not broken down into equations along individual radial lines, but is solved simultaneously for the entire region. The method of successive matrix elimination is also generalized for the case of cell matrices. Damping is used to accelerate iteration convergence. Some calculation results are presented to illustrate the convergence of the numerical solution.

Molodtsov, V. K., and A. N. Tolstykh.

Calculation of supersonic viscous flow around

blunt bodies. In: *Trudy Sektsii po chislennym*

metodam v gazovoy dinamike 2-go Mezhdunarodnogo

kollokviuma po gazodinamike vryvya i

reaktrayushchikh sistem, Moskva, v. 1, 1971, 37-54,

(RZhMekh, 5/72, no. 5B335)

Supplementary results are presented to calculations using

Navier-Stokes equations of hypersonic flow around a spherically blunt

model by methods proposed earlier by the authors (Tolstykh, A. ZVYNATF,

no. 1, 1966, 113-120, RZhMekh, 1966, 6B257; Molodtsov, ZhVYNATF, no. 9,

1969, 1211-1217, RZhMekh, 1970, 2B384). The calculations were for

$M_\infty = 10$ and various Reynolds numbers, and a temperature factor and index

ω within the law of the relationship of the viscosity coefficient to temperature.

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Therapy

USSR

UDC 615.281.8.035.4:616.938.75-053.4-036.8

AKSENOV, V. A., SELIDOVSKIN, D. A., GLADKIKH, G. N., KUHLIKOV, V. S., KUZNETSOVA, O. V., MOLODTSOVA, I. D., BERSENEVA, R. A., AKSENOV, L. A., BOGDANOVA, N. S., and PERSHIN, G. N., All Union Chemico-Pharmaceutical Institute imeni S. Ordzhonikidze, Ministry of Health USSR

"Study of the Prophylactic Value of the New Soviet Antiviral Preparation Oxolin in Preschool Children during the 1969 Influenza Epidemic"

Moscow, *Pediatrics*, No 5, 1970, pp 18-22

Abstract: The viricidal agent oxolin (tetraoxotetrahydronaphthalene (dihydrate) is effective in the treatment of adenovirus kerato-conjunctivitis, herpetic keratitis, dermatitides of virus etiology, and some acute respiratory diseases. In a double-blind trial, oxolin was administered to 4,170 children one to seven years of age in an unidentified Soviet city during the 1969 influenza epidemic. (It was applied to the nasal mucosa in the form of a 0.25% ointment on a vaseline base twice daily for 40-49 days). Oxolin reduced the incidence of influenza 1.7 times (43%) compared with control children. Severe forms of the disease and complications were 1.1-1.4 times more frequent in the latter than in those who received the preparation, and the course of the disease was 1.2 days longer on the average. The use of oxolin produced side effects in only 0.6% of the cases.

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USSR

UDC 624.131.43+539.21.084-492.3

MOLODTSOVA L. S.

"Technique for Calculating Stresses in a Massif of Rock on the Basis of Measurements of Stresses at the End of a Bore"

Nauch. soobshch. In-t gorn. dela im. A. A. Skochinskogo (Scientific Communications. Institute of Mining imeni A. A. Skochinskiy), 1971, Vol. 86, pp 106-110 (from RZh-Mekhanika, No 3, Mar 72, Abstract No 3V998)

Translation: The proposed method for calculating stresses, as distinct from existing methods, is based on the dependence of the stresses at the surface of any working on all major stresses of the massif and makes it possible to take into account the relationship of major stresses in determining the stresses by the weight distribution method. Analytical expressions are given for calculating the major stresses at the ends of a bore on the basis of this method. The coefficients for the concentration of major stresses are determined experimentally. Particular cases of the solution are discussed. Analysis of the results of comparable calculations showed that a calculation of major (quasimajor) stresses in the massif by the old method is carried out with errors, the magnitude of which can reach 100% or more depending on the relationship of the major stresses at the end of the bore. It is noted that the proposed method can be checked by measuring stresses under natural conditions. Yu. M. Kartashov.

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USSR

HOLODTSOVA, L. S.

"Use of Photoelastic Gauges for Measurement of Stresses in Rock Masses"

V sb. Izmereniye napryazh. v massive gorn. porod (Measurement of Stresses in Rock Masses -- collection of works.), Novosibirsk, 1970, pp 143-148 (from RZh-Mekhanika, No 1, Jan 71, Abstract No 1V804 by A. S. Averev)

Translation: The article describes the technique of stress measurement in the depth of a rock mass with photoelastic gauges by the core-sample unloading method and sets forth in detail the process of glueing the gauge in the blast hole. Mathematical formulas are presented for determining the principal normal stresses in the photoelastic gauge and in the core sample. Comparative measurements of stresses in rock masses were made by this method with tensometric and photoelastic gauges. A measuring borehole was drilled from the drift at an angle of 45° to the horizon. Measurements showed that the mass is acted upon by compression stresses; the principal normal stresses which are greatest in absolute magnitude act in close-to-horizontal directions; stresses exceeding lithostatic pressure for a given depth act in a vertical direction; this is due to the action of tectonic forces. In conclusion, the author points out the promise of photoelastic gauges for measurements of this kind.

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