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BELEVITSKAYA, Ye. S., Veterinariya, No 6, Jan 1972, pp 123-124

Theoretical Bases, Methods, and Means of Diagnosis, Prophylaxis, Therapy and the Elimination of Fowl Diseases."

He reported that the following results were achieved in the basic fields of endeavor. Some characteristics of the regional epizootiology of Newcastle disease, infectious laryngotracheitis, bronchitis, encephalomyelitis, leukosis, Marek's disease, respiratory mycoplasmosis, pasteurellosis, pullorum disease, and coccidiosis of poultry were studied.

Methods were developed for obtaining standard erythrocyte diagnosticums for the indirect hemagglutination reaction in Newcastle disease and influenza in poultry, and the complement fixation reaction and indirect hemagglutination reaction in infectious bronchitis. Methods of using AEV (antierythroblastosis virus) preparation for diagnosis of avian leukosis and the indirect hemagglutination reaction and bioassay on chicks and chick embryos for diagnosis of Marek's disease were also mentioned. The method of preparation, control and application of antigens for diagnosis of pullorumtyphoid was discussed, and methods of preparation of fluorescent Newcastle disease and avian influenza antisera have been unified.

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BELEVITSKAYA, Ye. S., Veterinariya, No 6, Jan 1972, pp 123-124

Seven new coccidiostatic preparations, three of which were submitted to the chemical industry for production, were synthesized and have passed laboratory and industrial tests.

The following titles were approved by the Main Veterinary Administration USSR Ministry of Agriculture: "Instruction Book for Combatting Infectious Bronchitis," "Provisional Instructions for Combatting Marek's Disease With an Appendix of Instruction for Diagnosis of the Disease," "A Handbook on the Use of Antigens for the Diagnosis of Avian Mycoplasmosis in the Serum-Drop Agglutination Reaction."

Shortcomings in work and coordination of research were noted.

The report under review was discussed by I. N. Doroshko (Ukrainian Scientific Research Institute of Poultry Breeding), B. F. Bessarabov (Moscow Veterinary Academy), V. P. Golubnichiy (Belorrusian Scientific Research Veterinary Institute), A. B. Baydevlyatov (Ukrainian Scientific Research Institute of Poultry Breeding), Comrade Vorob'yev (Northern Caucasus Scientific Research Veterinary Institute), I. G. Skutar' (Moldavian Scientific Research Institute 3/4

USSR

BELEVITSKAYA, Ye. S., Veterinariya, No 6, Jan 197, pp 123-124

of Livestock Breeding and Veterinary Science), V. P. Zelenskiy (All Union Scientific Research Institute of Fowl Diseases), A. V. Kachakhidze (Georgian Zooveterinary Educational and Research Institute), R. A. Zubtsova (State Scientific Control Institute of Veterinary Preparations), M. A. Zhurnakova (All Union Scientific Research Institute of Fowl Diseases), V. M. Alenko (Pyatigorsk Inter-Oblast Laboratory for Combatting Poultry Diseases), V. V. German (UNIIEV), and V. N. Syurin -- in charge of the area under consideration (Moscow Veterinary Academy).

Participants in the discussions noted that much scientific research has been conducted on the problem under consideration, and some of the recommendations could be introduced into wide practice. They pointed out shortcomings, they gave some more precise definitions and expressed their thoughts on furthering the state-of-the-art in scientific research.

In sectional sessions, problems of viral infections, leukosis, mycoplasmosis, tuberculosis, pasteurellosis, pullorum disease, and protozooan diseases were considered.

4/4

- 47 -

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200320010-1"

USSR

UDC: 681.32.001

BELEVISEV A. T., BESSHAPOSHNIKOV, Ye. A., YEFIMOV, V. P., MUZALEV, Ye. Yu., SEMENOV, B. A., CHIZHIK, S. P.

"Resistive Element for a Potentiometer"

USSR Author's Certificate No 293271, filed 1 Aug 69, published 11 Mar 71 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 10, Oct 71, Abstract No 10B148 P)

Translation: This Author's Certificate introduces a resistance element for a potentiometer. The element is made in the form of two layers applied in sequence, one of them being a layer of rhodium. For the purpose of thermal stabilization of the resistance, the element utilizes a heat-treated chromium film as the rhodium sublayer. One illustration.

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200320010-1"

UNCLASSIFIED PROCESSING DATE-300CT70
TITLE-THERMAL CYCLIZATION OF PHOSPHORUS CONTAINING HOMO AND MIXED
AROMATIC POLYAMIC ACIDS STUDIED FROM INFRARED ABSORPTION SPECTRA -UAUTHOR-(04)-KOLESNIKOV, G.S., FEDOTOVA, O.YA., PARESISHVILI, O.I.,
BELEVSKIY, S.F.

COUNTRY OF INFO--USSR

SOURCE--VVSOKOMOL SOEDIN., SER. A 1970, 12(2), 317-22

DATE PUBLISHED----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CYCLIZATION, ORGANIC PHOSPHORUS COMPOUND, IR SPECTRUM, PYROMELLITIC ACID, THERMAL EFFECT, ACTIVATION ENERGY, IMIDE

CONTROL MARKING-NO RESTRICTIONS

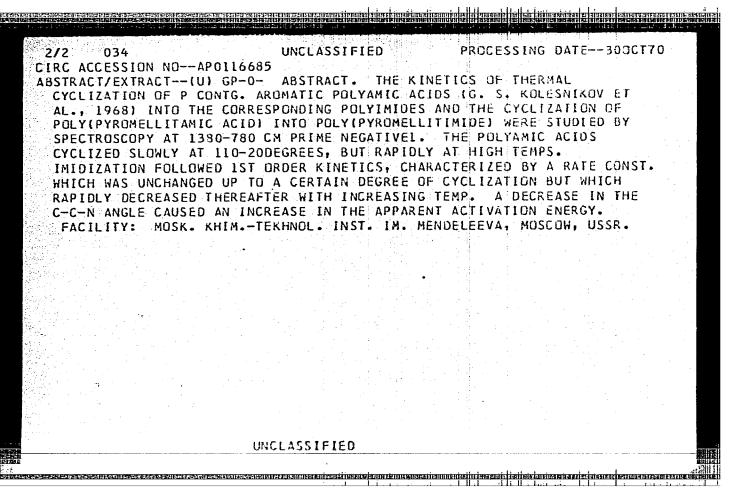
DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1995/1223

STEP NO--UR/0459/70/012/002/0317/0322

CIRC ACCESSION NO--APOLIGGES

UNCLASSIFIED

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UDC 541.15

BUGAYENKO, L. T., ZADOR, E., BELEVSKIY, V. N., GOLUBEV, V. B., Moscow State University imeni M. V. Lomonosov, Moscow, Ministry of Higher and Secondary Specialized Education RSFSR

"Isotope Effect in Radiolysis of Frozen Aqueous Solutions of Acids"

Moscow, Khimiya Vysokikh Energiy, Vol 4, No 5, Sep-Oct 70, pp 468-469

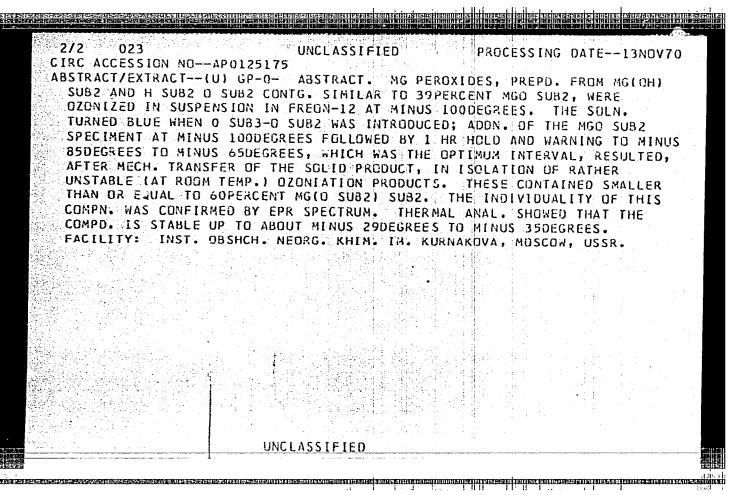
Abstract: The article describes results of a study of the isotopic enrichment of atomic hydrogen in frozen solutions of perchloric (2.4 M) and sulfuric (3.9 M) acids. Within the accuracy limits of relative EPR measurements (20 percent) the isotopic enrichment factor is practically constant over the entire investigated range of isotopic composition and equals 2.0 ± 0.4, which is considerably lower than in liquid solutions.

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200320010-1"

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UNCLASSIFIED PROCESSING DATE-13NOV70 TITLE--FORMATION OF MAGNESIUM SUPEROXIDE MG(0 SUB2) SUB2 DURING THE REACTION OF MAGNESIUM PEROXIDE WITH OZUNE -U-AUTHOR-(04)-VOLNOV, I.I., TOKAREVA, S.A., BELEVSKIY, V.N., LATYSHEVA, COUNTRY OF INFO--USSR SOURCE -- IZV AKAD. NAUK SSSR, SER. AHIM. 1970, (3), 513-16 DATE PUBLISHED----70 SUBJECT AREAS -- CHEMISTRY TOPIC TAGS--MAGNESIUM OXIDE, PEROXIDE, DZONE, LOW TEMPERATURE EFFECT, EPR SPECTRUM CONTROL MARKING--NO RESTRICTIONS DOCUMENT CLASS--UNCLASSIFIED PRDXY REEL/FRAME--2000/1549 STEP NO--UR/0062/70/000/003/0513/0516 CIRC ACCESSION NO--APOL25175 UNCLASSIFIED-



Thin Films

USSR

UDC 539.216.2

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BELEVSKIY, V. P., BELOUS, M. V., PERMYAKOV, V. G., YASHNIK, V. M., Kiev Polytechnic Institute imeni V. I. Lenin

"Electrophysical Properties and Phase Composition of Tantalum Thin Films Made by Cathode Sputtering"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 33, No 3, Mar 72, pp 564-570

Abstract: It is shown that thin films of tantalum made by cathode sputtering in argon may consist of crystals of α -Ta, β -Ta, or a mixture of the two, depending on the conditions of condensate formation. The electrophysical properties and structures of tantalum α - and β -phases are investigated. The resistivity of the β -modification of tantalum was found to be $160-190~\mu\Omega \cdot cm$, and the temperature coefficient of resistance -- $200 \cdot 10^{-6}~deg^{-1}$ in 200 nm and 20 nm films. A $\beta \rightarrow \alpha$ phase transformation takes place at $700-750^{\circ}C$ in a vacuum of the order of $10^{-6}-10^{-5}$ mm Hg, accompanied by an appreciable change in the electrophysical properties of the films. In the case of very thin films (20 nm) interaction with residual gases lowers the $\beta \rightarrow \alpha$ transformation temperature to $600-650^{\circ}C$.

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1/2 038 UNCLASSIFIED PROCESSING DATE--230CT70
TITLE--FABRICATION OF OHMIC CUNTACTS TO GAAS IN HIGH VACUUM -U-

AUTHOR-(03)-BELEVSKIY, V.P., IVANOV, V.N., LASHNIK, V.M.

