

AP0008866

CHEMICAL ABST. 12/69

UR0104

128558w Experimental hydrazine treatment of boiler water.
 Nazin, A. G.; Beloborodov, F. M. (USSR). *Elek. Sta.* 1969,
 10(7), 83-4 (Russ). The Fe content of the feed constantly ex-
 ceeds the normal value by a factor of 4 to 5. Intensive formation
 of ppts. results in rupturing of the shielding tubes, thereby dis-
 organizing the system. Hydrazine treatment was useful in over-
 coming this phenomena. Hydrazine was fed to the boiler water
 in the clean compartment without acid washing of the boiler.
 Anal. indicated that in the 1st 4-5 days, the heated boiler surface
 was cleaned intensively, until the significantly decreasing Fe con-
 tent attained a const. value (500-1000 γ /kg.). Specimens cut
 out from boiler after 5-8 months of hydrazine treatment re-
 vealed the absence of deposit. They were coated with a fine
 adherent dark-gray film of Fe_3O_4 . This treatment was ineffective
 even in excess of hydrazine (0.1 mg./kg.) at high concns. of cor-
 rosion products. During scavenging, care should be exercised
 not to disrupt the protective Fe_3O_4 layer otherwise hydrazine
 treatment will be ineffective.

C. K. Mital

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USSR

UDC 542.92:547.414.8

DUBIKHIN, V. V., NAZIN, G. M., and MANELIS, G. B., Institute of Chemical
Physics, Academy of Sciences USSR

"Thermal Decomposition of Chloropicrin"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 6, Jun 71,
pp 1338-1339

Abstract: The article describes results of a detailed study of the effect of initial pressure and inhibitors on the decomposition of chloropicrin, and also determines the rate constant. It is shown that the decomposition of chloropicrin in the gas phase (50-400 torr) depends on the pressure and the addition of inhibitors (toluene, formaldehyde).

1/1

- 13 -

AA0051783

W

Soviet Inventions Illustrated, Section II Electrical, Derwent,

UR 0482

1/70

239684 MULTICOLOR FERROGRAPHIC RECORDING OF INFORMATION. Signals of different wavelength are used for developing the magnetic powder. The signals are modulated according to the colour of the transmitted picture. There are two inputs for the incoming signals. Each input has a colour sensitive inverter. The modulated signals are applied to the ferrite powder on a rotating drum and the images are transferred on to paper unwinding from a reel.

24.1.68 as 1212972/18-24. V.G. PATRUNOV & L.F. NAZIN. MINING INST. IN MOSCOW. (1.8.69) Bul 11/18.3.69. Class 42m⁶. Int.Cl.G 06 k.

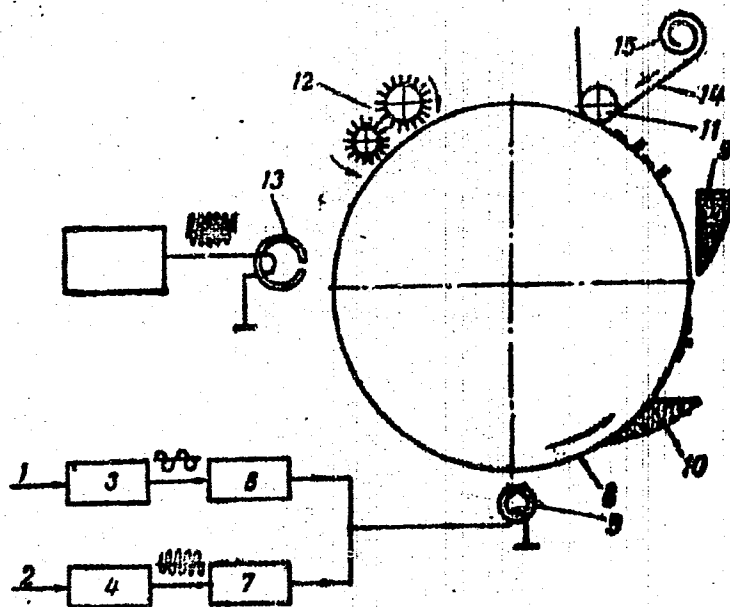
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Moskovskiy Gornyy Institut

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19820142

AA0051783



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19820143

TNT

USSR

UDC: 633.51:577.391

LEUKHINA, T. N. and NAZIROV, N. N., Institute of Experimental Biology of Plants,
Uzbek Academy of Sciences

"Sensitivity of Some Radiomutants of Cotton to Gamma Radiation"

Tashkent, Uzbekskiy Biologicheskii Zhurnal, No 1, 1971, pp 63-64

Abstract: The radiation sensitivity of some cotton mutants with changed or un-
changed early ripening of the resulting mutants was studied. It was established
that mutants RL and AN-Kattagurgan retain the early ripening characteristics of
the initial variants and differ insignificantly from them in the fundamental
characteristics of radiation sensitivity: field germinating capacity, survival
rate, number of deformed and semisterile plants, and intensity of cell division
after gamma-irradiation (10 and 20 curie on a 15 roentgen/second gamma radiation
device). The comparative data obtained confirmed the earlier assumption that
the properties of radiation sensitivity of different types of cotton are condi-
tioned by the early ripening of these species. Further studies in this area
are required to arrive at a final conclusion.

1/1

USSR

N

UDC 581.192:633.51

NAZIROV, N. N. and PUSHKAREVA, M. M., Institute of Experimental Plant Biology,
Academy of Sciences Uzbek SSR

"Gossypol Content in Cotton Varieties Differing in Wilt Resistance During
Ontogenesis"

Tashkent, Uzbekskiy Biologicheskii Zhurnal, No 3, 1970, pp 21-24

Abstract: The dynamics of gossypol content in vegetative organs of cotton varieties differing in wilt resistance during ontogenesis was studied in normal plants and after parasitic attack. Experiments were conducted in 26 kg Warner vegetation vessels. Barley seeds infested with *Verticillium dahliae* (50 g per vessel) were placed in soil before the vessels were plugged. Ordinary, uncontaminated soil served as the control. Cotton variety S-4727 susceptible to wilt, the less resistant 108-F variety, the more resistant 152-F, and the highly resistant AN-318 variety were used. The first three are varieties of the species *Gossypium hirsutum* and the last is *Gossypium barbadense*. It was found that the most wilt-resistant species had a higher gossypol content in the root cortex and woody matter of roots and stalks. When cotton plants are infected with *Verticillium* fungus, the gossypol content in the root cortex and woody matter of roots and stalks, especially in susceptible varieties, rises sharply.

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- 22 -

Ion Exchange

USSR

UDC 661.185.223

NAZIROVA, R. A., DZHALILOV, A. T., FATKHULLAYEV, E., and ASKAROV, M. A.,
Tashkent Polytechnical Institute

"Study of the Properties of Ion Exchange Membranes Based on Furance Ion
Exchange Resins"

Tashkent, Uzbekskiy Khimicheskij Zhurnal, No 6, 1973, pp 15-17

Abstract: Thermal stability of ion exchange membranes obtained from furan
ion-exchange resins was investigated by means of the thermographic and
thermogravimetric method. It was established that such membranes are highly
stable in water -- up to its boiling point. In the air they were heat re-
sistant up to the temperatures of 100 to 120°C.

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USSR

Ion Exchange

UDC 661.182.12.62.278.572.772.2

ASKAROV, M. A., DZHALILOV, A. T., NAZIROVA, R. A., FATKHULLAYEV, E.

"Synthesis of Interpolymer Ionite Membranes of Furan Ionites"

Tashkent, Uzbekskiy Khimicheskii Zhurnal, No 2, 1972, pp 43-45.

Abstract: Heterogeneous membranes based on furan ionites have good mechanical strength and thermal stability but insufficient electrochemical properties. In order to produce ionite membranes with good mechanical strength, thermal stability and high electrochemical properties, the authors synthesized interpolymer membranes by molecular combination of polyelectrolytes with thermoplastic polymers. The basic condition of synthesis of the interpolymer membranes is selection of a common solvent for the polyelectrolyte and inert polymer providing for their molecular combination. Interpolymer membranes are distinguished from heterogeneous membranes by their high exchange capacity and electrochemical properties. Thus, the interpolymer membranes produced, due to their high physical-chemical and electrochemical properties, can be used in processes of demineralization of water on electro dialysis installations.

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1/2 022

UNCLASSIFIED

PROCESSING DATE--020CT70

TITLE--THERMAL CONDUCTIVITY OF 1,HEXENE AT VARIOUS TEMPERATURES AND PRESSURES -U-

AUTHOR--(U2)--NAZIYEV, YA.Y., ABASOV, A.A.

COUNTRY OF INFO--USSR

SOURCE--KHIM. TEKHNOL. TOPL. MASEL 1970, 15(3) 22-4

DATE PUBLISHED-----70

N

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--THERMAL CONDUCTIVITY, HEXENE, PRESSURE EFFECT, THERMAL EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1489

STEP NO--UR/0065/70/015/003/0022/0024

CIFC ACCESSION NO--AP0112483

UNCLASSIFIED

2/2 022

CIRC ACCESSION NO--AP0112483

UNCLASSIFIED

PROCESSING DATE--02OCT70

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

23.6-343.7DEGREES (25DEGREES INTERVALS) AND 10 PRESSURES LESS THAN OR
EQUAL TO 500 BARS. THE APP. USED WAS SUITABLE FOR DETNS. UNDER BOTH
STATIONARY AND NONSTATIONARY THERMAL CONDITIONS. THE ERROR WAS PLUS OR
MINUS 1.25PERCENT.

UNCLASSIFIED

1/2 012 UNCLASSIFIED
TITLE--SULFUR VULCANIZATION OF RUBBERS -U-

PROCESSING DATE--13NOV70

AUTHOR--(05)-BLOKH, G.A., UTLENKO, YE.V.; YUTILOV, YU.M., NAZMEYEV, A.A.,
KISINA, L.I.
COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 263,133
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--04FEB70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--SULFUR, VULCANIZATION, RUBBER, BENZIMIDAZOLE, CHEMICAL PATENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3002/1477

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

CIRC ACCESSION NO--AA0128876

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--13NOV70

2/2 012

CIRC ACCESSION NO--AA0128876

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

ABSTRACT. SULFUR VULCANIZATION OF RUBBERS
WAS AIDED BY THE INTRODUCTION OF 0.1-5 WT. PERCENT BENZIMICAZOLINE
ACCELERATORS (1) (K EQUALS ALKYL, ARYL, ARYLOXY, ALLYL, FURYL,
FURYLALKYLENE).

UNCLASSIFIED

UDC 547.245'241

USSR

PUDOVIK, A. N., ROMANOV, G. V., NAZMUTDINOV, R. Ya., and KONOVALOVA, I. V.,
Institute of Organic and Physical Chemistry Imeni A. Ye. Arbuzov, Academy
of Sciences, USSR, and Kazan' State University Imeni V. I. Ul'yanov-Lenin

"Reaction of bis(trimethylsilyl)hypophosphite With Methyl Pyroracemate"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 3, Mar 73, p 678

Abstract: Title reaction carried out in an atmosphere of argon at -5 to 0°
followed by overnight stirring at room temperature gave trimethylsilyl(α-
carbomethoxy)ethylphosphite, b.p. 83°/0.2 mm, d_4^{20} 1.0857, n_D^{20} 1.4276.

USSR

UDC 547.26'118

PUDOVIK, A. N., KONOVALOVA, I. V., ROMANOV, G. V., and NAZMUTDINOV, R. Ya.,
Kazan' State University

"Reaction of Partial Esters of Phenylphosphonous and Phosphorous Acids With
Benzophenone"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(103), No 2, Feb 72, pp 323-326

Abstract: O-Methyl- and O-ethyl phenylphosphonites, and also dimethyl-,
diethyl-, di-n.-propyl- and di-isopropyl phosphites reacted with benzo-
phenone. It was found that the partial esters of phenylphosphonous and
phosphorous acids add to benzophenone with the formation of monoalkyl
esters of α -hydroxybenzhydrylphenylphosphinic and dialkyl esters of
 α -hydroxybenzhydrylphosphonic acids. When heated, α -hydroxybenzhydryl-
phosphinates and phosphonates dissociate into the initial products and
undergo rearrangement to the corresponding phosphonates and phosphates.

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- 46 -

USSR

UDC 621.357.13:669.26

TARASOVA, K. P., BARABOSHKIN, A. N., and NAZROV, V. A.

"Obtaining Chrome Films by Electrolysis of Chloride Melts. III. The Influence of the Cathode Composition and Temperature on the Structure of the Deposits"

Tr. In-ta elektrokhimii, Ural'sk. nauch. tsentr AN SSR (Works of the Institute of Electrochemistry. Ural Scientific Center, Academy of Sciences USSR), Vyp 18, 1972, pp 94-98 (from Referativnyy Zhurnal -- Khimiya, No 8(II), 1973, Abstract No 8L345 by V. V. Grinina)

Translation: A study was made of the change in the structure of chrome films during the change in temperature and the cathode composition of the melt solvent. The melts studied were composed of alkali chlorides at a temperature of 800°, containing 2 mole % CrCl₂ at a D_k of 0.05 amps/cm². Compact films were obtained having a columnar structure and the coarseness of the crystals decreased in the order LiCl-NaCl-KCl-CsCl. During the precipitation of Cr from the melt 3LiCl-2KCl-CrCl₂, the coarseness of the grain increased with an increase in the temperature from 400 to 800°. At the lower temperatures the adhesion of the film to the base was reduced and it was evident that there was no alloy formation between the Cr and metals of the base.