COUNTRY OF INFO--USSR

B

SOURCE-PRIBORY I TEKHNIKA EKSPERIMENTA, JAN.-FEB. 1970. P. 225-227

DATE PUBLISHED----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--METAL VAPOR DEPOSITION, GALLIUM ARSENIDE SEMICONDUCTOR, ELECTRON BOMBARDMENT, CRYSTAL SURFACE, RESISTIVITY

CONTROL MARKING--NO RESTRICTIONS

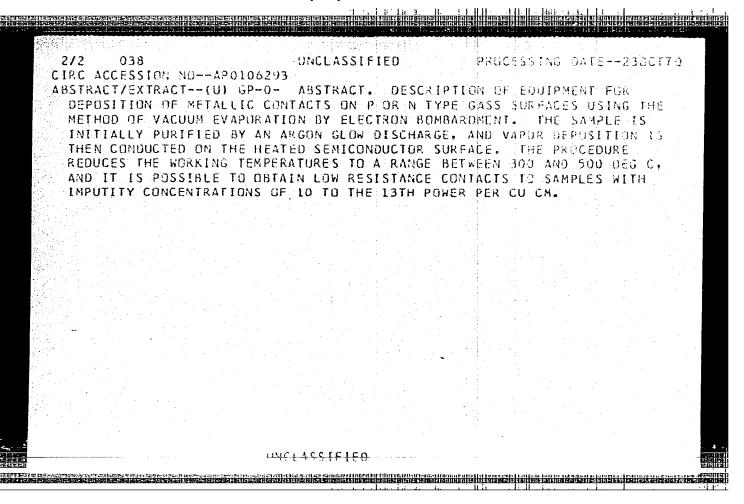
DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1988/1547

STEP NO--UR/0120//0/000/000/0225/022/

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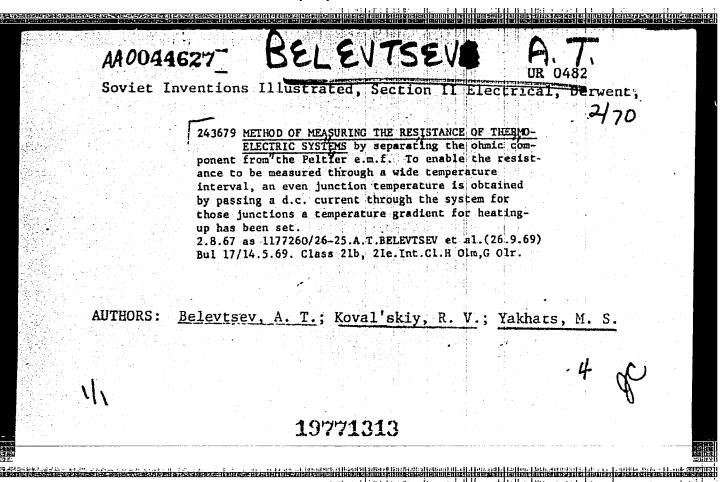
CIRC ACCESSION NU--AP0106293

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CIA-RDP86-00513R002200320010-1



UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--KINETICS OF ION EXCHANGE ON POLYSTYRENE TYPE SULFONIC CATION
EXCHANGERS CROSSLINKED WITH M AND P-DIVINYLBENZENE -UAUTHOR-(04)-BELFER, S.I., SALDADZE, K.M., GINTSBERG, E.G., KOVARSKAYA,
B.M.

COUNTRY OF INFO--USSR

SDURCE-ZH. FIZ. KHIM. 1970, 44(4), 1104-

DATE PUBLISHED----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--POLYMERIZATION, STYRENE, BUTADIENE, BENZENE, SULFONATION, ION EXCHANGE RESIN, CHEMICAL KINETICS

CONTROL MARKING-NO RESTRICTIONS

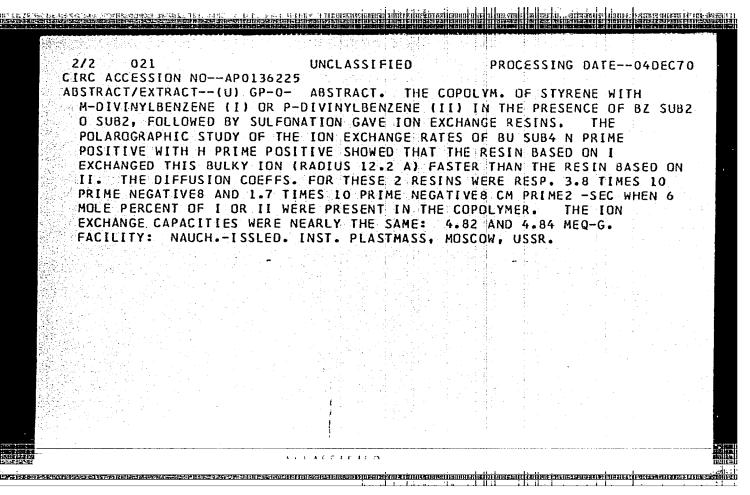
DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--3007/0791

STEP NO--UR/0076/70/044/004/1104/1105

CIRC ACCESSION NO--APO136225

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200320010-1"



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THE REPORT OF THE PROPERTY OF

NAPETVARIDZE, SH. G., -BELGORODSKAYA, G. N., ABDURAUFOV, KH. SH., Institute of Earthquakeproof Construction and Seismology, Academy of Sciences of the Tadzhik SSR

"Elementary Band Method in Solving Earthquakeproof Dam Design Problems"

Dushanbe, Doklady Akedemii Nauk Tadzhikskoy SSR, Vol 12, No 4, pp 71-76

Abstract: The authors present a method for determining the seismic stability and dynamic rigidity of dams. Using the cross section of a dam, it is divided into n uniformly thick horizontal layers, resulting in a system with n degrees of freedom. The maximum number of horizontal layers n is conditioned both by the dimensions of the dam and the program which can be realized by the computer. In this case $n \le 10$. The mass, horizontal shift, and rigidity are calculated for each layer. Earthquake accelograms are used as the dynamic disturbance for the given system. Relative horizontal shifts are calculated and are used

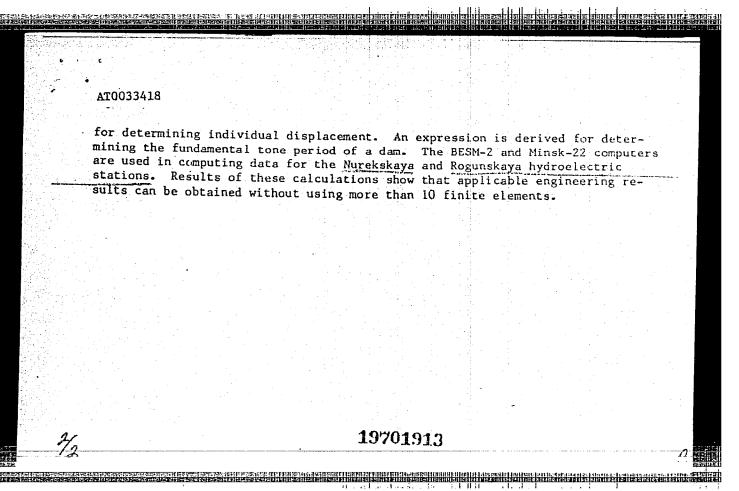
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UDC 627.814(575.3)

NAPETVARIDZE, SH. G., BELGORODSKAYA, G. N., ABDURAUFOV, KH. SH., Institute of Earthquakeproof Commercation and Seismology, Academy of Sciences of the Tadzhik SSR

"Elementary Band Method in Solving Earthquakeproof Dam Design Problems"

Dushanbe, Doklady Akedemii Nauk Tadzhikskoy SSR, Vol 12, No 4, pp 71-76

Abstract: The authors present a method for determining the seismic stability and dynamic rigidity of dams. Using the cross section of a dam, it is divided into n uniformly thick horizontal layers, resulting in a system with n degrees of freedom. The maximum number of horizontal layers n is conditioned both by the dimensions of the dam and the program which can be realized by the computer. In this case n <10. The mass, horizontal shift, and rigidity are calculated for each layer. Earthquake accelograms are used as the dynamic disturbance for the given system. Relative horizontal shifts are calculated and are used for determining individual displacement. An expression is derived for determining the fundamental tone period of a dam. The BESM-2 and Minsk-22 computers are used in computing data for the Nurekskaya and Rogunskaya hydroelectric stations. Results of these calculations show that applicable engineering results can be obtained without using more than 10 finite elements.

1/2 016 TITLE--EFFECT OF UN UNCLASSIFIED

PRUCESSING DATE-- 090CT70

TITLE--EFFECT OF UNITHIOL ON EMBITOL TOXICITY IN MICE OF DIFFERENT AGE

AUTHUR-BELGOVA, I.N.

ACTION DEFOUNDED

COUNTRY OF INFO-USSR

SOURCE-FARMAKOL. TOKSIKUL. (MOSCOW) 1970, 33(2), 216-19

DATE PUBLISHED----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS-MOUSE, DRUG SENSITIVITY, ANTITUMOR DRUG EFFECT

CONTROL MARKING-NO RESTRICTIONS

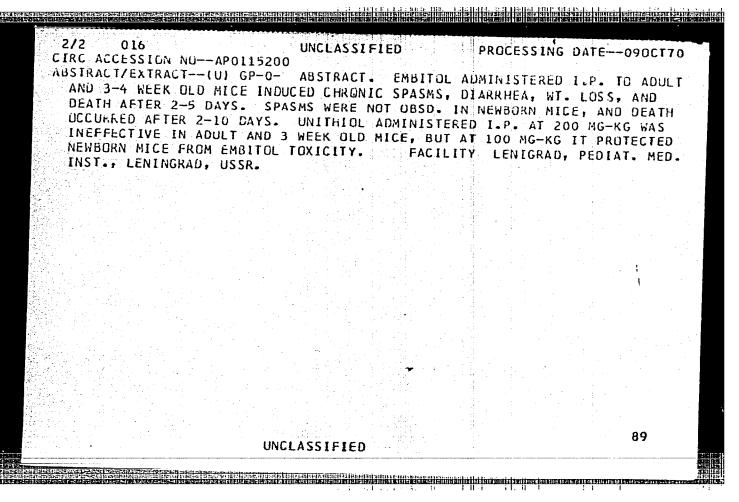
DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1994/1181

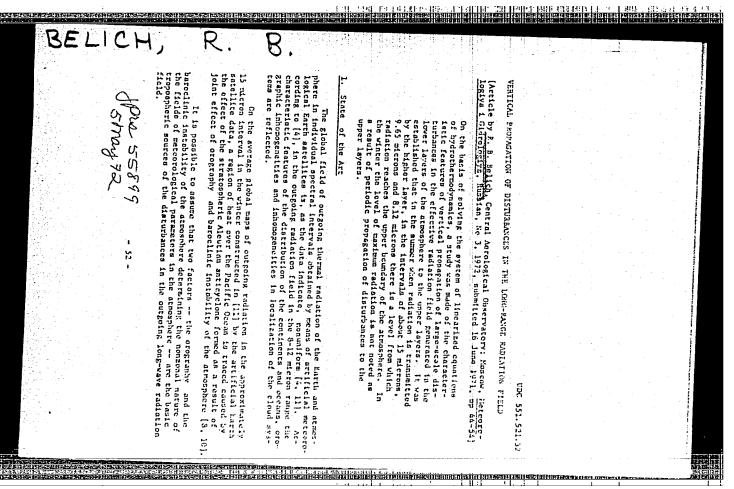
STEP NO--UR/0390/70/033/002/0216/0219

CIRC ACCESSION NO--APOI15200

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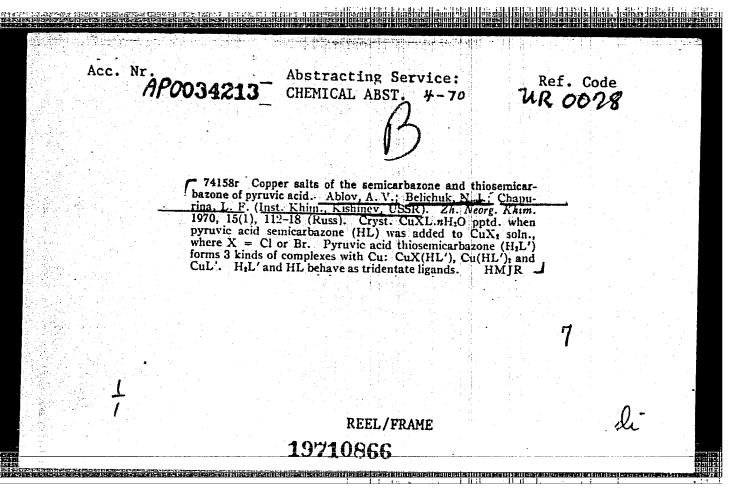
APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200320010-1"





Acc. Nr: AP004722: Ref. Code: UR 0216 PRIMARY SOURCE: Izvestiya Akademii Nauk SSSR, Seriya Biologicheskaya, 1970, Nr 1, pp 87-92 Emanuel', N. M.; Dronova Yerokhin, V. N.; Belich, Ye INFLUENCE OF SOME ANTITUMOR SUBSTANCES OF A DEVELOPED SCHWEZ ERYTHROMYELOSIS IN RATS Institute of Chemical Physics, Academy of Sciences, USSR Regressions of developed subcutaneous tumor in rats suffering from the Schwezerythromyelosis proceeds with the same speed when either eloxene (5 mg/kg) or sarcolysine (1 mg/kg) are injected on the 4th-7th day after inoculation. A correlation between the variation of the tumor diameter and the erythrocytes number in the blood wasshown. REEL/FRAME 19790725

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200320010-1"



UDC 66.045.1

RIFERT, V. G., PUKHOVOY, I. I., and BELIK, D. M.