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USSR

(4)
UDC 547.241

RAZUMOV, A. I., LIORBER, B. G., SOKOLOV, M. P., MOSKVA, V. V., NAZVANOVA, G. F., ZYKOVA, T. V., CHEMODANOVA, L. A., and SALAKHUTDINOV, R. A., Kazan' Chemical-Technological Institute Imeni S. M. Kirov

"Reactivity and Structures of Phosphorylated Carbonyl Compounds. XI. Study of the Aldol-Enol Equilibrium of Phosphorylated Aldehydes as a Function of Temperature"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 3, Mar 73, pp 568-572

Abstract: The aldol-enol equilibrium of a series of alkyl substituted and non-substituted phosphorylated aldehydes has been investigated as a function of temperature using IR, NMR-¹H and NMR-³¹P spectroscopical analyses. With increasing temperature the nonsubstituted compounds go from the trans-enol form through the aldol form into the cis-enol form. In case of the alkyl substituted phosphorylated aldehyde only the conversion from trans-enol form into the aldol form has been observed. Quantitative determination of the ratios of aldol to trans-enol form has been made.

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USSR

UDC 547.341

MOSKVA, V. V., ~~NAZVANOVA, G. F.~~, ZYKOVA, T. V., RAZUMOV, A. I., and SALAKHUTDINOV, R. A., Kazan' Institute of Chemical Technology imeni S. M. Kirov

"Derivatives of Substituted Vinylphosphonic Acids. XII. nmr Spectra of P^{31} and H^1 in Substituted Vinylthionophosphonic and Vinylthionophosphonous Acid Dichlorides"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(103), No 2, Feb 72, pp 314-317

Abstract: The acid dichlorides of β -ethoxyvinyl- and 1-ethoxy-1-buten-2-ylthionophosphonic acids were subjected to reductive desulfurization by tributylphosphine to produce the corresponding phosphonous acid dichlorides. Addition of sulfur to these acid dichlorides gives pure substituted vinylthionophosphonic acid chlorides suitable for spectral studies. The nmr spectra of the P^{31} and H^1 in the given substituted vinylphosphonous and vinylthionophosphonic acid dichlorides were studied. The geometric structure of the compounds is determined from nmr data, and the mutual influence of the tri- and tetracoordination atom of phosphorus with the substituents is discussed.

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USSR

UDC 547.341

ZYKOVA, T. V., MOSKVA, V. V., RAZUMOV, A. I., NAZVANOVA, G. F., and SALAKHUTDINOV, R. A., Kazan' Chemical-Technological Institute Imeni S. M. Kirov

"Derivatives of Substituted Vinylphosphonic Acids. XIV. Study of the Derivatives of Substituted Vinylphosphonic Acids by the NMR-spectroscopic Methods"

Leningrad, Zhurnal Obshchey Khimii, Vol 42 (104), No 9, Sep 72, pp 1913-1916

Abstract: Compounds of the type $RR'P(O)C(X) = CHOC_2H_5$ were studied by high resolution NMR^{31P} and ^{1H} method. The effects of individual atoms have been discussed and the geometric structures of the investigated compounds have been determined. In general, changes in chemical shifts of the phosphorus atom of various derivatives of vinylphosphonic acids are identical to the shifts observed with alkylphosphonic acids. The derivatives of β -alkoxyvinylphosphonic acids have the alkoxy group always in trans position with respect to the phosphorus atom.

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USSR

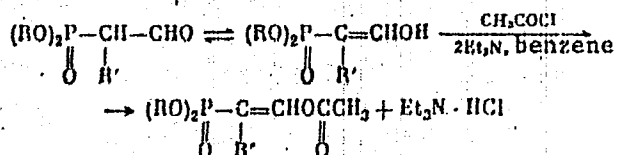
UDC 547.341

MOSKVA, V. V., ~~NAZVANOVA G. F.~~, ZYKOVA, T. V., RAZUMOV, A. I., REMIZOV, A. B., and SALAKHUTDINOV, R. A., Kazan' Institute of Chemical Technology imeni S. M. Kirov

"Derivatives of Substituted Vinylphosphonic Acids. XII. Acylation of Phosphorylated Aldehydes"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), No 3, Mar 72, pp 498-501

Abstract: In an attempt to prove keto-enol equilibrium in phosphorylated aldehydes by chemical methods, the authors studied the aldehyde acylation with acetyl chloride in benzene in the presence of triethyl amine, resulting in the synthesis of α -alkyl- β -acyloxyvinylphosphonates from α -phosphorylated propionaldehyde and butyraldehyde.

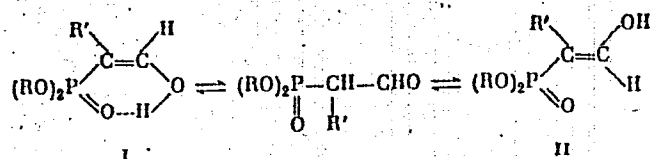


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USSR

MOSKVA, V. V., et al., Zhurnal Obshchey Khimii, Vol 42(104), No 3, Mar 72, pp 498-501

It was found that keto-enol equilibrium with a high concentration of the cis-enol form (I) stabilized by the hydrogen bond between the phosphoryl oxygen and the enol hydroxyl is typical of the starting phosphorylated aldehydes. Spectral data gave no direct proof of the presence of the trans-enol form (II) in the mixture, thus it is only assumed to be present, but in low concentration.



In the products of acylation, nmr spectra show that the phosphorus atom and the alkoxy group are in trans-position relative to the double bond. Since only acylation of the trans-enol form (II) could yield products of such structure, this constitutes chemical proof of its presence. Spectral analysis shows rotational isomerism in α -alkyl- β -acyloxyvinyl phosphonates.

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- 38 -

USSR

UDC 547.341

RAZUMOV, A. I., MOSKVA, V. V., NAZVANOVA, G. F., ZYKOVA, T. V.

"Derivatives of Substituted Vinylphosphonic Acids. XI. Deuterated Substituted Vinylphosphonates"

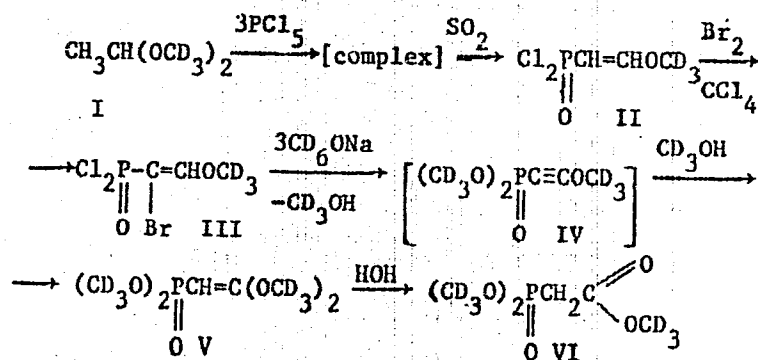
Leningrad, Zhurnal Obshchey Khimii, Vol XLII (CIV), No 1, 1972, pp 51-53

Abstract: For more complete proof of the structure of phosphorylated ketene acetals and the proposed interaction scheme [V. V. Moskva, et al., ZhOKH, No 41, 1495, 1971] including dehydrohalogenation of phosphonate with subsequent addition of alcohol to the alkoxyethylphosphonate formed, acetaldehyde dimethyl- d_6 -acetal was phosphorylated by phosphorus pentachloride to obtain the deuterated dichloroanhydride of β -methoxy- d_3 -vinylphosphonic acid which was converted to the acid dichloride of α -bromo- β -methoxy- d_3 -vinylphosphonic acid by bromination. The interaction of α -bromo- β -methoxy- d_3 -vinylphosphonate with sodium methylate- d_3 leads to the formation of deuterated phosphonoketene acetal. Paramagnetic resonance spectra are presented confirming the scheme for the given reaction and the structure of all the mentioned products. The successive conversion scheme is represented as follows:

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USSR

RAZUMOV, A. I., et al., Zhurnal Obshchey Khimii, Vol XLII (CIV), No 1, 1972, pp 51-53



2/2

Corrosion

USSR

UDC 669.71.472

NEROSLAVSKAYA, L. L., ISAYEV, YU. A., NAZVICH, M. G.

"Anticorrosion Protection of Smokestacks of Aluminum Electrolysis Shops"

Tr. Vses. n.-i. i provektn. in-ta alyumin., magn. i elektrodn. prom-sti
(Works of the All-Union Scientific Research and Planning and Design Institute of Aluminum, Magnesium and Electrode Industry), 1970, No 71, pp 231-238 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G162)

Translation: The state of the art in problems of corrosion resistance of smokestacks, their operating conditions, application of protective media, and also the results of investigation and selection of means of chemically protecting smokestacks from corrosion and lengthening their service lives are discussed. Tests were run under natural and laboratory conditions to consider the characteristics of the medium in which the smokestacks of the aluminum electrolysis shops operate. The test results were estimated visually by analytical means and by measuring the degree of corrosion of the smokestack materials and protective materials. Thus, various groups of protective materials were tested: organic materials and coatings, metal materials and coatings, paint and varnish coatings, polymer materials, and so on. It was determined that the basic means of improving the service life of smokestacks

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USSR

NEROSLAVSKAYA, L. L., et al., Tr. Vses. n.-i. i proyekt. in-ta alyumin., magn. i elektrod. prom-sti, 1970, No 71, pp 231-238

consists in improving the gas purification system. Structural improvement insuring convenience and simplicity of observing the state of the smokestacks and operation of them have little significance. Chemically stable materials can also be used: structural steels types EI-943 and EI-629, coatings made of cold-congealing Nairit, type E-4100 lacquer with graphite (hot drying). The quality of preparing the metal shaft of the smokestacks plays a significant role. There are 3 tables and 1 illustration.

2/2

Pharmacology and Toxicology

USSR

UDC 577.1:615.7/9

TURAKULOV, Ya. Kh., NAZYROVA, V. Ye., BASHIROVA, N. S.

"Effect of Heliothrin on the Adenosine Phosphoric Acid Composition in the Liver of Animals"

Dokl. AN UzSSR (Reports of the Uzbek SSR Academy of Sciences), 1972, No 10, pp 38-39 (from RZh-Biologicheskaya Khimiya, No 7, 1973, Abstract No 7F2131)

Translation: On the 25th day after poisoning male rats with heliothrin, the concentration of the adenosine triphosphoric acid, adenosine diphosphoric acid and adenosine monophosphoric acid in the liver was 1.66 ± 0.06 , 0.97 ± 0.04 and 0.39 ± 0.01 μ M adenine per gram of liver tissue respectively instead of 2.17 ± 0.09 , 1.28 ± 0.05 and 0.46 ± 0.03 for the healthy animals. Thus, the absolute content of adenosine diphosphoric and adenosine monophosphoric acid was reduced by 23.6, 24.3 and 15.2% respectively after poisoning, but their percentage ratio (54.9:32.1:12.9) did not change in practice. It is proposed that an adenosine triphosphoric acid deficit in the liver of animals can lead to inhibition of the aliphatic acid oxidation process in the activation stage.
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USSR

UDC 547.26'118

PUDOVIK, A. N., CHERKASOV, R. A., BYKOVA, I. V., YEVSTAF'YEV, G. I., ZENSKAYA, Z. I., NAZYPOV, M. N.

"Interaction of Tetraalkyl(aryl)stannates with Phosphorus Dithio Acids"

Leningrad, Zhurnal Obshchey Khimii, Vol XLII (CIV), No 1, 1972, pp 76-80

Abstract: The interaction of tetraethyl lead with dithio acids of phosphorus taking place with breaking of one, two or three Pb-C bonds and the formation of the corresponding organolead dithiophosphates has been described [A. N. Pudovik, ZhOKh, No 41, 1472, 1971]. As a continuation of this research, a study was made of the reaction of phosphorus dithio acids with the tetraalkyl derivatives of tin. The dealkylation of the tetraalkyl(aryl)stannates of phosphorus dithio acids takes place with breaking of the Sn-C bond and lead to the formation of trialkyl(aryl)stannyl derivatives of dithiophosphates and phosphonates. The methods of gas adsorption chromatography and differential-thermal analysis were used to study the relative reactivity of tetraalkyl(aryl)stannates. The ease of stripping off the radicals connected to the tin atom decreases in the following series C_6H_5 , C_2H_5 , C_3H_7 , C_4H_9 . Preliminary data are presented on the fungicidal and fungistatic activity of organotin dithiophosphates and phosphonates, their anthelmintic and insecticidal activities. High activities in all these areas were generally demonstrated.

1/1

NEBERA, V. P.

INVESTIGATION OF MEASUREMENT GEOMETRY BY NEUTRON-ABSORPTION ANALYSIS OF THE AMOUNT OF CADMIUM AND BORON IN A FLOW OF PULPS AND SOLUTIONS

[Article by S. F. Ruz'kin, V. P. Nebera, Yu. P. Korotkov, Moscow Institute of Steel and Alloys, Department of Enrichment of Ferriferous and Rare Metals; Ordzhonikidze, Investig. VUZ; Tselinaya Metallurgiya, Russian, No. 6, 1971, signed to press 22 January 1971, pp 144-149]

PN S 53837
4/11/84
EPC 621.386

For automation of the technological processes of enrichment and hydrometallurgy it is necessary to develop sensors by the aid of which it is possible to determine the concentration of elements in moving liquid media. This paper is concerned with studying several designs for sensors to determine the amount of cadmium in the flow of solutions and pulps using the neutron-absorption method.

In the experiments with different measurement geometries we used a Pu-Be neutron source (3.105 neut/sec with 4.47) and a cylindrical scintillation detector of slow neutrons with an area of the surface of the luminous compound T-2 of 103 cm². The pulses were registered with an FVU-79 using a PP-8 calculator.

Damping the intensity of the neutron flux, passing through the layer of the material, obeys exponential law [1]
 $I = I_0 e^{-\mu x}$

where N is the number of atoms per unit of volume of the target, participating in the process of interaction with the cross section of beam Σ is the macroscopic cross section, cm⁻¹; I₀ is the intensity of the incident monochromatic collimated beam of neutrons; I is the intensity of the beam passing through a layer with a thickness x, cm.

NEBERA, V. P.

UDC 621.386

INVESTIGATION OF MEASUREMENT GEOMETRY BY NEUTRON-ABSORPTION ANALYSIS OF THE AMOUNT OF CADMIUM AND BISMUTH IN A TONN OF PULPS AND SOLUTIONS

Article by S. F. Luzkin, V. P. Nebera, Yu. P. Kornilov, Moscow Institute of Steel and Alloys, Department of Ore Enrichment of Nonferrous and Rare Metals; Ordzhonikidze, Investiya Yuzi Tsel'nava Metallurgiya, Russian, No 6, 1971, signed to press 22 January 1971, pp 14-149]

For automation of the technological processes of enrichment and hydrometallurgy it is necessary to develop sensors by the aid of which it is possible to determine the concentration of elements in moving liquid media. This paper is concerned with studying several designs for sensors to determine the amount of cadmium in the flow of solutions and pulps using the neutron-absorption method.

In the experiments with different measurement geometries we used a Pu-Be neutron source (3.105 neut/sec with 4μ) and a cylindrical scintillation detector of slow neutrons with an area of the surface of the luminous compound T-2 of 103 cm². The pulses were registered with an FVU-29 using a PP-8 calculator.

Damping the intensity of the neutron flux, passing through the layer of the material, obeys exponential law [1]

$$I = I_0 e^{-\Sigma x} = I_0 e^{-kx}$$

where N is the number of atoms per unit of volume of the target, participating in the process of interaction with the cross section σ, barns; Σ is the macroscopic cross section, cm⁻¹; I₀ is the intensity of the incident monoenergetic collimated beam of neutrons; I is the intensity of the beam passing through a layer with a thickness x, cm.

SPS 55180
4 May 72

Acc. Nr:

AP0043929

Abstracting Service: 5/70
INTERNAT. AEROSPACE ABST.

Ref. Code:

W4R0141

A70-23135 # Intensity fluctuations in a pulsed laser beam during propagation in the atmosphere at distances up to 9.8 km (Fluktuatsii intensivnosti v puchke impul'snogo OKG pri rasprostraneni v atmosfere na rastoianiiakh do 9,8 km). V. Ia. S'edin, S. S. Khmelevtsov, and M. F. Nebol'sin. (Tomskii Gosudarstvennyi Universitet, Tomsk, USSR). ~~Radiofizika~~ Vol. 13, no. 1, 1970, p. 44-49, 8 refs. In Russian. 22V UZ

Experimental study of intensity fluctuations in the transverse cross section of a pulsed laser beam after passing a distance of 9.8 km in the ground layer of a turbulent atmosphere. Attention is given to variations in dispersion and to changes in the correlation function of intensity fluctuations as a function of distance. The divergence of a focused beam in a turbulent atmosphere is also examined. T.M.

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USSR

UDC: 621.3.083.4(02)

NEBOLYUBOV, Ye. Yu.

"Investigation and Calculation of Transformer Bridges With Discrete Balancing"

Issledovaniye i raschet transformatornykh mostov s diskretnym uravnoveshivaniyem (cf. English above), Frunze, "Ilim", 1970, 121 pp, ill. 47 k. (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1A378 K)

Translation: The author discusses a number of problems in the calculation of double transformer bridges and the process of balancing them for different versions of selecting variable parameters. An investigation is made of the sensitivity of double transformer bridges to a change in the number of turns in the leg windings, and of errors in measuring capacitive impedances due to the effect of the parasitic and residual parameters of the transformers. It is shown how digital computers are used for studying some properties of transformer bridges. Resumé.

1/1

NEBORYACHOK, F.

(Ukrainian Literature)

PARTY ROLE IN UKRAINIAN SOCIAL SCIENCE INSTITUTE

(Article by F. Neboryachok, head of the Division of Ukrainian Literature and Secretary of the Party Organization of the Institute of Social Sciences, Ukrainian SSR Academy of Sciences (L'vov); "In One Key"; Kiev, Pravda Ukraine, Russian, 25 February 1972, p. 3)

We are continuing the dialogue about increasing the role of party organizations in scientific and academic institutions.

The dialogue begun in Pravda Ukraine about increasing the role of party organizations in scientific and academic institutions which have obtained the right of control over the work of the administration bears witness to the universal search for new effective forms of operation. Publications on this topic provide a basis for stating that specific experience, worthy of generalization and creative application in daily party life, has already been accumulated.

I would not like to begin with the censure which for some reason is mentioned especially frequently in materials pertaining to the problem under discussion: the moral and psychological factor which arises abruptly inevitably if the party organization begins to use the right of control consistently and effectively. It appears that these dangers are without foundation. And this is why.

Of course, cases where the viewpoints of the administration and the party committee are incompatible on a particular question are possible. Moreover, they are at times inevitable. But, first, on a particular question which is of secondary importance, and secondly, in this dangerous situation party, collegial leadership on the contrary, this provides an approach to a topical discussion and to a business-like exchange of opinions. And through discussion the question is, as a rule, clarified, and the correct course can only win. The right of control precisely provides for the establishment in scientific institutions of the most favorable conditions responsive to the spirit of socialist society, conditions which exclude subjectivism in leadership, haste and lack of foundations for decision making.

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Soviet Inventions Illustrated, Section I Chemical, Derwent,

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229350 MAGNETOHYDRODYNAMIC SEPARATOR consists of the electromagnets (1), the working channel (2), filled with electrolyte and a rectangular cross-section made from a dielectric material. The horizontal baffles (3 and 4) are inserted, with the electrodes (5-8) and the paddle wheels (9-12), mounted on the shafts (13 and 14), in parallel fashion. The wheels admit the slurry to the working compartment and remove it after treatment: their speed of rotation is identical. In conjunction with the electrodes, the liquid flow is stabilised during separation and a better quality product is obtained.

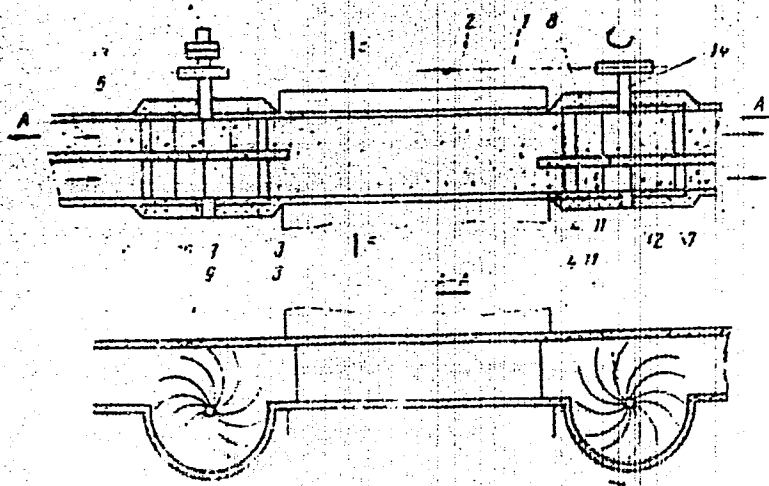
8.10.66. as 1106403/22-3, NEBRENCHIN, A.M.
(30.9.69) Bul. 17/14.5.69. Class 1b, Int. Cl. B 03c.

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USSR

UDC 612.822.3.087

BASYLEVICH, T. F., and NEBYLITSYN, V. D., Institute of General and Pedagogical Psychology, Academy of Pedagogical Sciences USSR, Moscow

"Mechanism of 'Splitting' of the Negative Component of the Motor Evoked Potential"

Leningrad, Fiziologicheskiy Zhurnal SSSR imeni I. M. Sechenov, No 8, 1972, pp 1295-1297

Abstract: In a previously reported series of experiments, a majority of human subjects given proprioceptive stimulation, the motor evoked potential exhibited a division of the main negative component into two half-waves separated by a small time interval. It was assumed that this splitting of the negative component was due to the fact that specific and nonspecific impulses caused by passive muscular movement reach the cortex at different times. In other words, the initial excitation while the second phase reflects negativity caused by nonspecific excitation. To test this assumption, the same subjects were given chlorpromazine (which mainly inhibits some structures of the reticular formation) prior to recording of the motor evoked potential. Chlorpromazine was found to alter the configuration of the potential by abolishing or reducing the late half-wave of the negative component regardless of the intensity of stimulation, but it had no significant effect on the

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USSR

BASYELEVICH, T. F., and NEBYLITSYN, V. D., Fiziologicheskiy Zhurnal SSSR
imeni I. M. Sechenov, No 8, 1972, pp 1295-1297

on the parameters and shape of the early components, although the latency
periods were somewhat shortened while the amplitudes were lengthened.

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Acc. Nr:

AP0049171

Abstracting Service:

CHEMICAL ABST. 5/70

Ref. Code:

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N

104465h Physicochemical properties of isomeric alkyldioxanes. IV. Lesteva, T. M.; Ogrodnikov, S. K.; Nedylova, E. M.; Morozova, A. I. (USSR). *Zh. Prikl. Khim. (Leningrad)* 1970, 43(1), 138-41 (Russ). Phase equil. data were tabulated for systems of 4,4-dimethyl-1,3-dioxane, the 4-Et analog, and the 4,5-di-Me analog. The equil. of liq.-vapor in these followed Raoult's Law. Mixts. of these formed ideal systems. With H₂O, azeotropes were formed with the following b.p. and wt. % content of the nonaq. component shown: 4,4-Me₂, 92.85°, 64.8; 4-Et, 92.6°, 70.9; and 4,5-Me₂, 91.9°, 62.2%.
G. M. Kosolapoff

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029 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--OXYGEN TENSION IN THE MUSCLES OF PATIENTS WITH PULMONARY
TUBERCULOSIS -U-
AUTHOR-(03)-PILIPCHUK, N.S., TVANYUTA, O.M., NECHANYEV, A.A.
COUNTRY OF INFO--USSR
SOURCE--VRACHEBNOYE DELO, 1970, NR 2, PP 67-70
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--MUSCLE PHYSIOLOGY, OXYGEN, TUBERCULOSIS, HYPOXIA,
ANTIBACTERIAL THERAPY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1986/0113 STEP NO--UR/0475/70/000/002/0067/0070
CIRC ACCESSION NO--AP0102203
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0102203

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SPIROGRAPHIC, OXYHEMOGRAPHIC EXAMINATIONS AND A STUDY OF OXYGEN TENSION IN THE GASTROCNEMIUM MUSCLES WERE DONE IN 60 PATIENTS WITH DIFFERENT FORMS OF PULMONARY TUBERCULOSIS. EXTENSIVE FIBROUS CAVERNOUS TUBERCULOSIS WAS ACCOMPANIED BY BOTH INSUFFICIENCY OF THE FUNCTION OF EXTERNAL RESPIRATION AND MARKED TISSUE HYPOXIA WITH A DISTINCT OXYGEN DEFICIT IN THE MUSCLES. EFFECTIVE ANTIBACTERIAL THERAPY IMPROVES THE INDICES OF EXTERNAL RESPIRATION AND REDUCES PHENOMENA OF TISSUE HYPOXIA.

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Acc. Nr: AP0034762 ✓

Ref. Code: UR 0241

PRIMARY SOURCE: Meditsinskaya Radiologiya, 1970, Vol 15,
Nr 1, pp 36-39

ON THE DIAGNOSTIC VALUE OF RADIOISOTOPE INVESTIGATION OF IN VIVO
THYROXINE METABOLISM IN THYROTOXICOSIS

Kotlyarov, E. V.; Nechayenko, M. A.; Sukhotskiy, S. S.

Summary

The authors conducted an investigation of radioiodine-thyroxine metabolism in 9 cases of euthyrosis and 11 cases of thyrotoxicosis of mild and moderate severity with the aid of a monomonitor system for whole-body radiometry. There were found no significant differences in the value of the biological semiexcretion of radioiodine-thyroxine from the organism of both groups of patients. The diagnostic value of studying the thyroxine metabolism may be evaluated only upon condition of parallel quantitative determination of the volume and concentration of stable thyroxine in the body and the rate of discharge from the organism.