"On Intensifying Heat Exchange in Surface Evaporators of Sea Water"

Kiev, Vestn. Kievsk. Politekhn. in-ta. Ser. teploenerg (Journal of the Kiev Polytechnical Institute, Series on Thermal Energy) No 7, 1970, pp 61-64 (Summary in English) (from Referativnyy Zhurnal - Thermal Power, No 5, May 71, Abstract No 55 183.

Translation: A significant intensification of heat exchange in surface sea water evaporators is attained by using corrugated and rotating heat exchange surfaces. In this case it is possible to obtain a thin film of both the condensed warmed vapor and the evaporating fluid, as a result of which the over all coefficient of heat transfer is 5 - 10 times higher than that in evaporators with a submerged heating surface. Data on the condensation of steam on corrugated and rotating surfaces are extremely limited and contradictory, and on the boiling of liquid on such surfaces no data are available. The authors experiments in condensing steam on a rotating disk 300 millimeters in diameter showed that the coefficient of heat emission when steam condensed on a rotating surface was 3 - 5 times higher than for a smooth stationary surface. Results are also given from the study of heat transfer in the evaporation of water and a NaCl solution at a concentration of 38:10³ milligrams per litre as a function of the rate of disk rotation over

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RIFERT, V. G., et al., Kiev, Referativnyy Zhurnal - Thermal Fower, No 5, May 71, Abstract No 5S 183

the interval from 100 to 1900 rpm. The coefficients of heat emission obtained are on the order of (15 - 25)·10³ watts per square meter degree, with the coefficient of heat transfer for the NaCl solution only 6 - 10% lower than that for pure water. Two illustrations, seven bibliography entries.

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200320010-1"

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USSR

NOVOTOROV, A. S., KRUGLITSKIY, N. N., TRETINNIK, V. Yu., PARKHOMENKO, V. V., BELIK, F. A.

"Determination of the Specific Surface of Humates by the Gas-Chromatographic Method"

Khim. Tekhnologiya. Nauch.-proyizv. sb. [Chemical Technology. Scientific and Production Collection], No 2(56), 1971, pp 44-46 (Translated from Referativnyy Zhurnal, Khimiya, No 3, 1972, Abstract No 3 B1495).

Translation: A gas chromatic installation for determination of the surfaces of solids, mounted on a type LKhM-8M chromatograph, is used to study the adsorption of humic acids and humates of nitrogen and argon. The adsorption measurements are used to calculate the specific surfaces of the humic acids and humates.

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200320010-1"

Acc. Nr AP0036532

Ref. Code: UR 9069

PRIMARY SOURCE:

Kolloidnyy Zhur

1970, Vol 32, Nr 1,

PP 78-80

ADSORPTION OF HYDROCARBONS ON CLAY MINERALS ADSORPTION OF HEXANE AND HEPTANE

F. D. Oocharenko, F. A. Belik; Yu. I. Tarasevich

The adsorption of hexane and heptane vapors on clay minerals of different crystal structures: palygorskite, kaolinite and two samples of hydromica has been studied. The adsorption isotherms obey the BET equation in the range $P/P_a = 0.05 \div 0.38$. The changes in the differential thermodynamic functions during adsorption have been calculated. The adsorption sites on the surface of Kwasi hydromica are more homogeneous than on other samples. The differential adsorption heat of benzene on the surface of clay minerals studied is somewhat higher than for hexane.

CIA-RDP86-00513R002200320010-1" **APPROVED FOR RELEASE: 09/17/2001**

1/2 027 UNCLASSIFIED PROCESSING DATE--30UCT70
TITLE--USING CARBIDECHROMIUM ALLOYS FOR MAKING DIE CASTING MOLUS IN THE
PRODUCTION OF BARIUM FERRITES -UAUTHOR-(04)-BELIK, I.T., KLIMENKO, V.N., MASLYUK, V.A., KADUMYSELSKIY,
I.D.

COUNTRY OF INFO-USSR

SOURCE-KIEV, TEKHNOLOGIYA I ORGANIZATSIYA PROIZVODSTVA, NO 1, 1970, PP 86-87

DATE PUBLISHED ---- 70

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

TOPIC TAGS-DIE CASTING, BAKIUM FERRITE, ANISTROPY, CHRONIUM ALLOY, CARBIDE, MOLD MATERIAL, FOUNDRY CORE/(U)KKHN15 CHROMIUM CARBIDE ALLOY

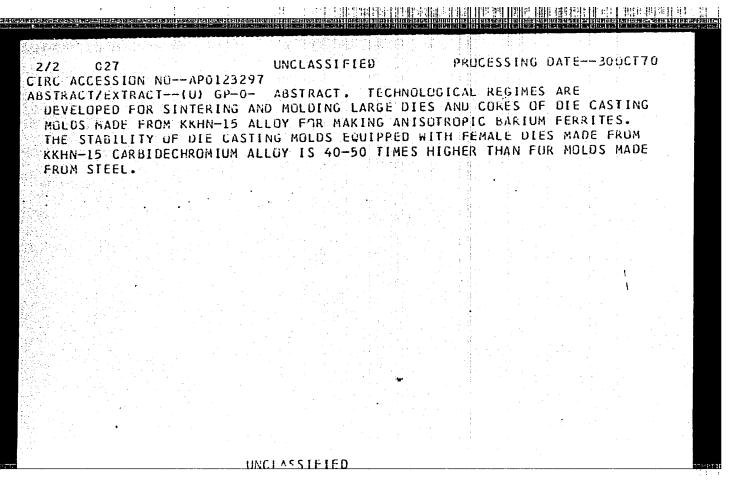
CONTROL MARKING-NO RESTRICTIONS

DOCUMENT CLASS—UNCLASSIFIED PROXY REEL/FRAME—1999/1339

STEP NO--UR/0418/70/000/001/0086/0087

CIRC ACCESSION NO--AP0123297

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Automotive and Transportation

USSR

UDC: 534.11:681.31+625.2:62-592.5

LAZARYAN, V. A., BLOKHIN, Ye. P., BELIK, L. V., Dnepropetrovsk

"Longitudinal Oscillations of Nonlinear One-Dimensional Systems with Perturbations Propagating along the Length"

Kiev, Prikladnaya Mekhanika, Vol 9, No 6, Jun 73, pp 89-94.

Abstract: A system of solids connected by deformable elements into a one-dimensional chain is studied. Perturbations propagate at constant velocity along the length of the chain. The dependence between force and deformations of connecting elements is assumed ambiguous; therefore, additional conditions must be set. A numerical solution of the problem is performed as applicable to braking of railroad trains. A computer is used to study the transient process as a function of the initial state of the system, the number of masses, and the clearances in the connecting elements. Comparison with experimental studies shows that the mathematical model reflects the processes occurring under actual conditions with sufficient accuracy.

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USSR

UDC: 536.2

PETROV, V. A., PETROVA, I. I., WESHPOR, V. S., FRIDLENDER, B. A., KAPRALOV, V. K., BELIK, R. V., Institute of High Temperatures of the Academy of Sciences of the USSR, State Institute of Applied Chemistry

"Some Thermophysical Properties of Isotropic Fyrolytic Graphite"

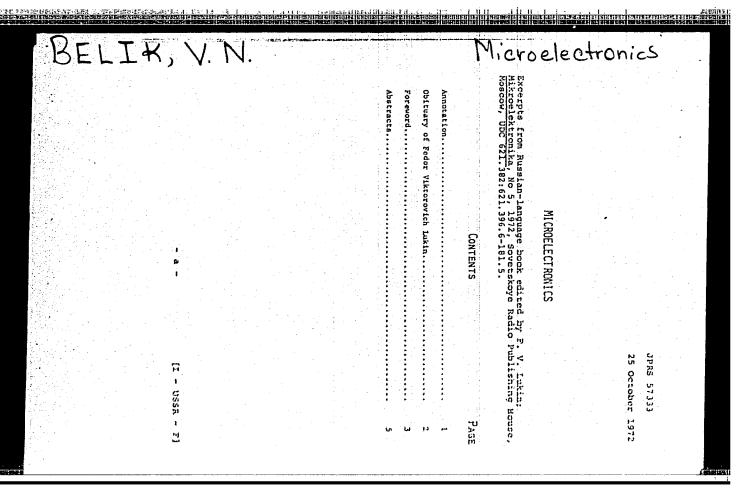
HETT.

Moscow, Teplofizika Vysokikh Temperatur, Vol 11, No 2, Mar/Apr 73, pp 308-313

Abstract: A study is done on the electrical resistance, thermal conductivity and radiative characteristics of pyrolytic graphite which lacks a preferred orientation of the crystallographic planes with respect to the deposition surface. The measurements were made on specimens with densities ranging from 1.76 to 2.19 g/cc over a wide temperature interval. The behavior of the properties as a function of density and temperature is explained in terms of peculiarities of the defect structure of isotropic pyrographite.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200320010-1



USSR

VDC 539.23

SVIRSKIY, L. D., EELIK, Ya. G., KROKHIN, V. P., and GORDIYENKO, Ya. I., Khar'kov

"Spraying NiO With Argon Plasma"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 5, Sep-Oct 71, pp 56-59

Abstract: The possibility of producing layers of NiO by spraying it with argon plasma was experimentally investigated. According to thermodynamic calculation data, bunsenite (NiO) can be reduced to metallic Ni by heating over 2460 °C in an argon plasma jet. X-ray structural analysis of sprayed layers revealed the presence of NiO and ~10 wt % metallic Ni. By petrographic investigation of the composition and structure of sphere-like drops originated by spraying and forming the layer, the concentration tendency of Ni and the relative grouping of NiO and metallic Ni on the surface layer could be established. The mutual contacting of NiO and metallic Ni in the volume of sphere-like drops is explained with the help of rapid motion-picture filming of the spraying process. Three illustr., seven biblio. refs.

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USSR

UDC 577.1:612.8.015.547.96

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PALLADIN, A. V., BELIK, YA. V., and POLYAKOVA, N. M.

Belki golovnogo mozga i ikh obmen (Protein Metabolism in the Brain), Kiev, 1972, 316 pp

Translation:

Annotation

The book reviews the literature and the results of the authors' studies on protein metabolism in different divisions of the central nervous system in different functional states of the body. It examines the role in the bloodbrain barrier in membrane transport of amino acids and in the formation of amino acid reserves in brain tissues. The book briefly considers the main stages and principal directions of research on protein metabolism in the central and peripheral nervous systems. It also describes the most important morphological, functional, and biochemical characteristics of nervous tissue responsible for the specific nature of the metabolic processes therein.

The book is intended for biochemists, physiologists, specialists in agerelated biology, and physicians. It can be used by graduate students and by students taking advanced courses in the aforementioned specialties.