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UNCLASSIFIED
 PROCESSING DATE--ZUNOV70

172 011
 TITLE--FATTY ACID COMPOSITION OF BUCKWHEAT LIPIDS -U-

AUTHOR--(03)-BELCVA, Z.A., NECHAYEV, A.P., SEVERINENKO, S.M.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., PISHCH. TEKHNOL. 1970, (11), 32-3

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, CHEMISTRY

TOPIC TAGS--CEREAL CROP, CHEMICAL ANALYSIS, LIPID, FATTY ACID, SAPENIFICATION, GAS CHROMATOGRAPHY

CENTREL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3C04/0792

STEP NO--UR/C322/70/000/001/0032/0033

CIRC ACCESSION NO--AT0131386

UNCLASSIFIED

Z/2 011

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PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AT0131386

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FATTY ACIDS, OBTAINED BY SAPON. OF
ETHER EXTS. FROM GROUND BUCKWHEAT GRAINS (3 VARIETIES), WERE ANALYZED
BY GAS CHROMATOG. THE ACID COMPS. WERE: PALMITIC 16.1-20.6, STEARIC
0.7-1.7, OLEIC 38.0-39.4, LINOLIC 37.8-39.3, LINELENIC 0.9-3.8, AND
GONOLIC 1.1-1.8PERCENT. MYRISTIC, PALMITOLEIC, AND SATD. C SUB14, C
SUB15, AND C SUB20 ACIDS WERE PRESENT IN SMALLER THAN 1PERCENT.
CONTENTS OF SATD. AND UNSATD. FATTY ACIDS WERE 17.9-21.6 AND
76.4-82.1PERCENT, RESP. FACILITY: MUSK. TEKHNOL. INST. PISHCH.
PROP., MOSCOW, USSR.

UNCLASSIFIED

1/2 007 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--COMPOSITION OF PIGMENTS AND TOCOPHEROLS OF RYE LIPIDS -U-
AUTHOR--(04)-KLYUSHKINA, YU.F., DENISENKO, YA.I., NECHAYEY, A.P.,
YANOTOVSKIY, M.TS.
COUNTRY OF INFO--USSR
SOURCE--PRIKL. BIOKHM. MIKROBIOL. 1970, 6(1), 95-8
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--CEREAL CROP, BIOLOGIC PIGMENT, THIN LAYER CHROMATOGRAPHY,
CHEMICAL ANALYSIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1996/0597 STEP NO--UR/0411/70/006/001/0095/0098
CIRC ACCESSION NO--AP0117825

UNCLASSIFIED

2/2 007 UNCLASSIFIED PROCESSING DATE--16OCT70
CIRC ACCESSION NO--AP0117825
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FLOUR PREPNS. OF 6 RUSSIAN RYE
VARIETIES WERE EXTD. WITH ETHER. BY THIN LAYER CHROMATOG. IT WAS SHOWN
THAT THE CAROTENOID FRACTION CONTAINS BETA CAROTENE, POLY (CIS
LYCOPENE), XANTHOPHYLL EPOXIDE, XANTHOPHYLL, AND TARAXANTHIN. THE
TOCOPHEROL FRACTION WAS SEPD. BY GAS LIQ. CHROMATOG. (CELITE 545
IMPREGNATED WITH 10PERCENT SILICONE ELASTOMER SE-30, CARRIER GAS AR,
TEMP. 240DEGREES). THE FOLLOWING TOCOPHEROLS WERE IDENTIFIED (RELATIVE
AMTS. IN PERCENT): ALPHA(37-51), GAMMA(7-11), DELTA(17-26), AND ZETA
SUB1(13-24). FACILITY: MOSCOW TECHNOL. INST. FOOD IND., MOSCOW,
USSR.

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ACC. NO. **AP0055594**

abstracting service:
CHEMICAL ABST.

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Ref. Code

4R 0411

Handwritten mark resembling the letter 'A'.

107140j Effect of lipids on the content of sulphhydryl groups and disulfide bonds in gluten. Baikov, V. G.; Nechaev, A. P.; Puchkova, L. I.; Terent'eva, G. N. (Moscow Technol. Inst. Food Ind., Moscow, USSR). *Prikl. Biokhim. Mikrobiol.* 1970, 6(1), 32-8 (Russ). The addn. to gluten of capronic, caprinic, myristic, stearic, oleic, linoleic, and linolenic acids and of their esters resulted in a decrease of the amt. of SH groups and SS bonds, as detd. by amperometric titrn. in the presence or absence of 7M urea. Possible mechanisms of changes in the rheological properties of gluten treated with fatty acids are discussed.

Lola Brodfeld

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USSR

UDC 669.046.5

YAVOYSKIY, V. I., SVYAZHIN, A. G., GRIGOR'YEV, N. S., LUZGIN, V. P.,
KONOVALOV, I. M., TAT'YANSHCHIKOV, A. G., TRUBETSKOV, K. N., RAKLVICH, S. Z.,
and NECHAYEV, E. A.

"Metal Acidity in Intense Oxygen Bath Blowing"

Moscow, V sb. "Sovremennyye problemy kachestva stali" (MISiS) (Collection of Works. Modern Problems of Steel Quality) (Moscow Institute of Steel and Alloys). Izd-vo "Metallurgiya," No 61, 1970, pp 84-90

Translation of Abstract: Results are presented of an investigation on metal heterogeneity in intense blowing. Comparable data on the average metal acidity level in a two-bath furnace and in other steel-melting furnaces are given. The effect of various technological factors on metal acidity in the two-bath furnace is considered. 5 figures, 3 references.

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1/2 020 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--BEHAVIOR OF THIOUREA IN CYANIDE ELECTROLYTES FOR SILVER PLATING -U-
AUTHOR--(03)-SOLOVYEV, G.S., NECHAYEV, E.A., KUDRYAVTSEV, N.T.
COUNTRY OF INFO--USSR N
SOURCE--ELEKTROKIMIYA 1970, 6(4), 496-500
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, CHEMISTRY
TOPIC TAGS--METAL PLATING, SILVER, ELECTROLYTE, THIOUREA
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAHE--1998/1156 STEP NO--UR/0364/70/006/004/0496/0500
CIRC ACCESSION NO--AP0121715
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--30OCT70

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CIRC ACCESSION NO--AP0121715

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STRUCTURAL, ELECTROCHEM., AND RADIOCHEM. STUDIES WERE PERFORMED ON THE BEHAVIOR OF THIOUREA DURING AG PLATING AT 25DEGREES FROM CYANIDE SOLNS. CONTG. AG 46, KCN (FREE) 26, K SUB2 CO SUB3 46 G-L. FROM THE CHEM. ANAL. AND RADIOCHEM. MEASUREMENTS, THIOUREA WAS FOUND TO BE REDUCED DURING AG DEPOSITION TO EVOLVE H AND S PRIME2 NEGATIVE. THE BRIGHTENING EFFECT OF THIOUREA WAS DUE TO ITS ADSORPTION BUT NOT THE ADSORPTION OF ITS REDN. PRODUCTS. FROM THE DOUBLE LAYER CAPACITY DATA, THE MAX. VALUE OF THE PLATE BRIGHTNESS OCCURRED UNDER CONDITIONS THAT CORRESPONDED TO A MAX. SURFACE COVERAGE BY THIOUREA OF SIMILAR TO 1. FACILITY: MOSK. KHIM. TEKHNL. INST. IM. MENDELEEVA, MOSCOW, USSR.

UNCLASSIFIED

Radiobiology

USSR

UDC 578.087.1

NECHAYEV, I. A., GRAYEVSKAYA, B. M., ZOLOTAREVA, N. N., and CHUDINOVSKAYA, G. A.

"A Statistical Approach to Estimating Individual Radiation Sensitivity in Animals"

Moscow, Matematicheskiye metody v biologii [Mathematical Methods in Biology], Publishing House of Moscow University, 1972, pp 117-126

Abstract: An attempt is made in this paper to give individual, lifetime estimates of the sensitivity of mammals (rats) to radiation on the basis of the experimental material, and thus to indicate approaches to forecasting the result when the animals are subjected to it. The system according to which the authors make their computations is based on the important concept of the slight regression in individual indexes in accordance with selected tests of radiation sensitivity, on the one hand, and the almost complete absence of correlations between the tests, on the other. After an exposition of the history of the subject of animal sensitivity to radiation, the authors proceed to an analysis of correlation functions for the purpose of obtaining indexes permitting estimates of the relative sensitivity to radiation of animals without actually irradiating them. The authors use these criteria
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NECHAYEV, I. A., et al., Matematicheskiye metody v biologii, Publishing House of Moscow University, 1972, pp 117-126

for the condition of the animals: first, the amount of sugar in the blood and the reaction of the blood to the introduction of adrenalin; second, the proteinase action of the blood computed according to the formula $P_u = (P_t - P_0)/P_0$, where P_0 is the activity of the blood proteinase before incubation, and P_t is the activity of the blood proteinase after 24 hours of incubation at a temperature of 37°C; third, the number of leukocytes in the peripheral blood. A table comparing the actual results with the results predicted by this statistical method shows a close correlation.

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USSR

UDC 591.1.15

(1)

LYAPIN, YR. N., GUSEV, D. I., KATKOV, A. YE., PODGURSKIY, A. M., and NECHAYEV.
L. I.

"The Dependence of the Accumulation of Radionuclides in the Tissues of Fish on Temperature and Saline Conditions in the Environment"

Tr. Atlantich. NII ryb. kh-va i okeanogr. (Transactions of the Atlantic Scientific Research Institute of Fisheries and Oceanography), No 44, 1973, pp 45-59 (from RZh-Biologicheskaya khimiya, No 11, 10 Jun 73, Abstract No 11 F1418)

Translation: The work presents the findings of an experimental study of the accumulation of cesium-137, strontium-90, cerium-144, antimony-125, chromium-51, iron-59, cobalt-60 and ruthenium-106 in the tissues of fish (golden carp, lake ruff, rainbow trout) at a temperature of 0° and 17° in fresh water (mineralization up to 100 milligrams per liter) and in artificial sea water prepared according to the Bruyevich method using salts of super chemical purity.

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udc 591.1.15

KATKOV, A. YE., LYAPIN, YE. N., GUSEV, D. I., and NECHAYEV, I. N.

"Kinetics of Polonium-210 in the Tissues of Fish at 0° C and in Water of Different Salinity"

Tr. Atlantich. NII ryb. kh-va i okeanogr. (Transactions of the Atlantic Scientific Research Institute of Fisheries and Oceanography), No 44, 1971, pp 60-65 (from RZh-Biologicheskaya khimiya, No 11, jun 73, Abstract No 11 F1419

Translation: The kinetics of the accumulation and the character of metabolism of polonium-210 were investigated in tissues in simulated winter conditions of habitation in water of different salinity.

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- 60 -

USSR

UDC 631.531.1:537.212:577.37

IZAKOV, F. Ya., NECHAYEV, V. I., and BLOYSKAYA, A. P.

"Investigation of the Mechanism of Action of Electrical Field on Seeds"

Kishinev, Elektronnaya Obrabotka Materialov, No 2, 1970, pp 70-76

Translation: It was established that the result of seed treatment in an electrical field depends on the field strength and also on the magnitude and sign of charge. The effect of the electrical field can be explained by the joint influence of field strength and of charges acquired by the seed, which probably produces change in the biopotential of the cell and formation of complexes with charge transfer. A hypothesis is introduced which explains the positive effect of the action of negative nitrogen ions on seeds. It was discovered that the effect of an electrical field on seeds is analogous to the effect of gamma rays and other electrophysical methods. However, unlike these methods, the process of treatment of seeds with electrical field takes place with small losses of energy and does not lead to formation of free radicals. Presowing treatment of seeds in an electrical field is recommended.

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USSR

UDC 536.46:662.612.32

NECHAYEV, V. N., KANTOROVICH, B. V.

"Effect of Interpore Reaction on the Interaction of Carbon Dioxide With Graphite"

V sb. Novyye metody szhiganiya topliva i vopr. teorii gorennya (New Methods of Fuel Combustion and Problems in Combustion Theory -- Collection of Works), Moscow, "Nauka", 1972, pp 78-83 (from RZh-50. Yadernyye reaktory, No 11, Nov 72, Abstract No 11.50.139)

Translation: Experiments were conducted to show the depth of penetration of the reaction of CO_2 with graphite. The studies were conducted on graphite channels of different thickness: 4.0, 2.0, and 0.7 mm at $T = 1400-2400^\circ K$. It was established that in a channel with wall thickness δ equal to 0.7 mm the reaction occurs in the temperature interval $1400-1500^\circ$ in order of magnitude close to zero with activation energy $E = 80 \pm 5$ kcal/mole. 2 ill., 2 tables, 6 ref.

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NECHAYEV, VV.

SPRS 59208
6-73

V.B. TRANSPORT OF THE GASE-CAP SOLID SOLUTION IN THE GAS TRANSPORT REACTION WITH WATER VAPOR

Article by Ye. M. Eiseova, V. N. Maslov, V. V. Nechayev, B. A. Sakharov, Kazan: Kazanskii Institut Khimii, Kazan, 1977, p. 59

In this paper an experimental study was made of the variation of the composition of the gas-cap solid solution during its transport by water vapor in the reaction process. The transport is realized from a source with a temperature of 950°C on graphite substrate with a temperature of 920°C. It was established that with a gas concentration to 50 percent the deposit is enriched in phosphorus; at higher concentrations it is enriched with arsenic. In order to explain the experimental data, the theory of regular solutions was used. The value of the energy of interaction of the molecules in the investigated solution was obtained. The effect of the condensation of the solution on the variation and composition of the deposit by comparison with the composition of the source during the gas transport reaction is discussed.

NECHAYEV, V. V.

SPRS 59208
6-73

V-9. REVERSAL OF TRANSPORT DIRECTION IN CHEMICAL TRANSPORT REACTIONS

Article by V. V. Nechayev, Moscow; Novosibirsk, III Sibirskiy po Protsessam Sozda-
i Sibirskaya Poluprovodnikovaya Kristallov i Plazma, Ruzhansk, 12-17 June, 1972.

p. 60)

In this paper it is demonstrated that the transport direction of the condensed phase in transport reactions with simultaneous occurrence of several chemical processes is defined by the sign of the expression

$$\sum (H_{i1} - e_{i1}) \frac{1}{D_{i1}} \eta_i$$

where H_{i1} and e_{i1} are the enthalpies of the i-th reaction reduced to one mole of the condensed substance and calculated correspondingly under the conditions of solution and deposition, η_i is the flow density of the substance concentrated only in the i-th reaction and having a stoichiometric coefficient ν_{i1} . ν_{i1} is the stoichiometric coefficient for the condensed substance... Inasmuch as H_{i1} are standard values, the value of expression (1) depends both on the temperature and on the pressure. The condition of reversal of the transport reaction is equality of expression (1) to zero. An equation for flows considering molecular diffusion and Stefan convection was derived to calculate the transport reversal conditions.

MEDEV, N.K.

SPRS 59268
6.73

(3)

11-3. STUDY OF THE THERMODYNAMIC CONDITIONS OF GROWTH OF EPITAXIAL FILMS OF CALCIUM ALUMINIDE IN THE $CaAl_2-O-H_2$ SYSTEM (1)

Article by A. A. Garbin, A. A. Zakharov, N. K. Medev, (Leningrad) Novobitstak, III Sbornik po Programam koni i shtetn kalitvostelkuysh khimichesk...
Pis'ma, Susslan, 12-17 June, 1972, p 13

The thermodynamics of the process of growth of gallium arsenide films in the $GaAs-H_2$ system were studied in papers by Michelitsch [1] and Gortlieb [2]. In the given paper a study has been made of the thermodynamic analysis of the chemical transport of gallium arsenide by water vapor in order to select the optimal conditions of growth of epitaxial films. For this purpose, along with the basic chemical reaction proceeding with the formation of the volatile oxide Ga_2O_3 , a study was made of two competing reactions disturbing the stoichiometric gas composition: one is with the formation of the nonvolatile oxide Ca_2O , and the other, with the formation of liquid gallium. The calculation results on a computer permitted the selection of the range of stoichiometric compositions of the gas phase bounded by the operating temperature range of 650-900°C and the partial pressure of water from 0.3 to 30 mm Hg. Outside the indicated region at low temperatures, Ca_2O is formed, and at high temperatures, liquid gallium. The experimental studies confirmed the calculation results. The application of exact calculation of the gas phase considering the competing reactions permitted the selection of the optimal conditions of the epitaxial process.

BIBLIOGRAPHY

1. M. Michelitsch, et al., J. Electrochem. Soc., No 111, 1248, 1964 (Russian translation in the collection Materialy v elektronike (Materialy in Electronics), Izdatvo Metallurgiya, Moscow, 189, 1970).
2. G. E. Gortlieb, J. Electrochem. Soc., No 112, 192, 1965.

NEDEV, N.K.

SPRS 59228
6.73

3

V-15. EXPERIMENTAL STUDY OF THE HETEROEPITAXIAL GROWTH CONDITIONS OF GALLIUM
ARSENIDE FILMS ON DIELECTRIC SUBSTRATES

Article by V. A. Barbin, A. A. Zakharev, N. K. Nedev, Leningrad; Novosibirsk,
III Department, Progress, Street 1, 630090, Novosibirsk; Fizicheskii Institut
Sovetskoi Akademii Nauk, 1972, p 461

In this paper the results of an experimental study of the growth of GaAs
films on monocrystalline substrates of Al_2O_3 , MgO and YAl_2O_7 are discussed.
The films were grown by the chemical transport method in the GaAs- H_2 system
on substrates with the following orientation: GaAs- 100 , $111\bar{2}$, $11\bar{2}0$, $11\bar{2}2$;
MgO- 001 ; YAl_2O_7 - 100 , 110 , 111 . The different methods and conditions
of chemical treatment of the dielectric substrates were tested and processed.
In the experiment it was discovered that the higher quality films were obtained
on substrates with advance application of a thin layer (0.3-0.5 microns) of
GaIn alloy (9:1). The optimal results were obtained at substrate temperatures
of 550 to 750°C, a source temperature 10-50 degrees higher and a partial vapor
pressure of water (4-10) mm Hg. The x-ray diffraction and electron diffraction
analysis demonstrated that the GaAs films had in the majority of cases mono-
substrate plane structure. The best film structures are obtained on the
(0001), Al_2O_3 || (111)GaAs, (110)MgO || (100)GaAs, (001) MgO || (001)GaAs, (100)
(0001), YAl_2O_7 || (100)GaAs, (111) YAl_2O_7 || (111)GaAs. The electrophysical parameters
of the films are the following: n-type n = 10^{15} - 10^{16} cm⁻³, μ_n = (2000-3500)
cm²/v-sec.

NEDEY, N. K.

SPR 59068
6 73

3

V-10. STUDY OF THE KINETICS OF CHEMICAL TRANSPORT OF CALCIUM ACETATE IN THE Gase-H₂O-H₂ (II) SYSTEM

Article by A. A. Naybin, A. A. Zakharov, N. K. Nedey. Leningrad: Neftokhimiya, 1972, 12-17 June, 1972, p 617

Calculation of the composition of the gas phase and selection of the thermodynamic conditions of the epitaxial growth of CaAc film offered the possibility of defining the diffusion mass transfer rate by the Lever-Mandel theory. The experimental study of the growth rate of CaAc films and comparison of it with the calculated values permitted us to find the growth resistance of the crystal caused by the finite rates of the heterogeneous processes on the surface of the source and the substrate. It turned out that under actual conditions the rate of the heterogeneous surface reactions is on the same order as the rate of diffusion mass transport. The measurements of the growth rates on the substrates with different orientation — (111), (110), (100) — gave the range of operating superheats $\Delta T = (0.5-1)$ kcal/mole. The greatest growth rate and the least operating superheats were observed on substrates with (111) orientation, and the least rate and greatest superheats, on substrates with (100) orientation.

USSR

UDC 669.27/28-174

YEVSTYUKHIN, A. I., LEONT'YEV, G. A., NECHAYEV, V. V., and GAVRILOV, I. I.

"Development of a Continuous Process for Production of Monocrystalline Wire From Tungsten and Molybdenum"

Monokristally Tugoplavkikh i Redkikh Metallov [Single Crystals of Refractory and Rare Metals -- Collection of Works], Nauka Press, 1971, pp 42-47

Translation: A method is described for production of monocrystalline molybdenum and tungsten wires up to 0.2 mm in diameter by performing collective recrystallization using a specially designed apparatus. As the initial material, ordinary technical wires of Type VA-3 were used. The wires produced served as substrates for growing of larger single crystals of molybdenum and tungsten by thermal dissociation of chlorides. X-ray structural and metalophysical studies of the monocrystallized wire and the precipitates produced were performed. 6 Figures; 5 Bibliographic References.

1/1

- 46 -

Vacuum Tubes

USSR

UDC 621.385.6

NECHAYEV, V. YE., RODIONOV, V. V., FUKS, M. I.

"Linear Wave Analysis in Cylindrical Magnetron Systems Extended along an Axis"

Gor'kiy, Izvestiya Vysshikh Uchebnykh Zavedeniy--Radiofizika, Vol XIV, No 2,
1971, pp 317-322

Abstract: The problem of small oscillations of an electron flux in a magnetron has been investigated previously. It is of interest to study wave motion in magnetron systems developed in the axial direction. This paper contains an investigation of wave properties in wave guide magnetrons matched along the axis on the basis of a model with Brillouin electron flux and a longitudinally ribbed anode structure. The purpose of the linear analysis is establishment of possible forms of instability and the dependence of their domains on the system parameters. The helical waves in the Brillouin electron flux are investigated in the linear approximation. It is demonstrated that the presence of longitudinal electron velocity leads to the occurrence of a region of amplification.

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USSR

NECHAYEV, V. YE., et al, Izvestiya Vysshikh Uchebnykh Zavedeniy --
Radiofizika, Vol XIV, No 2, 1971, pp 317-322

The calculated results are illustrated by graphs of the dispersion curves for some standard values of the parameters. Processing analogous graphs for various values of the parameters makes it possible to estimate the mutual arrangement of the time instability regions of the waves (amplification and generation) as a function of the impedance of the anode structure, the proximity of the flux to the anode surface and the longitudinal electron velocity. It is noted that the results obtained are applicable to shortwave magnetron systems in which the phase lead per period of the decelerating system is appreciably less than π . The problem investigated here can be developed in the direction of studying the effect of anisotropic properties of anode structure and considering the radial gradient of the angular velocity of electrons.

2/2

- 65 -

1/2 021 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--SILVER ELECTROPLATING -U-

AUTHOR-(04)-KUDRYAVTSEV, N.T., NECHAYEV, YE.A., SOLOVEV, G.S., ATAMANCHUK,
A.V.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 262,574

REFERENCE--OTDRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970 47(6)

DATE PUBLISHED--26JAN70

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

TOPIC TAGS--CHEMICAL PATENT, ELECTROPLATING, SILVER, METAL PLATING,
CHEMICAL COMPOSITION, ELECTROLYTE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1994/1996

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

CIRC ACCESSION NO--AA0115795

UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AA0115795

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ELECTROLYTIC AG COATING TAKES
PLACE AT 20-5DEGREES AND 0.1-2.5 A-DM PRIME2 IN AN ELECTROLYTE WITH THE
FOLLOWING CONC.N.: AG SALT (METALLIC) 20-45, KCN 60-90, K SUB2 CD SUB3
20-80, AND NA 2,3,DITHIOLPROPANE SULFONATE 0.005-0.05 G-L.
FACILITY: MENDELEEV, D. I., CHEMICAL TECHNOLOGICAL INSTITUTE, MOSCOW.

UNCLASSIFIED

USSR

UDC 621.357.7:669.68(088.8)

KUDRYAVTSEV, N. T., KRUGLIKOV, S. S., NECHAYEV, YE. A., MEDVEDEV, G. I., IZMAY-
LOVA, T. M.

"Method of Electrodeposition of Tin"

USSR Author's Certificate No 316750, filed 11 Dec 70, published 9 Dec 71 (from
RZh-Khimiya, No 12, Jun 72, Abstract No 12L326P)

Translation: A procedure has been patented for electrodeposition of Sn. The procedure is distinguished by the fact that in order to obtain bright smooth deposits of Sn, 1,4-butenediol is introduced into the electrolyte, and the process takes place at 18-25^o, D_c 1-5 amps/dm² and with mixing of the electrolyte. The electrolyte contains 25-60 grams/liter of SnSO₄, 80-100 grams/liter of H₂SO₄, 10-15 grams/liter of orthocresol, 3-80 mℓ/liter of 40% 1,4-butenediol, and 1-2 grams/liter of joiner's glue. Example. In an electrolyte containing 50 grams/liter of SnSO₄, 90 grams/liter of H₂SO₄, 10 grams/liter of orthocresol, 30 mℓ/liter of 40% 1,4-butenediol and 1 gram/liter of joiner's glue, the process takes place with agitation at a temperature of 18-25^o and D_c 1-5 amps/dm². The films obtained have a mirror finish with a high degree of smoothness, 1.0-1.1.

1/1

- 23 -

USSR

UDC 547.341

DOGADINA, A. V., NECHAYEV, YU. D., IONIN, B. I., and PETROV, A. A., Leningrad Technological Institute imeni Lensovet

"NMR Spectra and Structure of α -Chlorostyrene- β -phosphonate Derivatives"

Leningrad, Zhurnal Obschey Khimii, Vol 41, No 8, Aug 71, pp 1662-1668

Abstract: The addition of phosphorus pentachloride to phenylacetylene, α -chlorostyrene, acetophenone and α -bromostyrene gives 2-phenyl-2-chlorovinylphosphonic acid dichloride (I). The purpose of the present article was to establish the geometric configuration of I and a series of derivatives obtained from it by comparing parameters of the NMR spectra for these compounds with data for other styrylphosphonic derivatives whose structure was previously established by the authors. It was found that this reaction leads to the formation of products with a cis arrangement of chlorine and the phosphorus-containing group.

1/1

USSR

UDC 548.73:620/181.4

NECHAYEV, YU. S., Moscow Institute of Steel and Alloys"New Method of Quenching Vacancies in Metals"

Moscow, Zavodskaya Laboratoriya, No 10, Oct 72, pp 1202-1204

Abstract: A method is proposed for quenching high-temperature equilibrium vacancies in aluminum with dispersed oxide inclusions (Al_2O_3). The procedure is to anneal strip samples at $600^\circ C$ for several hours to obtain a bamboo grain structure. The samples are then air cooled at the rate of $5^\circ/sec$. The concentration of defects is determined by measuring the residual electric resistance of the samples at the temperature of liquid nitrogen. The high-temperature vacancies are condensed in the form of secondary defects (micropores and dislocation loops), while the old dislocation structure is preserved in the lattice. The annealing process causes the secondary defects to migrate from the defects to the sample surface, using the active energy of self-diffusion. The new method of quenching vacancies makes it possible to study processes of formation and annealing of secondary defects and to determine the energy of formation of vacancies in metals with dispersed nonmetallic inclusions, particularly in refractory metals with a b.c.c. lattice produced by methods of powder metallurgy. Three figures, thirteen bibliographic references.