Contents

Foreword...
Introduction...
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MEDICAL PROPERTY.		maganesa cun
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	PALLADIN, A. V., et al., Belki golovnogo mozga i ikh obmen, 1972, 316 pp	
	Chapter 1. Main stages and principal directions of research on protein metabolism in the nervous system Chapter 2. Fractionation of nervous tissue proteins. Physicochemical and biological properties of some protein fractions First stages in the study of nervous tissue proteins Electrophoretic study of the soluble protein fractions in nervous tissue Fractionation of proteins extracted from subcellular structures of brain tissue by means of detergents	8 14 14 19
	Separation of the main nervous tissue proteins Separation of nervous tissue acid proteins Chapter 3. Blood-brain barrier and transport of amino acids across cellular membranes	27 34 42 55
	Basic information about the blood-brain barrier Blood-brain barrier and reserve of free amino acids in brain tissue Investigation of transport of amino acids across cellular membranes Mechanisms of biological transport of amino acids across cellular membranes	55 56 65 78
	Chapter 4. Some morphological, functional, and biochemical character-	87
	2/4istics of nervous tissue	93

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				s that under ipally obtain	Landmarks of Landmarks of waves and become nat type of technical retion also exceeds su Although the in distance of the control of the contro	under flight The na or radiators. The fi	The pe	In the control caption of distance ! of the landmark. the speed and the visible parallaxes, etc. [1].	Arcicle by Muselen, No 7		•		
				is that under nighttima conditions, cipally obtained through landmarks o	Landmarks of the second type themselves radiate electromagnetic waves and become necessity when the operator (and not fer just any type of technical receiver) when the surface flux of visible light radiation also exceeds some threshold value. Although the second type of landmark is such smaller, its important in distance properties and type of landmark.	under (Light conditions from the visible brightness of the perception of discance under flight conditions from the visible brightness of a luminate surface, The nature of the landmarks is unimportant. They can be reflectors or radiators. The first includes all landmarks from whose surfaces electromagnetic uses in the visible portion of the spectrum are relicated. They become	perception of distance	In the control of moving "main-machine" systems, the operator's per- caption of distance in resilized from the following signal the visible wife of the landmark, the gradient of its visible stre, as usil as the visible speed and the visible brightnoon of the landmark, binecular and monocular parallaxes, etc. [1].	PROBLEM OF MODELING PERCEPTION OF DISTANCE FROM VISION BRIGHTNESS OF LANDWARKS (Article by Ye. Brilk: Kiew, Kibernetika : Twitiniten' naye Tekhmika, Rusaian, No J. Tyjor ppeZa-28]				
			- 26	phtime conditions, visual percent through landmarks of the second	the second type themselvered indicates for the seriact point the seriact preferred when the seriact present type of landmark second type of landmark preferred type of landmark preferr	om the visible on the visible on the visible on the visible on the specific on of the specific on the specific	letance from	oving "man-m lized from cl enc of its w Atnoom of th	Aystaurits Aystaurits Klev, Kiber: #28]	- -	50:		
			·	a 2	me threshold the operator inface flux of much much	u brightness of the brightness	from these algos	e folicaing a folicaing inthin area, landmare, l	NGCE PROM VI	- - - -	JPRS		
				tion of discussions	value. into clectromas c (and not for of visible light	They can be surfaces whe flected. The	can be mathematically	algna: the oper algna: the all wall as a direcular and	Webialitel'naya	14.18.	55937		
				te is prin-	augnotir eght radis-	ne perception of distance of a luminame surface, They can be reflectora surfaces electromagnetic flected. They become	matically	rator's per- whalble wize the wimible	YESS OF LAID			•	GLORIA

USSR

UDC: 8.74

BELIK, Ya. Ya.

"On the Problem of Models of Visual Perception"

Probl. bioniki. Resp. mezhved. temat. nauch.-tekhn. sb. (Problems of Bionics. Republic Interdepartmental Thematic Scientific and Technical Collection), 1971, vyp. 6, pp 16-20 (from RZh-Kibernetika, Ho 1, Jan 72, Abstract No 191111)

Translation: Mathematical models are proposed for perception of the distance of objects from the surface of the earth based on the mechanisms of convergence, accomodation and monocular parallax. The theoretical calculations based on the models are confirmed by experimental data. Author's abstract.

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200320010-1"

Acc. Nr.: APO047041

Ref. Code: UR0/22

USSR

UDC 621./8/.4-181.2

CHERNENKO, N. T., Engineer, BELKIN, M. YA., Candidate of Technical Sciences and SLYUSARENKO, V. N., Engineer

"Strengthening of Large-Scale Machine Components by Surface Hardening" (Experience of the Staro-Kramatorsk Machine Tool Plant imeni Ordshonikidze)

Moscow, Vestnik Mashinostroyeniya, No 1, 1970, pp 42-44

Abstract: Investigations on the efficiency of surface hardening of large scale machine components, and on the effect of scale factor for a wide variety of parts made of carbon and alloy steels, are described. They were conducted jointly by the Staro-Kramo-torsk Machine Tool Plant and the Central Scientific Research Institute of Technology and Mechanical Engineering. The Techniques of hardening by rolling used for each type of components are presented. The efficiency of strengthening the machine components with chamfers, press fits, key ways etc, and components

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200320010-1"

AP0047041

subjected to alternating loads was substantiated by the results of tests, which are presented in tables, in the form of the endurance limit and the effective coefficient of stress concentrations. It is stated that the examples of the application of strengthening technology presented here give an idea of the incorporation of this progressive technology at the plant, while investigations are conducted, at present time, for substicing the hardening of large scale machine components by cold plastic deformations for the laborious thermal hardening. Original article has 2 tables.

2/2

87

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USSR UDC: 533.9.07

G., GONCHARENKO, V. P., GONCHARENKO, D. K., DEREPOVSKIY, N. T., SAFRONOV, B. G., KHIZHNYAK, N. A.

"Energy Characteristics of a Coaxial Plasma Source"

Leningrad, Zhurnal Tekhnicheskoy Fiziki, Vol 41, No 9, Sep 71, pp 1881-1886

Abstract: Some considerations are presented on selecting the parameters of a coaxial plasma source. On the basis of this preliminary theoretical study, a plasma source is determined and its energy characteristics are experimentally investigated. It is shown that plasmoid energy increases in proportion to the energy stored in the battery of the plasma source. The total plasmoid energy is greater than 1 kJ. It is shown that pure hydrogen plasmoids can be produced. Eight figures, bibliography of five titles.

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200320010-1"

UNCLASSIFIED PROCESSING DATE--090CT70
TITLE--THE PRESSURE CASTING OF ANTIFRICTION BEARING CAGES (EXPERIENCE OF
THE FOURTH STATE BEARING PLANT) -UAUTHOR-BELIKOV, S.A.

COUNTRY OF INFO--USSR

SUURCE-MUSCOW, VESTNIK MASHINOSTROYENIYA, NO 3, 1970, PP 70-71

DATE PUBLISHED-----70

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

TOPIC TAGS-ANTIFRICTION BEARING, BEARING MANUFACTURING PLANT, MECHANICAL PROPERTY, EQUADRY TECHNOLOGY, METAL CASTING, PRESSURE CASTING, HIGH STRENGTH ALLOY, ALLOY DESIGNATION/(U)DI HIGH STRENGTH ALLOY

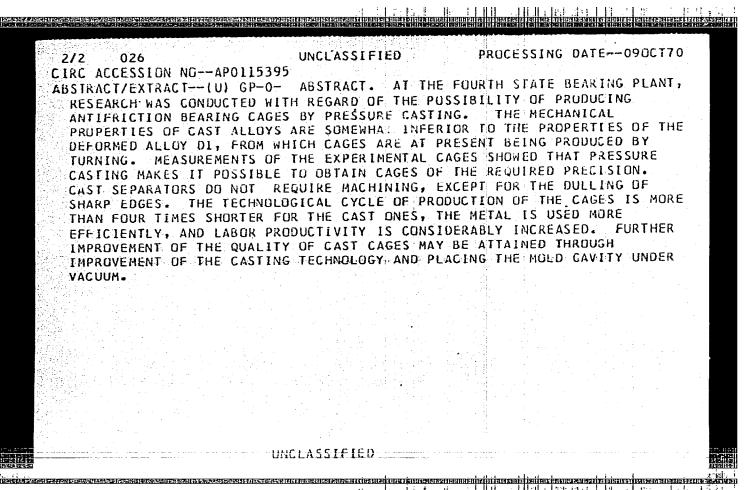
CONTROL MARKING-NO RESTRICTIONS

DOCUMENT CLASS—UNCLASSIFIED PROXY REEL/FRAME--1994/1467

STEP NO--UR/0122/70/000/003/0070/0071

CIRC ACCESSION NO--APO115395

UNCLASSIFIED



Acc. Nr.: ANO104033 Ref. Code: UR 9030

AUTHOR-- BELIKOV V. CORRESPONDENT

TITLE-- A SPEED BOAT ON THE SURA

NEWSPAPER -- NEDELYA, MAY 25-31, 1970, NR 22, P 4, COLS 1-2

ABSTRACT-- THE FIRST SOVIET WATER-JET PROPELLED AIR-CUSHION CRAFT, CAPABLE OF DOING 35 KMS PER HOUR, ITS HULL AND ALL OF ITS MACHINERY, WAS MADE BY THE TRAINING PILOT PLANT OF THE GOR KIY INSTITUTE FOR WATER TRANSPORT ENGINEERS. THE WORKING BLUE PRINTS OF THE GOR, KOVCHANIN WERE PRODUCED BY THE "VOLGOBALTSUDOPROYEKT", AND ITS CHIEF DESIGNER WAS V. ZOROASTROV. THE PROPOSAL TO CONSTRUCT THE "GOR, KOVCHANIN" WAS SUBMITTED FIVE YEARS AGO. PRIOR TO THAT SEVERAL WORKING MODELS WERE CREATED AT THE GOR, KIY INSTITUTE FOR TRANS-PORTATION ENGINEERS UNDER THE DIRECTION OF PROFESSOR V. ANDRYUTIN, V. ZOROASTROV, GRADUATE STUDENT AT THAT TIME, PARTICIPATED IN THE DEVELOPMENT PROGRAM. THE 9-METER AIR FAN OF THE CRAFT HAS BEEN DESIGNED BY THE STUDENT DESIGN BUREAU OF THE INSTITUTE.

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200320010-1"

IN ITS TRIALS, THE "GOR, KOVCHANIN" WAS ABLE TO NAVIGATE RAPIDS LESS THAN HALF A METER DEEP AND TO LAND ON A BEACH WITHOUT ANY LANDING FACILITIES. ANOTHER AIR CUSHION CRAFT, THE FIRST ONE IN THE SERIES KNOWN AS THE "ZARNITSA" IS BEING CURRENTLY EXHIBITED IN MOSCOW. 2/2 REEL/FRAME 19870387		16 16 16 16 16 16 16 16		THE RESIDENCE OF THE PROPERTY
FACILITIES. ANOTHER AIR CUSHION CRAFT, THE FIRST ONE IN THE SERIES KNOWN AS THE ZARNITSA® IS BEING CURRENTLY EXHIBITED IN MOSCOW. 2/2 REEL/FRAME	Acc. Nr.: <u>AN0104033</u>			
FACILITIES. ANOTHER AIR CUSHION CRAFT, THE FIRST ONE IN THE SERIES KNOWN AS THE "ZARNITSA" IS BEING CURRENTLY EXHIBITED IN MOSCOW. 2/2 REEL/FRAME				
FACILITIES. ANOTHER AIR CUSHION CRAFT, THE FIRST ONE IN THE SERIES KNOWN AS THE PARNITSA IS BEING CURRENTLY EXHIBITED IN MOSCOW. 2/2 REEL/FRAME		TOWN WOUNTED THE ADIE	TO NATIOATE I	DAPINS IFSS
2/2 REEL/FRAME	IN ITS TRIALS, THE THAN HALF A METER DE FACILITIES.	EP AND TO LAND ON A BEA	CH WITHOUT ANY	LANDING
REEL/FRAME	ANOTHER AIR CUSHION *ZARNITSA* IS BEING	CRAFT, THE FIRST ONE IN CURRENTLY EXHIBITED IN	THE SERIES KN	NOWN AS THE
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USSR

UDC 681.327.4'18

AKININ, Ye. Ya., EPSHTEYN, V. R., and BELIKOV, V. I.

"Tape Drive for Punched Data Carrier"

USSR Author's Certificate No 262423, filed 25 Nov 68, published 29 Sep 70 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 6, Jun 71, Abstract No 6 B369 P)

Translation: This invention belongs to the area of magnetic data recording on a tape magnetic carrier: namely, to tape drive mechanisms for a punched carrier. In the known tape drives for a punched carrier, the basic element of which is the toothed transport drum, the channel is reloaded when rewinding the tape, passing the tape by this drum. Otherwise, heavy tension of the tape can occur, and deformation or breaking of it will take place. In the proposed tape drive mechanism for accelerated rewinding of the carrier in the case of direct contact of it with the toothed drum on the input shaft, friction discs are installed between the small halfcoupling and the large halfcoupling, on the axial part of which there is a cylindrical spring in contact with an intermediate disc coupled by means of a separating shaft to the toothed transport drum. The large coupling is connected to the core of a solenoid via an L-type arm. There are 2 illustrations.

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1/2 018 UNCLASSIFIED PROCESSING DATE--300CT70
TITLE--KINETICS AND MECHANISM OF MANNICH BASE DISSOCIATION IN AQUEOUS
BUFFERS -U-

AUTHOR-(04)-BELIKOV, V.M., BELOKON, YU.N., DOLGAYA, M.M., MARTINKOVA, N.S.

COUNTRY OF INFO--USSR

SDURCE-TETRAHEDRON 1970, 26(5), 1199-216

DATE PUBLISHED ----- 70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS-CHEMICAL REACTION KINETICS, CHEMICAL REACTION MECHANISM. CHEMICAL DECOMPOSITION, AMINE, ORGANIC NITRO COMPOUND, PROPANE, BUTANE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--2000/1631

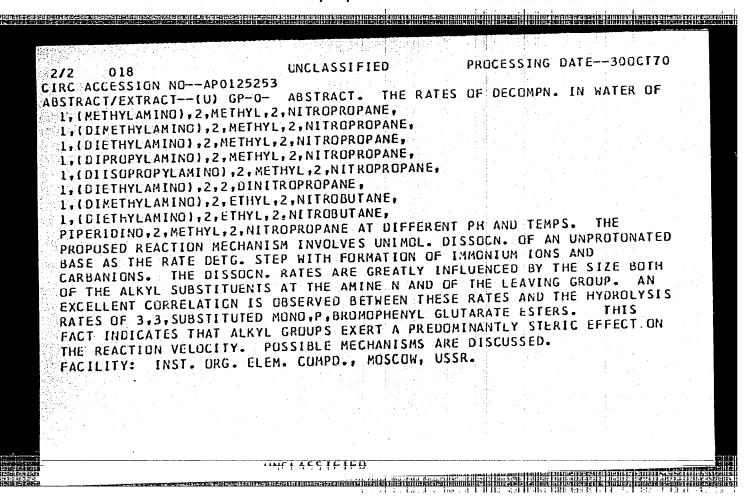
STEP NO--UK/0000/70/026/005/1199/1216

CIRC ACCESSION NO--APO125253

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1/2 026 UNCLASSIFIED PROCESSING DATE-300CT70
TITLE-KINETICS OF THE DECOMPOSITION OF AROMATIC NITRO ALCOHOLS IN AN
ALKALINE MEDIUM -UAUTHOR-(03)-LEYBZON, V.N., BELIKOV, V.M., KOZLOV, L.M.

COUNTRY OF INFO-USSR

SOURCE-IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (2), 322-7

DATE PUBLISHED 70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS—REACTION KINETICS, CHEMICAL DECOMPOSITION, ORGANIC NITRO COMPOUND, ALCOHOL, ACTIVATION ENERGY

CONTROL MARKING—NO RESTRICTIONS

DOCUMENT: CLASS—UNCLASSIFIED PROXY REEL/FRAME—2000/0751

STEP NO--UR/0062/70/000/002/0322/0327

CIRC ACCESSION NO--APO124421

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UNCLASSIFIED 2/2 026 PROCESSING DATE-300CT70 CIRC ACCESSION NO--APO124421 ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. KINETIC DATA, OBTAINED BY POLAROGRAPHY, ARE REPORTED FOR DECOMPN. OF 1, PHENYL, 2, NITROETHANOL (I) AND ITS P.BROMO, P.METHYL AND M.NITRO ANALOGS. THE REACTIONS, IN VERGNAL BUFFER AT PH 7-9.5 WERE ACCOMPANIED BY REVERSIBLE IONIZATION OF THE C-H BOND ACTIVATED BY THE NO SUB2 GROUPS. THE RATE CONSTANTS (10 PRIME12 SEC NEGATIVE PRIME11 WERE: 1, 3.15; P-BR, 4.15, P-ME, 3.9; M-NO SUB2. 4. THE ACTIVATION ENERGY WAS 19 KCAL-MOLE. THE SUBSTITUENTS HAVE LITTLE EFFECT ON THE KINETICS OF DECOMPN. FACILITY: INST. ELEMENTOURG. SOEDIN., MOSCOW, USSR. UNCLASSIFIED

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BELIKOV,	V.S.				nuclear	<
	Pubs ACQUISITION & DISSESSMENT OF SEVERAL REPORTS SEVERAL REP	CIA Control Number: AEC/ /TR-7247-71 Distribution:	Country: UNDH Data of Decument: 9 August 1971 Classification: UNCIASSIFIED	This document is considered portinent to your interests. Title: The Affact of Fusion Reactions on the Operation of Themselves Devices, ASC-TR-7547 Author: V.C.Belikov Prepared by: AEC	CENTRAL INTELLIGENCE SHRVICE CHIDAL REFERENCE SHRVICE Date: 7 SEP 1371 Hotte of Evecipt of Intelligence Francest The document of the below was received by Acquisition and Dissemination Marieton, CFD, in a single copy. This copy will be available on request to the: December France France (Boom 1851, Est. 7177) and the copy will be available on request to the: December France (Boom 1851, Est. 7177) and the copy will be available on request to the copy will be available on request t	FOR OFFICIAL

USSR

UDC 621.762.2:669.3

BONDARENKO, A. V., and BELIKOV V. V.

"Regulation of Metal Concentration in a Solution During Powder Electrocrystallization"

Tr. Novocherk. politekhn. in-ta (Works of the Novocherkassk Polytechnical Institute), 1970, 208, pp 77-80 (from RZh-Metallurgiya, No 11, Nov 70, Abstract No 11G333)

Translation: A flow chart is worked out for the regulation of Cu concentration in sulfuric acid electrolyte during electrolytic deposition of Cu powder. The presence of the range of allowable concentrations during production of powder and the static nature of the object (electrolyzer) allows utilization of a proportional regulator, which redistribures current between the soluble and insoluble arodes. The setup flow chart ensures a reliable reaction of the required direction onto input signals. 2 ill.

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172 O21 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--SEPARATION OF POWELLITE MOLYBDENUM FROM ISOMORPHOUS MOLYBOENUM
CONTAINED IN SCHEELITE -U-

AUTHOR--BELIKOV, V.V.

COUNTRY OF INFO--USSR

有实验的证据

SOURCE--U.S.S.R. 265,453 REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970, DATE PUBLISHED--O9MAR70

SUBJECT AREAS--MATERIALS: EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--METAL SEPARATION, MOLYDDENUM, METALLURGIC PATENT, MINERAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--3003/1068

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

CIRC ACCESSION NO--AA0130103

UNCLASSIFIED

2/2 021 UNCLASSIFIED PROCESSING DATE27NOV70 IRC ACCESSION NOAA0130103 BSTRACT/EXTRACT(U) GP-O- ABSTRACT. A SUSPENSION OF A MIXI. OF POWELLITE AND SCHEELITE IS TREATED WITH A SOLN. OF NA TUNGSTATE CONTG. 100-50 G WO SUB3-L. WITH AN ADMIXI. OF 5 G NA SUB2 CO SUB3-L. AT 200DEGREES FOR 2 HR. THE SOLN. OBTAINED IS FILTERED. FACILITY: SCIENTIFIC RESEARCH AND DESIGN INSTITUTE OF BENEFICATION AND MECHANICAL PROCESSING OF MINERALS.	PROCESSA (A) PROCESSA (A) SANCARIA (A) A PARA A PAR	(1 a 2) ar 5 mantri farrishvilsa shine fared ithuni na maturi 2 avisana kuma kuma 2 mata na ankasi na ma 1 mata ar 2 a ankana kana ar 2 a a a ankasi ankasi na mat	
POWELLITE AND SCHEELITE IS TREATED WITH A SOLN. OF NA TUNGSTATE CONTG. 100-50 G WO SUB3-L. WITH AN ADMIXT. OF 5 G NA SUB2 CO SUB3-L. AT 200DEGREES FOR 2 HR. THE SOLN. OBTAINED IS FILTERED. FACILITY: SCIENTIFIC RESEARCH AND DESIGN INSTITUTE OF BENEFICATION AND MECHANICAL	IRC ACCESSION NOAA0130103		
PROCESSING OF MINERALS.	PUWELLITE AND SCHEELITE IS 1 100-50 G WO SUB3-L. WITH AN 200DEGREES FOR 2 HR. THE SC	TREATED WITH A SOLN. ADMIXT. OF 5 G NA SU OLN. OBTAINED IS FILT	OF NA TUNGSTATE CONTG. B2 CO SUB3-L. AT
	PROCESSING OF MINERALS.		
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Acc. Nr: AP0044690

Ref. Code: UR 0463

PRIMARY SOURCE:

Molekulyarnaya Biologiya, 1970, Vol 4, Nr 1,

рр 30-36

THE INTERACTION OF TRANSFER RNA WITH ACETALS OF 4-(N-2-CHLOROETHYL-N-METHYLAMINO)-BENZALDEHYDES—DERIVATIVES OF URIDINE AND URIDINE-5'-METHYLPHOSPHATE

Relikova, A. M.; Vakhrusheva, T. Ye.; Vlasov, V. V.; ineva, N. I.; Zarytova, V. F.; Knorre, D. G.; Teplova, N. M.

Institute of Organic Chemistry, Siberian Branch of the Academy of Sciences, USSR, Novosibirsk

It has been shown that the acetals of 4-(N-2-chloroethyl-N-methylamino)-benzaldehyde (RCI) — derivatives of uridine (URCI) and uridine-5'-methylphosphate (mepURCI) do alkylate tRNA. The efficiencies of the reagents are determined as a ratio of the velocity of tRNA modification to the velocity of all by-processes. The efficiencies of URCI and

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AP0044690

RCI are of the same order of magnitude and two orders greater, respectively, as compared with that of mepURCI. In the presence of tris the efficiency of URCI decreases significantly and that of mepURCI is altered only slightly. The efficiency of URCI decreases in the presence of mepU due to the interaction of an intermediate cation with primary phosphates of mepU. It suggests that the efficiency of mepURCI is low due to the presence of primary phosphate in its molecule. The quantitative analysis of the data obtained makes it possible to conclude that the interaction of mepUR+ with phosphate is an intramolecular process.

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200320010-1"

L/2 020 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--ELASTIC CONSTAITS OF DIPHENYL -U-

AUTHOR-(03)-KRUPNYY, A.I., ALEKSANDROV, K.S., BELIKOVA, G.S.

COUNTRY OF INFO--USSR

SOURCE-KRISTALLOGRAFIYA (USSR), VOL. 15, NO. 3, P. 589-90 (MAY 1970)

DATE PUBLISHED --- MAY 70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ULTRASONIC VELOCITY, ELASTICITY, POLYNUCLEAR HYDROCARBON, BENZENE DERIVATIVE

CONTROL MARKING--NO RESTRICTIONS

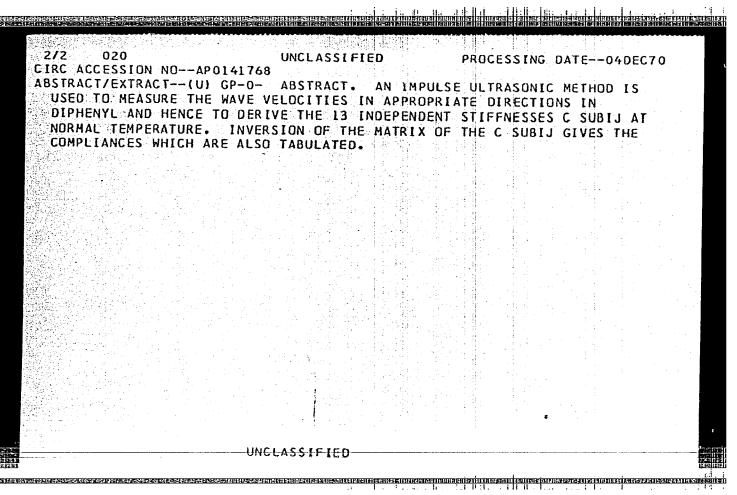
DOCUMENT CLASS--UNCLASSIFIED PROXY FICHE NO---FD70/605029/F04 STEP NO---UR/0070/70/015/003/0589/0590

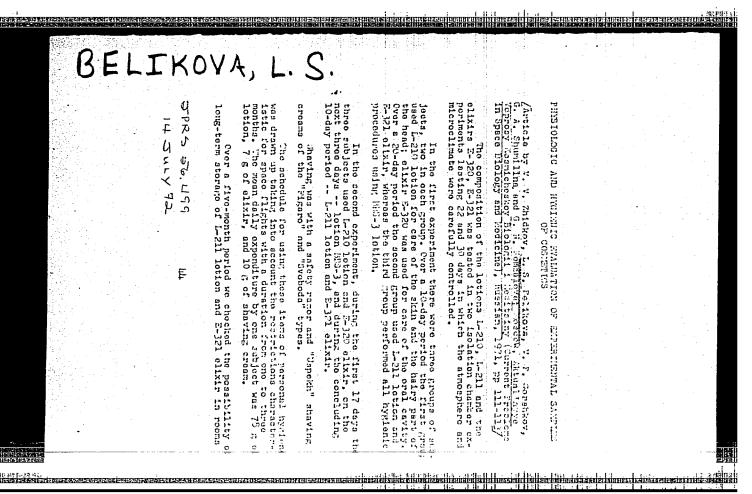
CIRC ACCESSION NO--APO141768

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USSR

UDC 8.74

BELIKOVA, M. A., LYAPUNOV, A. A.