1/1

1/2 025 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--ALKALINE ROCK FORMATIONS AND THEIR RARE METAL MINERALIZATION -U-
AUTHOR--(04)-BORODIN, L.S., NECHAEVA, I.A., GANZEYEV, A.A., OSOKIN, YE.D.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, SER. GEOL. 1970, (3), 17-31
DATE PUBLISHED-----70
SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY
TOPIC TAGS--ROCK, MINERAL DEPOSIT, RARE EARTH METAL, GEOLOGY,
GEOCHEMISTRY, BERYLLIUM, ZIRCONIUM, LITHIUM, STRONTIUM, RUBIDIUM,
PETROGRAPHY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3003/1466 STEP NO--UR/0011/70/000/003/0017/0031
CIRC ACCESSION NO--AP0130399
UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0130399

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PETROL. AND GEOCHEMISTRY OF 2 MAIN GROUPS OF ALK. FORMATIONS ARE DISCUSSED: ALK. BASALTIC AND ALK. GRANITIC. SEVERAL FORMATIONS ARE SEPO. FROM THEM: ALK. ULTRABASIC, ALK. GABBROIC, K BASALTIC, ALK. GRANITIC, AND NEPHELINE SYENITE. THEIR DISTRIBUTION IN MAIN PETROGRAPHIC PROVINCES OF THE USSR AND FOREIGN COUNTRIES IS SHOWN TOGETHER WITH A DESCRIPTION OF THEIR DEVELOPMENT AND RELATION TO VARIOUS TYPES OF TECTONIC STRUCTURES. THE DEGREE OF ROCK JUVENILE CHARACTER, REFLECTING THE DEPTH OF ALK. MAGMA FORMATION AND PARTICIPATION OF JUVENILE ALK. EMANATION IN THE FORMATION OF VARIOUS TYPES OF ALK. ROCKS, IS CONSIDERED AS ONE OF THE MAIN FACTORS CONTROLLING PETROGRAPHIC AND GEOCHEM. PARAMETERS OF THE FORMATION. DATA ARE GIVEN ON THE DISTRIBUTION OF TYPOMORPHIC RARE ELEMENTS (BE, ZR, RARE EARTHS, LI, RB, AND SR) IN NEPHELINE SYENITE MASSIFS OF THE USSR BELONGING TO ALK. BASALTIC AND ALK. GRANITIC GROUPS. THE GEOCHEM. SPECIALIZATION OF ALK. ROCK IS CONTROLLED BOTH BY AFFILIATION WITH A DEFINITE FORMATION TYPE AND THE DEGREE OF JUVENILE CHARACTER OF ALK. MAGMAS. THE GENERAL CHARACTERISTICS OF RARE ELEMENT CONCN. IN ALK. ROCKS ARE DISCUSSED. THE RELATION OF MOST RARE METAL DEPOSITS WITH MAX. ALKALINIZED JUVENILE OR HYBRID SERIES OF BOTH ALK. BASALTIC AND ALK. GRANITIC FORMATIONS WAS PROVEN. FACILITY: INST. MINERAL., GEOKHIM, KRISTALLOKHIM, REDK. ELEM., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC: 533.9...16

AKULINA, D. K., NECHAYEV, Yu. I.

"Microwave Methods of Measuring Density and Plasma on the Stellarators at the Physics Institute imeni Lebedev"

Tr. Fiz. in-ta AN SSSR (Works of the Physics Institute, Academy of Sciences of the USSR), 1973, 65, pp 99-133 (from RZh-Fizika, No 6, Jun 73, abstract No 6G390)

Translation: This is a survey of microwave methods of measuring plasma density on stellarators at the Physics Institute imeni Lebedev. The authors describe the scheme of a microwave interferometer with electron phase shifting developed on the basis of a traveling-wave tube in the 3-cm band. Considered are resonator methods of measuring plasma density which use the metal chamber of the stellarator as a cavity with excitation of fundamental (10-cm) and high-frequency (8-mm) wave modes. The range of density measurement is $n = 10^8 - 10^{11} \text{ cm}^{-3}$. A Fabry-Perot microwave resonator with a wave band of 4 mm designed for measuring density at $n = 10 - 10^{13} \text{ cm}^{-3}$ is described. The authors discuss the question of the way that the magnetic field of the stellarator affects density measurement by resonator methods.

1/1

Nuclear Physics

USSR

UDC: 53.07/.08+53.001.5

BLOKHIN, V. T., KATSAUROV, L. N., NECHAYEVA, L. P., RIKHTER, V. Ya.

"A Method of Measuring the Beam Position During Acceleration in a Sectoral Cyclotron"

Kratkiye soobshch. po fiz. (Brief Reports on Physics), 1971, No 8, pp 26-30
(from RZh-Fizika, No 4, Apr 72, Abstract No 4A501)

Translation: A description is given of the method used on the three-section cyclotron model at the Physics Institute imeni P. N. Lebedev (Moscow) for determining the radial position (and orbit number) of the beam. The cyclotron uses pulse injection: the duration of the injecting beam is less, and the injection cycle repetition period several times greater, than the period of the accelerating voltage. For indication, the method used an electrostatic signal electrode and two opaque pickups which enable registration of the beam current and the visual observation of quartz plate fluorescence. By covering the beam with the opaque pickup and simultaneously using an oscilloscope to measure the time interval from the time of injection to the instant that the beam reaches the pickup, one can determine the radial position of the beam to within ± 2 mm when the orbit spacing is approximately 5 mm or more, including those cases in which the order of succession of the orbits is changed on certain azimuths because of radial fluctuations in the beam. V.N.K.

1/1

USSR

GLADYSHEV, V. A., KATSAUROV, L. N., MOROZ, Ye. M., NECHAYEVA, I. P.

"The Focusing of a Beam of Ions with Drift in a Heterogeneous Magnetic Field"

Moscow, Tr. Fiz. Instituta imeni P. N. Lebedev. Vol 53, 1971, pp 226-238.

Abstract: The drift of ions across the gradient of a magnetic field can be used in the performance of external injection into a cyclotron by directing the ions so that the beam drifts along the boundary of one of the sectors of the cyclotron to the central area. This work clarifies the nature of the trajectories of ions in this drift and studies problems related to the focusing of the beam. The motion of particles in the median plane of a magnet is studied, and it is considered that the system of coordinates is rectangular, and the field is a function of one coordinate only. In spite of these simplifying assumptions, a good deal of necessary information is produced concerning the nature of the trajectories during drift.

1/1

USSR

NEDLIN, G. V., Brucellosis Division, Kazakh Scientific Research Institute of Regional Pathology

"Autoimmune Processes in Brucellosis"

Alma-Ata, Zdravookhraneniye Kazakhstana, Vol 30, No 5, May 71, pp 25-26

Abstract: The blood serum of 77 brucellosis patients was tested for the presence of autoantibodies to homologous tissues by using antigens from tissues of the brain, liver, spleen, and joints obtained from the organs of healthy young persons who had perished in accidents. Autoantibodies to tissues of the brain, liver, spleen, and joints were found in the serum of 21, 20, 12, and 21 patients, respectively. In similar tests carried out on 40 healthy blood donors, autoantibodies to homologous tissues of the brain, liver, spleen, and joints were found in 2, 2, 0, and 1 cases, respectively. In acute brucellosis, as shown by tests on one person, antitissue antibodies were absent. They were present more frequently in secondary than primary chronic brucellosis, more often in decompensated than subcompensated brucellosis, more often after a prolonged course of the disease than in a disease with a duration less than 1 yr., and more often in patients with fever than those with a normal temperature. There was no complete correspondence between clinical data on the

1/2

- 50 -

USSR

NEDLIN, G. V., Zdravookhraneniye Kazakhstana, Vol 30, No 5, May 71, pp 25-26

the pathology of individual organs and the presence of autoantibodies to tissues of these organs. Thus, only 50% of patients with an enlarged liver or spleen showed presence of antibodies to these organs, while in the serum of some patients in which these organs were not enlarged antibodies to them were present.

2/2

USSR

Vacuum Tubes

UDC: 621.385.632/33

NEGANOV, V. A., LEPILOV, V. A.

"A Decelerating System Unit for Type 'M' Traveling-Wave (Backward-Wave) Tubes With Ribbon Beam"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 10, Apr 71, Author's Certificate No. 293525, Division II, filed 28 Apr 69, published 11 Mar 71, p 237

Translation: This Author's Certificate introduces: 1. A deceleration system unit for type "M" traveling-wave (backward-wave) tubes with ribbon beam. The device consists of a rectangular helix fastened through dielectric rods in a metal spring bracket of II-shaped cross section. As a distinguishing feature of the patent, heat transfer conditions are improved under the dynamic working conditions of the device by fastening bimetal strips on the side walls of the bracket, the width of these strips along the decelerating unit being less than their height. 2. A modification of this unit distinguished by the fact that the bracket is made from a bimetal, one of the metals having spring properties.

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USSR

UDC: 621.315.3

SHCHERBAKOV, G. P., NEKRASOV, V. A., PERLOVA, A. I.

"On the Problem of Heat Treating Grades MLS60N and MLS72N Microwires"

Elektron. tekhnika. Nauchno-tekhn. sb. Radiokomponenty (Electronic Technology. Scientific and Technical Collection. Radio Components), 1970, vyp. 1, pp 83-89 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5V418)

Translation: A method is proposed for heat treating microwire in glass insulation by moving a microfurnace along the wire. A peculiarity of the method is the brevity of wire heating (tenths of a second). A study is made of the effect which repeated heating-cooling cycles, tension, temperature and time of heating have on the resistance, temperature coefficient of resistance and mechanical characteristics of specimens. Resumé.

Acc. Nr: AP0034405

N

Ref. Code: UR 0297

PRIMARY SOURCE: Antibiotiki, 1970, Vol 15, Nr 2, pp 99-102

A NEW SPECIES OF MICROMONOSPORA PRODUCING
MANNOSIDOSTREPTOMYCIN

Gauze, G. F.; Brazhnikova, M. G.; Sveshnikova, M. A.
Ukholina, R. S.; Nechayeva, N. P.

Institute for New Antibiotics, Academy of Medical Sciences of the USSR, Moscow

Two cultures (1570 and 1575) of Micromonospora were isolated from a sample of tropical soil. The stains are described as a new species designated as Micromonospora pallida sp. nov. M. pallida differs from other species by the absence of the mycelium coloration and an ability to form well developed non-sporulating aerial mycelium on certain media. Antibiotic mannosidostreptomycin was isolated from the culture fluid of strain 1575.

D.L.

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REEL/FRAME

1/2 021 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--ROLE OF PHOSPHOLIPIDS IN PANCREATIC SECRETION -U-
AUTHOR--(03)-BUKHALOV, I.B., NECHAYEVA, N.V., FATEYEVA, V.I.
COUNTRY OF INFO--USSR
SOURCE--TSITOLOGIYA 1970, 12(1), 85-90
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--PHOSPHOLIPID, HISTOCHEMISTRY, PANCREAS, RAT, PROTEIN,
SECRETION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY KEEL/FRAE--1996/0457 STEP NO--UR/9053/70/012/001/0085/0090
CIRC ACCESSION NO--AP0117693
UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0117693

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PHOSPHOLIPIDS (I) WERE LOCALIZED HISTOCHEM. BY THE ACID HEMATIN METHOD OF BAKER AND THE ROLE OF I IN DIFFERENT STAGES OF PANCREATIC SECRETION WAS STUDIED IN 24 HR FASTED RATS AND AT DIFFERENT INTERVALS (5, 15, 30, 45, AND 60 MIN) AFTER ADMINISTRATION OF FOOD TO FASTED ANIMALS. I ACTIVELY PARTICIPATED IN THE FORMATION OF ZYMOGEN GRANULES IN THE CELL MEMBRANES. THE POSSIBLE ROLE OF I IN TRANSMEMBRANAL TRANSFER OF SECRETORY PROTEIN, AS PROPOSED BY HOKIN AND HOKIN, IS DISCUSSED. HOWEVER, THE PRESENT FINDINGS ARE CONTRADICTORY TO THE ABOVE HYPOTHESIS. FACILITY: LAB. CYTOL. BIOCHEM., INST. DEVELOP. BIOL., MOSCOW, USSR.

UNCLASSIFIED

1/2 025 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--STRUCTURE OF A COLLOID BAND IN THE ABSORPTION OF SILVER HALIDES -U-
AUTHOR--(03)--LATYSHEV, A.N., NECHAEVA, T.A., OREKHOVA, L.L.
COUNTRY OF INFO--USSR
SOURCE--ZH. NAUCH. PRIKL. FOTOGRAF. KINEMATOGRAF. 1970, 15(1), 68-9
DATE PUBLISHED--70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--SILVER COMPOUND, HALIDE, ABSORPTION BAND SPECTRUM,
OSCILLATION, COLLOID
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/0284 STEP NO--UR/0077/70/015/001/0068/0069
CIRC ACCESSION NO--AP0124043
UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--A0124043

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REAL PART OF THE AV. N OF AG WAS TAKEN AS 0.065. THE ABSORBANCE CURVE IS OF THE GREATEST INTEREST FOR THE SYSTEM AG-AGCL WHERE A VERY STRONG OSCILLATION IS OBSD. THIS OSCILLATION SHOULD APPEAR IN THE FORM OF A STRUCTURE IN THE COLLOID BAND FOR PARTICLES 100-200 NM IN DIAM. IN THIS CASE THE BAND HAS 2-3 MAX. AN INCREASE IN THE PARTICLE DIAM. SHOULD INCREASE THE NO. OF MAX. AND DECREASE THEIR INTENSITY. WITH A PARTICLE SIZE OF 600-700 NM THE NO. OF MAX. IS 5. FACILITY: VORONEZH. GOS. UNIV., VORONEZH, USSR.

UNCLASSIFIED

USSR

UDC 531.787.089.6

NECHAYEV, V. K., MATIYEVSKIY, D. D., and NECHAYEV, L. V.

"On One Error in Determining P_i Pressure According to a Developed Indicator Diagram"

Tr. Altaysk. politekhn. in-ta (Works of the Altay Polytechnic Institute),
No 4, 1972, pp 40-45 (from Referativnyy Zhurnal -- Metrologiya i Izmeritel'naya
Tekhnika, No 2, 1973, Abstract No 2.32.749)

Translation: Determining the average indicated pressure according to an indicator diagram made by an electropneumatic indicator of the MDI-2 type provides for the registration and evaluation of the various errors that appear when the diagram is being made and processed.

1/1

- 63 -

USSR

UDC 531.787.039.6

NECHAYEV, V. K., MATIYEVSKIY, D. D., and NECHAYEV, L. V.

"On One Error in Determining P_i Pressure According to a Developed Indicator Diagram"

Tr. Altaysk. politekhn. in-ta (Works of the Altay Polytechnic Institute), No 4, 1972, pp 40-45 (from Referativnyy Zhurnal -- Metrologiya i Izmeritel'naya Tekhnika, No 2, 1973, Abstract No 2.32.749)

Translation: Determining the average indicated pressure according to an indicator diagram made by an electropneumatic indicator of the MDI-2 type provides for the registration and evaluation of the various errors that appear when the diagram is being made and processed.

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- 63 -

1/2 022 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--THE EARTH, THE ORBIT, THE EARTH -U-
AUTHOR--VOLKOV, V., NECHAYUK, L.
COUNTRY OF INFO--USSR
SOURCE--KRASNAYA ZVEZDA, JUNE 9, 1970, P 1, COLS 3-7
DATE PUBLISHED--09JUN70
SUBJECT AREAS--NAVIGATION, SPACE TECHNOLOGY
TOPIC TAGS--GROUND COMMUNICATION EQUIPMENT, COSMONAUT, FLIGHT CONTROL SYSTEM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1987/0803 STEP NO--UR/9008/70/000/000/0001/0001
CIRC ACCESSION NO--AN0104244
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--11SEP70

2/2 022

CIRC ACCESSION NO--AN0104244

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS DESCRIBE THEIR VISIT TO THE FLIGHT CONTROL CENTER (SENTR UPRAVLENIYA POLETAMI). THE FOLLOWING STRUCTURAL UNITS OF THE CENTER ARE NAMED: (1) COMMAND MONITORING COMPLEX (KOMANDNO-IZMERITEL'NYI KOMPLEKS); (2) GROUND ASTRONAUTS COMMUNICATION TEAM (GRUPPA SVYAZI S KOSMONAVTAMI). THE MISSION OF THE COMMAND METERING COMPLEX IS TO RECEIVE, SORT OUT, AND INTERPRET SPACE SHIP'S TELEMETRY DATA. IN ADDITION TO WORKING ON THIS TASK, SEVERAL ELECTRONIC COMPUTERS OF THE COMPLEX ARE USED FOR OTHER PURPOSES. ALL COMMANDS, DIRECTIONS, AND RECOMMENDATIONS INITIATED BY EXPERTS OF VARIOUS GROUND SUPPORT TEAMS ARE TRANSMITTED TO ASTRONAUTS ONLY THROUGH CHIEF OPERATORS OF THE GROUND ASTRONAUTS COMMUNICATION GROUP. THE TEAM IS HEADED BY A. LEONOV AND HIS ASSISTANT V. SHATALOV. OTHER MEMBERS OF THE TEAM ARE V. BYKOVSKIY, A. FILIPCHENKO, V. GORBATKO, YE. KHRUNOV, ET AL.

UNCLASSIFIED

1/5 070 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--THE EARTH IS BETTER VISIBLE FROM A DISTANCE --U-
AUTHOR--NECHAYUK, L. *N*
COUNTRY OF INFO--USSR
SOURCE--KRASNAYA ZVEZDA, 18 JUNE 1970, P 3
DATE PUBLISHED--18JUN70
SUBJECT AREAS--SPACE TECHNOLOGY, METHODS AND EQUIPMENT, NAVIGATION,
BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--MANNED SPACECRAFT, RADIO COMMUNICATION, MEDICAL EXPERIMENT,
CYBERNETICS, SPACEBORNE PHOTOGRAPHY, CLOUD COVER/(U)SOYUZ 9 MANNED
SPACECRAFT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/1667 STEP NO--UR/9008/70/000/000/0003/0003
CIRC ACCESSION NO--AN0131968
UNCLASSIFIED

2/5 070

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AN0131968

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

ABSTRACT. "'SOKOL ' THIS IS 'ZARYA'. I HAVE

EVERYTHING. REST. SEE YOU LATER ". THE REGULAR COMMUNICATION CONTACT WITH "SOYUZ-9" HAS ENDED. THE SHIP COMMANDER AND THE FLIGHT ENGINEER HAVE JUST REPORTED ON THEIR WORK IN A CLEAR AND BUSINESSLIKE FASHION. BEHIND THEM ARE MANY DAYS OF VIGILANCE IN SPACE FILLED WITH NUMEROUS IMPORTANT EXPERIMENTS, OBSERVATIONS AND INVESTIGATIONS. NOW, THEREFORE, NOTING THE RESULTS OF IMPLEMENTATION OF THE FLIGHT PROGRAM, WRITING DOWN THE EARTH'S INSTRUCTIONS CONCERNING THE COMING REVOLUTIONS, THE COSMONAUTS MUST LEAF THROUGH THE MASSES OF NOTES IN THEIR VOLUMINOUS LOGBOOKS. ALEKSEY LEONOV, FLIER COSMONAUT AND ENGINEER, CORRECTLY STATED: "THERE ARE PROBABLY NO SPECIALISTS IN THE FIELD OF STUDY AND MASTERY OF SPACE WHICH THIS FLIGHT WILL NOT PROFIT BY, SINCE IT WILL YIELD SOMETHING ESSENTIALLY NEW AND NECESSARY FOR THE FURTHER DEVELOPMENT OF THE PRINCIPAL DIRECTIONS IN COSMONAUTICS". ALTHOUGH SPACE BIOLOGY AND MEDICINE HAVE ALREADY BEEN ENRICHED BY MANY EXPERIMENTAL DATA WHICH WERE OBTAINED DURING EARLIER FLIGHTS OF SOVIET AND AMERICAN COSMONAUTS, THERE ARE STILL MANY PROBLEMS WHICH JAVE NOT BEEN FINALLY SOLVED. THEY PERTAIN TO THE EFFECT EXERTED ON THE HUMAN BODY BY PROLONGED PRESENCE IN SPACE AND ENSURING A HIGH PERFORMANCE OF COSMONAUTS ABOARD A SHIP, AND IN THE FUTURE, ABOARD ORBITAL STATIONS. THE BIOMEDICAL EXPERIMENTAL WHICH A. NIKOLAYEV AND V. SEVAST'YANOV ARE PERFORMING IN ORBIT ON A REGULAR BASIS ARE OF INESTIMABLE IMPORTANCE FROM THIS POINT OF VIEW.

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PROCESSING DATE--13NOV70

3/5 070

CIRC ACCESSION NO--AN0131968

ABSTRACT/EXTRACT--UNTIL NOW SCIENTISTS HAVE NOT HAD DATA ON SUCH PROLONGED CONTINUOUS OBSERVATIONS OF THE BEHAVIOR OF THE HUMAN BODY IN A SPACESHIP FLYING IN CIRCUMTERRESTERIAL ORBIT. MOREOVER, THE NEW DATA ARE EXTREMELY DIVERSIFIED AND COMPLETE, INCLUDING NOT ONLY SYSTEMATIC MEASUREMENTS OF THE PHYSIOLOGICAL PARAMETERS OF VITAL FUNCTIONS OF CREW MEMBERS, ARTERIAL PRESSURE, PULSE, RESPIRATION RATE, BUT ALSO THE RESULTS OF EXPERIMENTS ON INVESTIGATION OF MAN'S PERFORMANCE DURING PROLONGED WEIGHTLESSNESS. ONE OF THESE EXPERIMENTS IS PARTICULARLY INTERESTING. I REFER TO AN EXPERIMENT MADE BY V. SEVAST'YANOV, "SOYUZ-9" ENGINEER, USING A SPECIAL CYBERNETIC DEVICE. THE CONTROL PROGRAM STIPULATED BY THIS SORT OF TRAINER, SIMULATING DIFFERENT FLIGHT REGIMES, WAS INITIALLY IMPLEMENTED ON EARTH, LONG BEFORE THE SHIP LAUNCHING, THEN DURING THE INITIAL REVOLUTIONS OF THE FLIGHT, AND FINALLY AFTER MANY DAYS HAD ELAPSED. ANALYSIS OF HOW THE ACCURACY OF THE COSMONAUT'S WORK CHANGED DURING THIS TIME WILL ENABLE PHYSICIANS TO EVALUATE MAN'S CAPACITY FOR PERFORMING COMPLEX AND FINE OPERATIONS ON A LONG TERM FLIGHT AMONG THE STARS. THE PLANNED AND SUCCESSIVE APPLICATION OF THE ADVANCES IN COSMONAUTICS IN THE INTERESTS OF SCIENCE AND THE NATIONAL ECONOMY ARE NOT A REMOTE PROSPECT BUT A SPECIFIC PROGRAM ALREADY BEING IMPLEMENTED IN OUR COUNTRY. YOU THINK ABOUT THIS HERE IN THE FLIGHT CONTROL CENTER WHEN YOU MEET WITH SPECIALISTS FOR WHOM SEVERAL YEARS AGO SPACE RESEARCH APPEARED TO HAVE NO APPLICABILITY TO THEIR BASIC WORK.

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AN0131968

ABSTRACT/EXTRACT--NOW, HOWEVER, METEOROLOGISTS AND GENETICISTS, GEOLOGISTS AND GEOGRAPHERS ARE DIRECTLY PARTICIPATING IN PREPARING AND ANALYZING THE RESULTS OF SCIENTIFIC AND TECHNICAL INVESTIGATIONS AND OBSERVATIONS MADE ABOARD THE "SOYUZ-9". FOR EXAMPLE, CONSIDER PHOTOGRAPHY FROM SPACE. FOR METEOROLOGISTS EVEN TODAY THIS IS NOT ONLY A MEANS FOR SCIENTIFIC RESEARCH BUT ALSO THE SOLUTION OF A PROBLEM OF GREAT PRACTICAL IMPORTANCE. CONSIDER THE "METEOR" SYSTEM OF METEOROLOGICAL SATELLITES. USING THEM IT HAS BEEN POSSIBLE TO DETECT MANY INTERESTING ATMOSPHERIC PHENOMENA AND IT HAS ALREADY BEEN USED IN WEATHER FORECASTING. EVEN NOW THE "SOYUZ-9" CREW HAS JUST PARTICIPATED IN A NEW COMPLEX EXPERIMENT ORGANIZED BY THE HYDROMETEOROLOGICAL SERVICE USSR. A. NIKOLAYEV AND V. SEVAST'YANOV PHOTOGRAPHED THE CLOUD COVER IN THE WESTERN INDIAN OCEAN AT THE SAME TIME THAT A "METEOR" SATELLITE SURVEYED THIS REGION WITH ITS TELEVISION CAMERAS AND WHILE MEASUREMENTS OF ATMOSPHERIC CHARACTERISTICS WERE BEING MADE FROM ABOARD THE SCIENTIFIC RESEARCH VESSEL "AKADEMIK SHIRSHOV". COMPARISON OF THE JOINTLY COLLECTED DATA, ACCORDING TO THE METEOROLOGISTS, WILL ENABLE US TO STUDY ATMOSPHERIC PHENOMENA WITH AN EARLIER UNATTAINABLE COMPLETENESS. THIS IS VERY IMPORTANT FOR IMPROVING WEATHER FORECASTS. THE POSSIBILITIES WHICH SPACE PHOTOGRAPHY ARE AFFORDING US ARE SO BROAD THAT TODAY IT IS DIFFICULT TO COMPLETELY EVALUATE THEM: REFINEMENT OF THE GEOLOGICAL CHARACTERISTICS OF LARGE REGIONS, ICE RECONNAISSANCE IN THE POLAR LATITUDES, EVALUATIONS OF WATER RESOURCES AND THE SNOW COVER, DETERMINATION OF THE STATE OF SOWN FIELDS, STUDY OF OCEAN CURRENTS, AND MANY OTHER PHENOMENA.