"Concerning Cybernetic Problems of Biology"

Novosibirsk, O nekotorykh vopr. kodir. i peredachi inform. v upr. sistemakh zhivoy prirody--sbornik (On Some Problems of Coding and Transmission of Information in the Control Systems of Animate Nature--collection of works), 1971, pp 3-98 (from RZh-Matematika, No 1, Jan 73, abstract No 1V873 by L. Savchenko)

Translation: The paper deals with the cybernetic aspects of theoretical biology involving the study of control processes in living systems.

Based on the assumption that life is a state of matter distinguished by high stability with regard to external disturbances, the authors note the peculiarities of the structure and functioning of control systems in animate nature. Cybernetic problems are formulated on the level of the biosphere, communities, populations, the organism, and the cell. On the level of the biosphere — the layer adjacent to the earth's surface where all life takes place — the area of cybernetics consists in determining the basic cycles of matter and flows of energy and in discovering the controlling mechanisms of living organisms.

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BELIKOVA, M. A., LYAPUNOV, A. A., O nekotorykh vopr. kodir. i peredachi inform. v upr. sistemakh zhivoy prirody, 1971, pp 3-98

In studying communities, an important part must be played by the construction of mathematical models of the communities, models of the formation of the biomass on the given territory, and models of the interaction — feeding of some creatures on others, death and mineralization of the biomass, and so forth. The authors point out the inadequacy of information for constructing such models, and the necessity of a united program for organizing field stations to study communities.

With regard to problems on the level of populations -- groups of individuals occupying a certain connected territory -- among the types of mathematical models of populations the authors single out computer models which enable accounting for a much greater variety of circumstances than do analytical models.

With regard to controlling systems of the organism, the authors concentrate on problems of the various levels of the controlling system — on the highest level, the genetic system, next the nervous system, then the endocrine system, and finally local control systems (control of heart activity, respiration, etc.).

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BELIKOVA, M. A., LYAPUNOV, A. A., O nekotorykh vopr. kodir. i peredachi inform. v upr. sistemakh zhivoy prirody, 1971, pp 3-98

The work is "an attempt to summarize the cybernetic problems of biology in a first approximation".

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USSR

BELIKOVA, M. A., LYAPUNOV, A. A.

"Cybernetic Problems in Biology"

O Nekotorykh Vopr. Kodir. i Peredachi Inform. v upr. Sistemakh zhivoy Prirody [Some Problems of Coding and Transmission of Information in the Control Systems of Animate Nature -- Collection of Works], Novosibirsk, 1971, pp 3-98 (Translated from Referativnyy Zhurnal, Kibernetika, No 1, 1973, Abstract No 1 V873 by L. Savchenko).

Translation: A cybernetic problem is presented from theoretical biology, related to the study of controlled processes in living systems.

Based on the fact that life is one state of matter differing in its high stability in relationship to external perturbations, the peculiarities of the structure and functioning of control systems of living things are noted. Cybernetic problems are formulated at the level of the biosphere, societies, populations, organisms and cells. At the level of the biosphere -- the layer adjacent to the surface of the earth in which all life occurs -- the cybernetic problem consists in determining the basic cycles of matter and flows of energy and determination of the control functions of living organisms.

In the study of properties, an important role must be played by the

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BELIKOVA, M. A., LYAPUNOV, A. A., O Nekotorykh Vopr. Kodir. i Peredachi Inform. v upr. Sistemakh Zhivoy Prirody, Novosibirsk, 1971, pp 3-98.

construction of mathematical models of societies, models of the formation of the biomass over a given territory and models of interaction -- eating of certain substances by others, death and mineralization of the biomass, etc. The shortage of information for construction of such models and the necessity of a single program for organization of the work of studying substances are noted.

Studying the problem at the level of populations -- groups of individuals populating certain cohesive territories -- among types of mathematical models of populations the author selects machine models which allow consideration of much more varied combinations of situations than analytic models.

In studying control systems of an organism, the author distinguishes the problems at various levels of the control system -- the higher level, genetic system, then the nervous system, then the endocrine system and, finally, the local control system (control of cardiac activity, respiration, etc.).

The work is an "attempt to give a summary of the cybernetic problems of biology in the first approximation."

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200320010-1"

UDC: 8.74

BELIKOVA, M. A., LYAPUNOV, A. A., STAROVOYTOVA, E. P.

"Systems Approach to Mathematical Modeling of the Endocrine System and the Circulatory System"

V sb. Probl. kibernetiki (Problems of Cybernetics—collection of works), vyp. 25, Moscow, "Nauka", 1972, pp 205-215 (from RZh-Kibernetika, No 6, Jun 72, Abstract No 6V589)

Translation: The paper presents a certain summing up of factual material and outlines mathematical models of the pyroidal and insular subsystems of the endocrine system. An approach to distribution of the blood in the organism and transformation of the blood composition in various organs is described. It is characteristic of these processes that they evolve on two levels. The upper level is the distribution of blood among the various organs, and the lower level is transformation of the blood composition in these organs.

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1/2 023 UNCLASSIFIED PROCESSING DATE--300CT70
TITLE--HEAVY PYRIDINE DASES AS CORROSION RETARDING AGENTS -U-

AUTHGR-(02)-FALKOVSKAYA, L.M., BELIKOVA, M.S.

CCUNTRY OF INFO--USSR

SOURCE—KIEV, TEKHNOLOGIYA I ORGANIZATSIYA PROIZVODSTVA, NO 1, 1970, PP

DATE PUBLISHED----70

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

TOPIC TAGS--CCKE, LCW CARBON STEEL, STEEL CORROSION, PYRIDINE, CORROSION INHIBITOR

CENTROL MAKKING--NO RESTRICTIONS

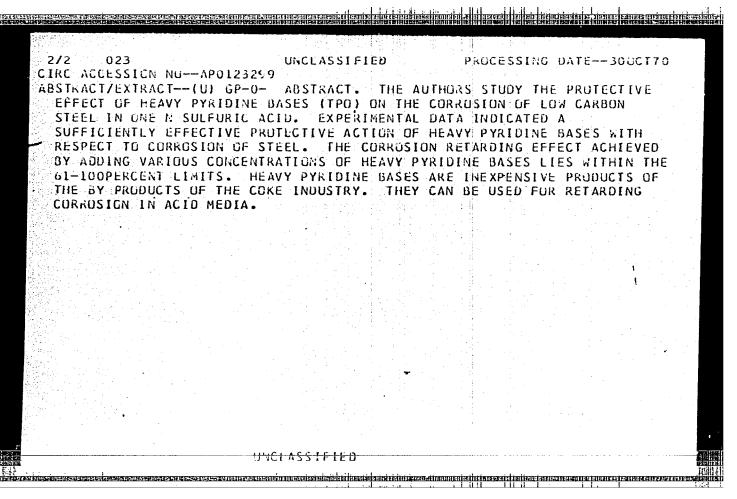
DUCUMENT CLASS--UNCLASSIFIED PROXY RELL/FPAME--1999/1341

STEP NU--UR/0418/70/000/UC1/0075/0077

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CIRC ACCESSION NO--APO123299

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1/2 038 UNCLASSIFIED PROCESSING DATE--04DEC70
FITLE--ALLOYS FOR HARD FACING PARTS OF EARTH MOVING MACHINES -U-

AUTHOR-(03)-BELIKOVA, N.A., GRINBERG, N.A., PRUZHANSKIY, L.YU.

COUNTRY OF INFO--USSR

SOURCE-METALLOVEDENIE I TERM. OBRABOT. METALLOV, 1970, (3), 37-38

DATE PUBLISHED-----70

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

TOPIC TAGS--HARD ALLDY, IRON ALLDY, CHROMIUM NICKEL ALLOY, NICKEL CHROMIUM ALLOY, WEAR RESISTANCE, EARTH HANDLING EQUIPMENT, BULLDOZER, BORON INTENSIFIED STEEL, ALLOY STEEL, IMPACT STRENGTH, NICKEL CONTAINING ALLOY, WELD FACING, METAL SURFACING, WEAR RESISTANT METAL

CONTROL MARKING--NO RESTRICTIONS

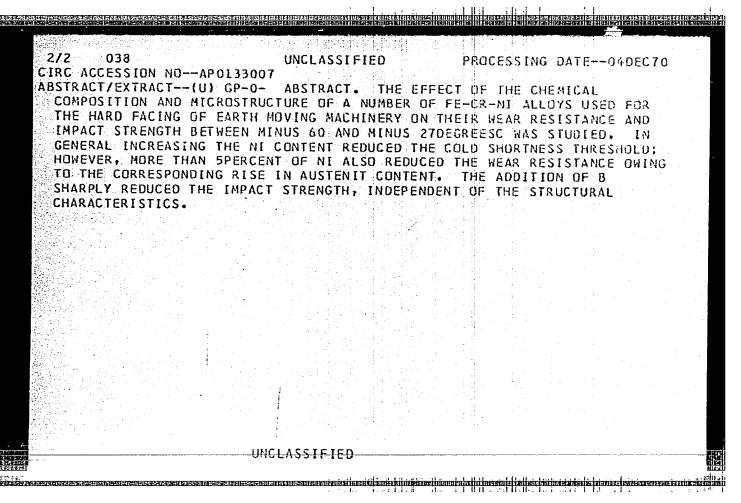
DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--3005/0918

STEP NO--UR/0129/70/000/003/0037/0038

CIRC ACCESSION NO--APO133007

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200320010-1"



1/2 011 UNCLASSIFIED PROCESSING DATE--27NOV70 TITLE--PREPARATION AND ATTEMPTED SEPARATION OF EXO AND ENOO, 1, 3, DIMETHYLBICYCLO, 2.2.1, HEPTANES -U-AUTHOR-(04)-KOVALENKO, L.I., FURMAN, D.B., BELIKOVA, N.A., LIBERHAN, A.L.

COUNTRY OF INFO--USSR

SOURCE--NEFTEKHIMIYA 1970, 10(2), 161-4

DATE PUBLISHED----70

SUBJECT AREAS -- CHEMISTRY

TOPIC TAGS--CYCLOALKANE HYDROCARBON, HEPTANE, KETONE, ALKYL RADICAL, SISOMER, THIOUREA, CHEMICAL SEPARATION, MOLECULAR STRUCTURE

CONTROL MARKING--NO RESTRICTIONS

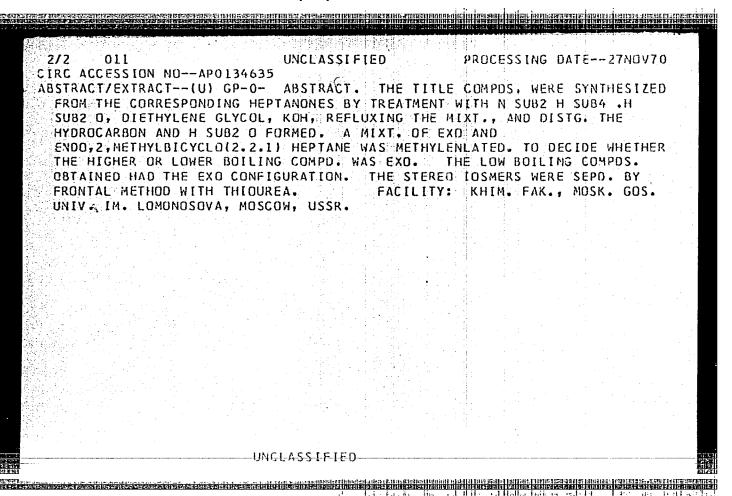
DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--3006/0906

STEP NO--UR/0204/70/010/002/0161/0164

CIRC ACCESSION NO--APO134635

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UDC 621.181.7.021.001.5: :539.4.014.13

MINASARYAN, A. A., Candidate of Technical Sciences, and BELIKOVA, R. V., Engineer

"Residual Stresses in Gasproof Panels"

Leningrad, Energomashinostroyeniye, No 12, Dec 72, pp 33-35

Abstract: The residual stresses in welded eight-pipe gasproof panels from finned pipes and in four-pipe gasproof panels welded according to the schema pipe-strip spacer were tensometrically investigated after welding and after thermal treatment in order to determine the expediency of thermal treatment. The distribution of residual stresses on surfaces of 12Khlklf steel panels is discussed by reference to diagrams. A comparison of stress distribution curves after thermal treatment and welding of eight-pipe panels from finned pipes shows that the residual stresses increased after termal treatment but the uniformity of their distributions did not improve. A high cooling rate of the panels after tempering is inadmissible. The cooling with the furnace to 450°C and following cooling in air may cause the formation of

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MINASARYAN, A. A. and BELIKOVA, R. V., Energomashinostroyeniye, No 12, Dec 72, pp 33-35

high residual stresses of thermal origin which, in addition to residual stresses after holding at temper temperature, will be even higher than the initial welding stresses. Three figures, two tables, nine bibliographic references.