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575 070

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AN0131968

ABSTRACT/EXTRACT--THE FOLLOWING WORKS ARE FREQUENTLY HEARD AT A SESSION OF THE TECHNICAL OPERATIONS STAFF: "TODAY THE SHIP'S CREW MADE OBSERVATIONS AND TOOK PHOTOGRAPHS". THE EARTH IS BETTER VISIBLE FROM A DISTANCE.

UNCLASSIFIED

UDC 519.2

USSR

NECHEPURENKO, M. I."Estimating the Waiting Time"

V sb. Sistemn. modelirovaniye (System Simulation -- collection of works), vyp. 2, Novosibirsk, 1971, pp 25-37 (from RZh-Kibernetika, No 9, Sep 72, Abstract No 9V46)

Translation: A study was made of the system $GI|G|1$. Let $G(x)$ be the distribution function of the servicing time and $H(x)$ be the distribution function of the time between the arrival of requests. Let us denote by $f_n = f_n(G, H)$ the mean waiting time of the n -th request, $f = \lim_{n \rightarrow \infty} f_n$. The convergence rate of f_n to f

is estimated, and the error in determining f connected with errors in giving G and H is found. The results are obtained by studying the operator $Q(F, G, H)$ defined by the equalities

$$Q(F, G, H) = D, \quad D(z) = \int_0^{\infty} \int_0^{y+z} F(z+y-x) dG(x) dH(y), \quad z > 0,$$

in the space of the distribution functions characterized by the presence of a defined number of events for F and G . In this connection a study was made of the general properties of the bounded and compressed representations in quasi-metric spaces.

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- 10 -

1/2 030 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--EVALUATING THE KINETICS OF VULCANIZING RUBBER MIXTURES ACCORDING TO
A DYNAMIC MODULUS UNDER VARIABLE TEMPERATURE CONDITIONS -U-
AUTHOR--(05)--NECHIPORENKO, A.G., LUKOMSKAYA, A.I., MILKOVA, YE.M., PUKHOV,
A.P., SHMIGELSKIY, V.K.
COUNTRY OF INFO--USSR

SOURCE--KAUCH. REZINA 1970, 29(3), 17-19

DATE PUBLISHED-----70

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

TOPIC TAGS--SHEAR STRESS, VULCANIZATION, ELASTIC MODULUS, RUBBER WORKING
MACHINERY, AUTOMATIC CHEMICAL PROCESS CONTROL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1997/0529

STEP NO--UR/0138/70/029/003/0017/0019

CIRC ACCESSION NO--AP0119448

UNCLASSIFIED

272 030
CIRC ACCESSION NO--AP0119448

UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN APP. WAS DESIGNED WHICH
AUTOMATICALLY RECORDS THE AMPLITUDE OF THE DYNAMIC SHEAR STRESS APPLIED
TO A RUBBER SAMPLE BEING VULCANIZED AT CONSTANTLY INCREASING
(PROGRAMMED) TEMP. THE READINGS ARE PROPORTIONAL TO THE CHANGING
DYNAMIC ELASTICITY MODULUS OF THE SAMPLE AND PERMIT DETN. OF THE OPTIMUM
VULCANIZATION TIME POSSIBLE IN A GIVEN TEMP. REGIME. FACILITY:
DNEPROPETROVSK. SHINNYI ZAVOD., DNEPROPETROVSK, USSR.

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--23OCT70

1/3 013

TITLE--EPITAXIAL GROWTH OF OXYCOMPOUNDS ON THE SURFACE OF SINGLE
CRYSTALLINE FILMS AND SINGLE CRYSTALS OF A PRIMEII B PRIMEVI -U-

AUTHOR--(04)--SERGEYEW, L.A., KALINKIN, I.P., ALESKOVSKY, V.B.,
NECHIPORENKO, A.P.

COUNTRY OF INFO--USSR

SOURCE--KISTALL UND TECHNIK, 1970, VOL 5, NR 1, PP 61-72

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--EPITAXIAL GROWTH, SINGLE CRYSTAL FILM, CADMIUM COMPOUND, OXIDE

CONTROL MARKING--NO RESTRICTIONS,

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1998/0410

STEP NO--GE/0109/70/005/001/0061/0072

CIRC ACCESSION NO--AP0121085

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--23OCT70

2/3 013

CIRG ACCESSION NO--AP0121085

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RESULTS OF ELECTRON DIFFRACTION INVESTIGATION OF THE COMPOSITION AND STRUCTURE OF AIR ANNEALED SINGLE CRYSTALLINE FILMS AND SINGLE CRYSTALS A PRIMEII B PRIMEVI (CDS, CDSE, COTE) ARE REPORTED. A PRIMEII B PRIMEVI SINGLE CRYSTALLINE FILMS WERE GROWN BY DEPOSITION FOR VAPOUR ON ORIENTING SUBSTRATES, EITHER ON THE MICA PLANE (001) OR THE NACL (111) PLANE, WITH WURTZITE STRUCTURE (CDS SUBW.CDSE SUBW). SPHALERITE (CDS SUBS.CDSE SUBS.CDTE SUBS) OR THAT OF ROCK SALT (CDS SUBNACL). THE LATTICE DIMENSIONS A OF CDS SUBNACL SINGLE CRYSTALLINE FILMS GROWN ON MICA BY EPITAXIAL GROWTH METHOD WERE FOUND TO BE 5.6 ANGSTROM. IT WAS SHOWN THAT SINGLE CRYSTALLINE LAYERS OF OXYCOMPOUNDS PART OF WHICH POSSES FORMERLY UNKNOWN MODIFICATIONS OF THE HEXAGONAL STRUCTURE WITH THE PARAMETERS A EQUALS 3.3 ANGSTROM C EQUALS 5.25 ANGSTROM A EQUALS 5.5 ANGSTROM C EQUALS 7.0 ANGSTROM A EQUALS 5.3 ANGSTROM C EQUALS 7.0 ANGSTROM WERE FORMED ON THE SURFACE OF LAYERS OF CDS WHEN THE LATTER WERE ANNEALED. CHEMICAL ANALYSIS OF ANNEALED CDS FILMS ENABLED SINGLE CRYSTALLINE SUBSTANCES WITH LATTICE DIMENSIONS A EQUALS 3.3 ANGSTROM, C EQUALS 5.25 ANGSTROM TO BE IDENTIFIED AS POLYMORPHOUS HEXAGONAL CADMIUM OXIDE MODIFICATION. EXPITAXIAL LAYERS OF CDO SUBHEX AND CDO SUBNACL WERE ALSO OBSERVED ON SINGLE CRYSTALS OF CDS AFTER ANNEALING IN AIR. IN ORDER TO FIND OUT THE MECHANISM OF OXYCOMPOUNDS GROWTH THE EFFECT OF CERTAIN FACTORS ON THE STRUCTURE, COMPOSITION AND ELECTROPHYSICAL PROPERTIES (SPECIFIC RESISTANCE OMICRON, MOBILITY OF CHARGE CARRIERS MU) OF INITIAL AND ANNEALED FILMS WAS INVESTIGATED.

UNCLASSIFIED

3/3 013
CIRC ACCESSION NO--AP0121085
ABSTRACT/EXTRACT--FACILITY:
LENINGRAD.

UNCLASSIFIED

PROCESSING DATE--23OCT70

INSTITUTE OF TECHNOLOGY LENSOVIETA,

UNCLASSIFIED

USSR

UDC 669.083.4

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REZNYAKOV, A. A., ISAKOVA, R. A., YESYUTIN, V. S., ~~NESTEROV, V. N.~~, NECHIPORENKO, G. I., MOROZOV, I. F., ZHUKOV, P. I., ZAVADSKAYA, N. F., and KALENIN, V. Ya.

"Increasing the Effectiveness of Vacuum Refining of Selenium"

Moscow, Tsvetnyye Metally, No 1, Jan 70, pp 54-57

N

Abstract: Data were obtained which confirm the results of previously conducted laboratory investigations regarding the possibility of producing high-quality commercial Se in a single operation. At 450° and a vacuum of 0.6 mm hg, the output of the apparatus was 2 t/m² per day. The yield of high-quality Se was 80%; highly volatile fractions and mother liquor accounted for 15 and 5%, respectively. During prolonged operation of the apparatus the disks overgrown with shelliness, which formed as the result of the precipitation of metal selenides suspended in Se. An investigation of the filtration of fusion and vapors of Se showed that it is possible to produce high-quality commercial Se in a single operation. The process has been introduced into Se production.

1/1

Inorganic Compounds

USSR

UDC 621.357.12:661.25(088.8) ①

BEYDIN, V. K., VOROSHILOV, I. P., GORBACHEZ, A. K., NECHIPORENKO, N. N.,
and VOROSHILOV, P. KH.

"A Process for Preparing Sulfuric Acid"

USSR Author's Certificate No 289821, filed 6 Jan 69, published 5 Sep 72,
(from Referativnyy Zhurnal -- Khimiya, No 8(II), 1973, Abstract No 8L262P)

Translation: A process is patented for preparing H_2SO_4 by the electrolysis of an aqueous solution of metal sulfates, during the depolarization of the anode by a sulfur gas in the presence of a catalyst in the electrolyte. This process is improved in that to increase the degree of utilization of the sulfur dioxide and to decrease the anode potential to increase the yield of the final product, a soluble halide salt is added to the electrolyte as a catalyst which is preferential for the cation, similar to the cation of the electrolyte. The catalyst is added in concentrations of 0.1 to 50 grams/liter. The process is carried out for a D_a of 500 to 3,000 amps/m² and at an electrolyte temperature of 20-90°. For example, the electrochemical processing of Na_2SO_4 , the electrolysis is carried out in a three chamber electrolysis apparatus with 1/2

USSSR

BEYDIN, D. K., et al., USSR Author's Certificate No 189821, filed 6 Jan 69, published 5 Sep 72

an iron (wire-gauze) cathode and a hollow graphite anode with a porosity of 33%. The initial electrolyte (Na_2SO_4) is added to a concentration of 290/grams/liter in the middle compartment of the apparatus. To the electrolyte is added 0.56 grams/liter of NaCl. The sulfur dioxide evolves under a pressure of 150 mm of mercury in the hollow part of the anode and it migrates through the pores of the graphite to the anolyte. The process goes at temperatures of the original electrolyte of 60° , and a charge on the electrolytic apparatus of 5 amps and D_a of 1000 amps/m^2 . It was determined that the anode potential was 1.15 volts and the efficiency of the utilization of the sulfur gas was 75-80%.

2/2

1/2 014 UNCLASSIFIED PROCESSING DATE--11DEC70
 TITLE--DESAMINATION OF AMP IN HEAVY AND LIGHT FRACTIONS OF MYOCARDIUM
 MICROSOMES -U-
 AUTHOR-(C3)-NECHIPORENKO, Z.YU., BARANOVA, N.P., PISKAROV, V.B.
 COUNTRY OF INFO--USSR
 SOURCE--UKRAYNS'KIY BICHNICHNIY ZHURNAL, 1970, VOL 42, NR 3, PP 329-334
 DATE PUBLISHED-----70
 SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
 TOPIC TAGS--MYOCARDIUM, CELL PHYSIOLOGY, MICROSOME, ENZYME ACTIVITY
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY FIGURE NO----FD7C/605043/E02 STEP NO--UR/0300/70/042/003/0329/0334
 CIRC ACCESSION NO--AP0142904
 UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--11DEC70

2/2 014

CIRC ACCESSION NO--AP0142904

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INVESTIGATIONS CONDUCTED EARLIER SHOWED THAT IN MICROSOMES AS COMPARED WITH OTHER CELL ELEMENTS OF MYOCARDIUM, THE ACTIVITY OF ENZYMES WHICH TAKE PART IN DEZAMINATION OF AMP DIRECTLY AND THROUGH THE STAGE OF ADENOSINE FORMATION IS THE MOST INTENSIVE. HYDROLISIS OF AMP WAS STUDIED BY MEANS OF TWO FRACTIONS OF THE RABBIT MYOCARDIUM MICROSOMES, THE HEAVY FRACTION (18000-30000 G) AND THE LIGHT ONE (30000-105000 G). THE ANALYSIS OF THE PRODUCTS OBTAINED WITH THE EFFECT OF THE FRACTIONS ON AMP SHOWED THAT THE FORMATION OF ADENOSINE OCCURS MORE INTENSIVELY IN THE PRESENCE OF THE HEAVY FRACTION AND THAT OF INOSINE ACID, IN THE PRESENCE OF THE LIGHT FRACTION OF MICROSOMES. ADENOSINE TURNS INTO INOSINIC, AND THE LATTER, INTO HYPOXANTHINE IN BOTH FRACTIONS WITH APPROXIMATELY THE SAME INTENSITY. THE DATA OBTAINED MAY TESTIFY TO THE FACT THAT IN THE LIGHT MICROsome FRACTION AMP DEZAMINATION OCCURS PREDOMINANTLY DIRECTLY, AND IN THE HEAVY FRACTION, THROUGH THE STAGE OF ADENOSINE FORMATION.

FACILITY: INSTITUTE OF BIOCHEMISTRY, ACADEMY OF SCIENCES, UKRAINIAN SSR, KIEV.

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