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BELIKOVA, T. P., SAVCHENKO, A. N., SVIRIDENKOV, E. A.

"Luminescence Kinetics of ZnS-Cu during a Pulse of Two-Photon Excitation"

Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya (News of the Academy of Sciences USSR, Physics Series), Vol 35, No 7, 1971 pp 1454-1457

Abstract: A ruby laser is used to excite ZnS-Cu crystals. Two-photon absorption ionizes the copper centers. Electrons are promoted from these centers into the conduction zone. Free electrons in the conduction zone are captured by traps, are liberated by heat, and radiate light when they recombine with ionized centers. The luminescence intensity, which should be related as the fourth power to the excitation intensity in terms of a bimolecular model, is found experimentally to be more complex. It is suggested that one-photon absorption of red light should be taken into account because 1) this type of absorption can neutralize the copper centers with electrons from the valence zone, and 2) one-photon

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BELIKOVA, T. P. et al, <u>Izvestiya Akademii Nauk SSSR, Seriya Fizi-cheskaya</u>, Vol 35, No 7, 1971, pp 1454-1457

release of electrons from traps near the bottom of the conduction zone can result in luminescence.

One-photon processes were observed during two-photon excitation. Calculations of kinetic equations, taking these processes into account, agree well with experiment. Analysis of the one-photon processes made it possible to estimate the cross section of one-photon transitions of electrons from the valence zone to the ionized copper centers (1.6 × 10-17cm²). Theoretical and calculated curves for the intensity of luminescence as a function of the intensity of excitation are in good agreement.

The authors thank M. D. Galanin for encouragement and L. A. Pakhomycheva for assistance in the work. Orig. art. has 4 figs. and 3 refs.

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1/2 053 UNCLASSIFIED PROCESSING DATE--230CT70
TITLE--LIGHT ABSORPTION BY RUBY IN THE PRE BREAKDOWN STATE -U-

AUTHOR-(03) BELIKOVA, T.P., SAVCHENKO, A.N., SVIRIDENKOV, E.A.

COUNTRY OF INFO--USSR

B

SOURCE--ZHURNAL EKSPERIMENTAL NOY I TEORETICHESKOY FIZIKI, 1970, VOL 58, NR 6, PP 1899-1903
DATE PUBLISHED----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--LIGHT ABSORPTION, RUBY LASER, RUBY, SHOCK WAVE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1997/1719

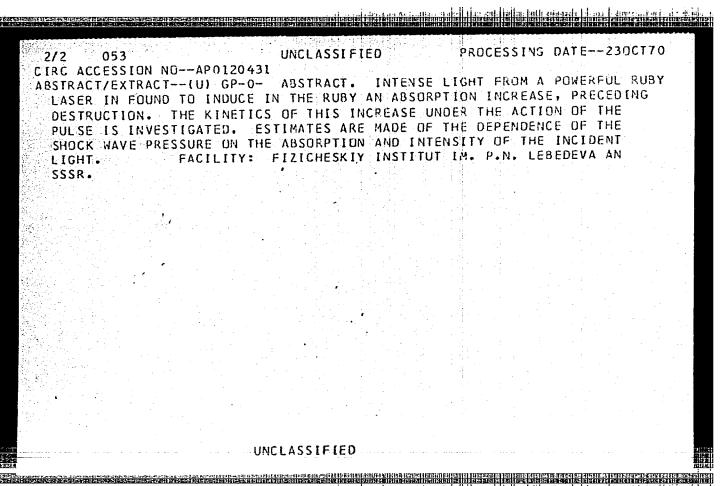
STEP NO--UR/0056/70/058/006/1899/1903

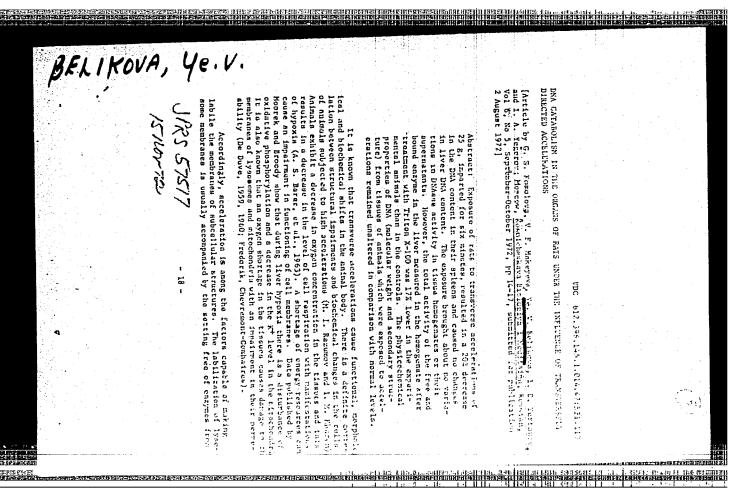
CIRC ACCESSION NO--APO120431

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1/2 020 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--EPIDEMIOLOGY OF INTESTINAL COLI INFECTION IN YOUNG CHILDREN -U-

AUTHOR-(05)-BELIKOVAALDAKOVA, V.D., TABOLIN, V.A., BYCHENKO, V.D., DESHCHEKINA, M.F., KARASEVA, K.G.
COUNTRY OF INFO--USSR

SOURCE--ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII I IMMUNOBIOLOGII, 1970, NR 6, PP 9-14
DATE PUBLISHED----70

SUBJECT AREAS-BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PEDIATRICS, INFECTIOUS DISEASE, DIGESTIVE SYSTEM DISEASE, SMALL INTESTINE, BACTERIAL DISEASE, EPIDEMIOLOGY

CONTROL MARKING--NO RESTRICTIONS

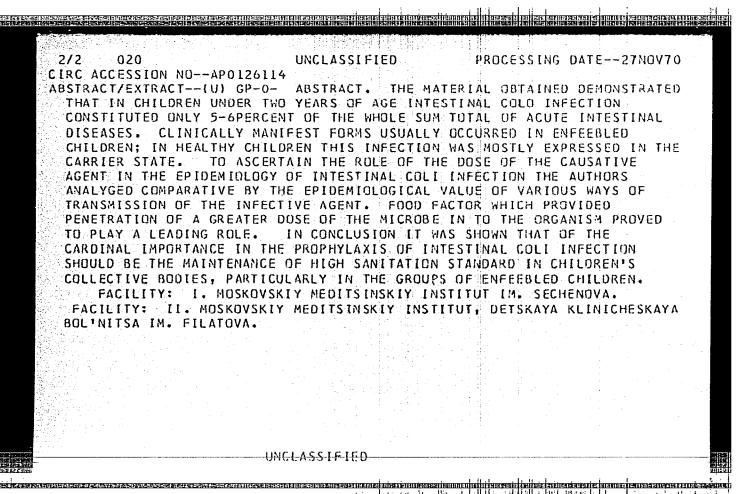
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STEP NO--UR/0016/70/000/006/0009/0014

CIRC ACCESSION NO--APOL26114

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200320010-1"



USSR

UDC: 621.762.5(088.8)

MUKHA, I. M., DOVBISHCHUK, M. A., KAL'NENKO, B. I., BELLLOVETS. A. D.

"Method of Sintering of Metal Ceramic Products"

USSR Author's Certificate Number 353793, Filed 10/02/70, Published 30/10/72 (Translated from Referativnyy Zhurnal Metallurgiya, No 8, 1973, Abstract No 8G403).

Translation: A method is suggested for sintering metal ceramic products, including heating in a controlled gas atmosphere. In order to reduce the sintering cycle and increase product quality, they are heated by a glowing gas discharge.

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200320010-1"

USSR

MUKHA, I. M., DOVBISHCHUK, M. N., BELILOVETS, A. D., VYSHNEVSKIY, V. S., Kiev

"Strength of Welded Joints of VK Hard Alloys as a Function of the Thickness of the Interstitial Layer and the Technological Process of Applying It"

Kishinev, Elektronnaya obrabotka materialov, No 5 (47), 1972, pp 26-30

Abstract: A study was made of the technological procedures for applying Ni and Co interstitial layers for diffusion welding of VK type hard alloys in glow discharge and and also the effect of the thickness of the interstitial layers on the strength of the welded joint. Interstitial layers made of powdered Ni and Co can be used for surface ground parts made of hard alloys. Interstitial layers in the form of thin films obtained by thermal evaporation in a vacuum can be used for welding parts of complex surface curvature. The optimal film thickness is 4,000 to 8,000 Å. The variation in strength of the welded joints of VK6-VK16 hard alloys is plotted as a function of the thickness of the Co and Ni interstitial layers from 2,000 to 40,000 Å.

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UDC 615.472:616.12-008.1-78

BELILOVSKIY, M. A., BERGER, I. I., FROLKIN, O. A., STETSIN, A. A., TROFIMOVA, G. N., and GUSMAN, V. Ye., All Union Scientific Research Institute for Medical Instrumentation, Moscow

"The Biopulse-2, an Apparatus for Auxiliary Blood Circulation"

Moscow, Meditsinskaya Tekhnika, No 4, 1971, pp 14-19

Abstract: The Biopulse-2 is an electromagnetic pump with bioelectric control designed to provide auxiliary blood circulation in different kinds of cardiac insufficiency in order to relieve the heart and increase the venous blood flow. The apparatus consists of a cardiac biopotential amplifier, control unit, power amplifier, motor with a pump, and power supply. The biopotential amplifier collects and processes biological information. The control unit regulates the pulsating current. The power amplifier boosts the pulsating current of low-power electrical energy while the electromagnetic motor with a diaphragm pump head transforms the electrical energy into mechanical energy to move the blood.

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1/2 010 UNCLASSIFIED PROCESSING DATE--160CT70
TITLE--INDICATORS USABLE FOR MERCURIMETRIC TITRATION -U-

AUTHOR--BELILOVSKIY, YA.YE.

COUNTRY OF INFO--USSR

SOURCE--FARMATSIYA (MOSCOW) 1970, 19(1), 80-5

DATE PUBLISHED ---- 70

SUBJECT AREAS--CHEMISTRY, BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--CHEMICAL INDICATOR, TITRATION, MERCURY, NITRATE, SODIUM CHLORIDE, POTASSIUM CHLORIDE, CALCIUM CHLORIDE

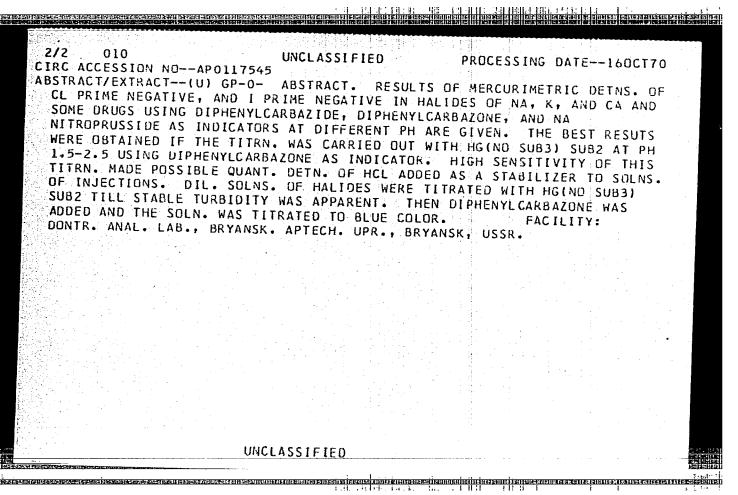
CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1996/0293

STEP NO--UR/0466/70/019/001/0080/0085

CIRC ACCESSION NO--APO117545

UNCLASSIFIED



1/2 031

UNCLASSIFIED

PROCESSING DATE--020CT70 TITLE--CURRESION RESISTANCE OF PURE AUSTENITIC STEEL OKHITNI6M3T -U-

AUTHOR-(04)-BELINKIY, A.L., KRISTAL, M.M., ZHELTOVA, G.A., ADUGINA, N.A.

COUNTRY OF INFO--USSR

SOURCE--ZASHCH. METAL. 1970, 6(1), 37-9

DATE PUEL ISHED ---- 70

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

TOPIC TAGS--CURROSION RESISTANT STAINLESS STEEL, AUSTENITIC STEEL, ALLOY DESIGNATION, INTERGRANULAR CORROSION, CORROSION CRACKING, WELDING ELECTRODE, WELD JOINT, NITRIC ACID, UREA, OXIDATION, STEEL QUENCHING/(U)OKH23N28M3D3T STAINLESS STEEL, (U)OOOKH17N14M2 STAINLESS STEEL, (U)KH17N13M3T STAINLESS STEEL, (U)OKH17N16M3T STAINLESS STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PRUXY REFLIFRAME--1990/1314

STEP NO--UR/0365/70/006/001/0037/0039

CIRC ACCESSION NO--APO109398

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and continued the contract of the contract of

UNCLASSIFIED PROCESSING DATE--020CT70 031 CIRC ACCESSION NO--AP0109398 ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE PURE AUSTENITIC STEEL DKHITNI6M3T CONTG. SMALLER THAN 0.08PERCENTC AND ITS WELDED JOINTS WERE MORE RESISTANT IN SOME CORROSIVE MEDIA (UREA, HND SUB3, ETC.) THAN STEEL KH17N13M3T TO GENERAL POINT, CREVICE, AND STRUCTURALLY SELECTIVE IN HIGHLY OXIDIZING MEDIA, STEEL OKHITNIGMAT IS SUBJECT TO INTERCRYST. CORROSION; THEREFORE, EQUIPMENT MADE OF THIS STEEL FOR USE IN THESE MEDIA SHOULD BE QUENCHED AT 1100DEGREES AFTER MANUF. CORROSION RESISTANCE OF STEEL OKH17N16M3T WELDED JOINTS CAN BE OBTAINED BY USING, IN OXIDIZING MEDIA, THE DZL-20 AND KHL-1 ELECTRODE IN THE CASE OF ELEC. ARC WELDING, WHILE IN THE CASE OF AR ARC WELDING USE IS MADE OF THE WELDING WIRE OOOKH17N14M2 OR OKH23N28M3D3T; IN REDUCING MEDIA KHL-1 ELECTRODE OR THE WIRE OKH23N28M3D3T ARE USED. WELDED JOINTS IMPROVES THEIR RESISTANCE TO CORROSION CRACKING. VSES. NAUCH.-ISSLED. INST. KHIM, MASHINDSTR., MOSCOW, USSR. FACILITY:

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200320010-1"

Heat Treatment

USSR

UDC 621.7851620.192.461669.14.018.8

ZHELTOVA, G. A., BELINKIY, A. L., KRISTAL', M. M., ADUGINA, N. A., All-Union Scientific Research and Design Institute of Chemical Machine Building

"Effect of Heat Treatment on the Tendency of 000Kh16N15N3 Steel to Intercrystalline Corrosion""

Moscow, Metallovedeniye i Termicheskaya Obtrabotka Metallov, No 4, Apr 73, pp 12-15

Abstract: Production of 000Kh16N15N3 steel in the form of chemical containers with 0.03% C (max) has been mastered and tested. Samples for metallographic studies and corrosion tests were quenched from 1100 and 1200°C with 30-minute soaks and repeated heating to 550-950°C every 50°C with 10 and 30-minute, and 1-, 5-, 10-, 50-, and 100-hour soaks. Nitric acid (65%) was used in the corrosion tests. It was found that heating at 550-950°C causes precipitation of carbides and chi-phase in 000Kh16N15N3 steel and precipitation of carbides and the sigma- and chi-phases in 0Kj17N16N3T steel. With increased quenching temperature the regions of carbide and intermetallide precipitations for 000Kh16N15N3 steel correspond to the long soaking times. Intercrystalline corrosion was detected only after lengthy (not less than 10 hours) thormal action for 000Kh16N15N3 steel causing precipitation of a continuous 1/2

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ZHELTOVA, G. A., et al., Metallovedeniye i Termicheskaya Obrabotka Metallov, No 4, Apr 73, pp 12-15

network of carbides and chi-phase along the austenite grain boundaries, while for steel CKh17N16N3T this form of corrosion was observed after only four hours. The intercrystalline corrosion tendency for the investigated steels develops after a short soak at 700-850°C. The tendency of OKh17N16N3T steel and its weld joints is greater than for 000Kh16N15N3 steel and knife corrosion is absent in 000Kh16N15N3 steel when tested in nitric acid and in the medium of a synthesis column and the mixer for carbamide production. Four figures, 2 tables, 5 bibliographic references.

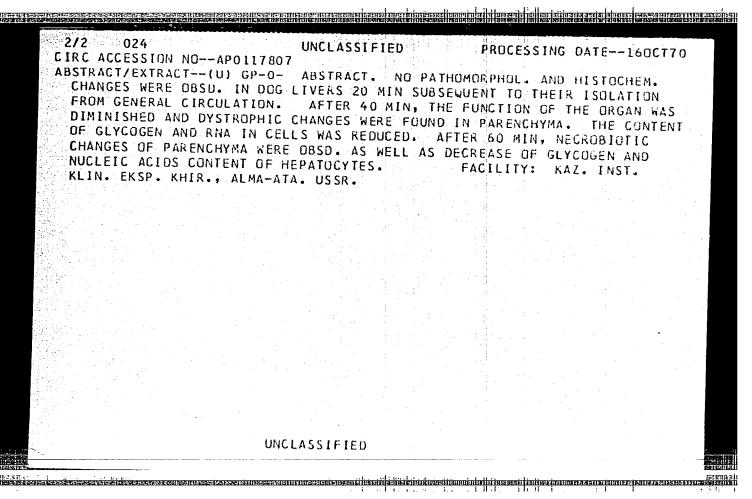
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1/2 024 TITLE--EARLY MORPHOLOGICAL CHANGES IN THE LIVER FOLLOWING ITS COMPLETE ISOLATION FROM GENERAL CIRCULATION -U-AUTHOR-(05)-BELINSKAYA, A.M., PLIKH, M.B., GONCHAROY, A.L., GORYACHEY, S.P., DOROKHUYA, L.P. COUNTRY OF INFO--USSR SOURCE--ARKH. PATOL. 1970, 32(2), 70-3 DATE PUBLISHED----70 SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES TOPIC TAGS--LIVER, BLOOD CIRCULATION, INHIBITION, HISTOCHEMISTRY, GLYCOGEN, RNA, NECROSIS CONTROL MARKING--NO RESTRICTIONS DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1996/0579 STEP NU--UR/9056/70/032/002/0070/0073 CIRC ACCESSION NO--APOIL 7807 UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200320010-1"



USSR

UDC 661.183.123

NOVIKOV, B. G., BELINSKAYA, F. A., and MATEROVA, YE. A.

"Structure and Ion Exchange Properties of Crystalline Antimonate Cation Exchanger. Exchange of Monovalent Cations"

Leningrad, Vestnik Leningradskogo Universiteta, Seriya Fizika i Khimiya, No 1, Feb 71, pp 29-35

Abstract: The article describes results of a study of the exchange of hydrogen ions for some monovalent cations on the new crystalline antimonate cation exchanger, as well as considering the structure of the ion exchanger. A structural model of the cation exchanger is shown. The cation exchange was studied under static conditions. For the characteristic of the active groups potentiometric titration of the ion exchanger was carried out with 0.1 N solutions of NaOH, KOH, LiOH, CsOH and (CH₃)4NOH against a 1 N background of

the corresponding chlorides. For a quantitative description of the exchange of monovalent cations on the cation exchanger a study was made of ion exchange equilibrium in the systems NaCl-HCl, KCl-HCl, LiCl-HCl and AgNO3-HNO3 at

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NOVIKOV, B. G., et al., Vestnik Leningradskogo Universiteta, Seriya Fizika i Khimiya, No 1, Feb 71, pp 29-35

20 and 80° C at constant 0.1 N ionic strength of solution. Selectivity coefficients were calculated on the basis of the resultant data. It was found that the relative affinity of the antimonic cation exchanger for cations decreases in the order $Ag^+ > Na^+ > H^+ > K^+ > Li^+$. Further study of the antinomic cation exchanger is promising because of its unique ion exchange properties, viz. sharply pronounced exchange selectivity in conjunction with

properties, viz. sharply pronounced exchange selectivity in conjunction with chemical stability. Possible practical applications of the cation exchanger include its use for the quantitative extraction of silver ions from mixed solutions, as well as for the separation of alkali metal ions. A subsequent article will consider the exchange of bivalent cations on the antimonate cation exchanger.

The authors thank V. N. MARKIN for useful consultation in the construction of the structural model of the cation exchanger.

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- 39 -

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200320010-1"

USSR

UDC 661.183.123

NOVIKOV, B. G., BELINSKAYA, F. A., and MATEROVA, YE. A.

"Exchange of Bivalent Cations on Crystalline Antimonate Cation Exchanger"

Leningrad, Vestnik Leningradskogo Universiteta, Seriya Fizika i Khimiya, No 1, Feb 71, pp 35-42

Abstract: The article describes results of a study of the exchange of hydrogen ions for bivalent cations on the antimonate cation exchanger in the systems $MgCl_2-HCl$, $CaCl_2-HCl$, $SrCl_2-HCl$, $BaCl_2-HCl$, $NiCl_2-HCl$ and $CdCl_2-HCl$. The ion exchange experiments were carried out under static conditions by the method of individual samples at 20 and 80° C. Selectivity coefficients were calculated on the basis of ion-exchange equilibrium data for the systems $SrCl_2-HCl$, $CaCl_2-HCl$, $CdCl_2-HCl$ and $BaCl_2-HCl$. The dependence of the selectivity coefficients on the ion composition of the cation exchanger was found, making it possible to determine some thermodynamic functions of the $M^2+\to H^+$ exchange. It was found that the ions rank as follows in their

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NOVIKOV, B. G., et al., Vestnik Leningradskogo Universiteta, Seriya Fizika i Khimiya, No 1, Feb 71, pp 35-42

affinity for the cation exchanger: $Cd^{2+} > Sr^{2+} > Ba^{2+} > Ca^{2+} > Mg^{2+}$, Ni^{2+} . It is suggested that there are at least two factors determining ion exchange selectivity: the energy of hydration of the counterions and their polarizing capacity. The preferential influence of these factors on the ion exchange process is due in turn to structural peculiarities of the antimonate cation exchanger and the chemical nature of ionogenic groups. On the basis of the sharply pronounced selectivity of exchange of bivalent ions the cation exchanger is recommended for the extraction of Cd^{2+} , Sr^{2+} and Ba^{2+} ions from acid solutions, as well as for separation of the ions Cd^{2+} (Sr^{2+} , Ba^{2+}) $-Ca^{2+}$ (Mg^{2+} , Ni^{2+}) and $Ca^{2+}-Mg^{2+}$ (Ni^{2+}).

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USSR

BELINSKAYA, L. A., BRAUN, M. P., IONKINA, Ye. M., LEBEDEV, K. P., and KHIL'CHEVSKAYA, T. V.

"Structure, Phase Composition, and Certain Properties of Cast Complex Nickel-Base Alloys With Niobium"

Metallofizika. Resp. mezhved. sb. (The Physics of Metals. Republic Interdepartmental Collection of Works), 1971, vyp. 33, pp 102-107 (from RZh-Metallurgiya, No 1, Jan 72, Abstract No 11791 by authors)

Translation of Abstract: A study was made of structural changes and certain properties of Ni-Cr-base alloys with a large Nb content (7.5-8%) when alloyed with tungsten (3%) and molybdenum (5.10%). The alloys were smelted in open induction furnaces, and specimens were made according to smelted models. Phase composition was studied after isolation of precipitates in specially selected electrolytes. The investigation of microstructure was made on as-cast specimens after heat treatment consisting in hardening from 1200° with subsequent tempering at 900° for 16 hours, Four illustrations. Three tables. Bibliography with seven titles.

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Various physical methods of investigating these media exist (optical spectroscopy, YaNR [nuclear magnetic resonance], EPR [electronic paramagnetic resonance], and others), among which ultrasonic methods occupy a definite place [reference 5]. The basic information quantities in this case are the speed c of the propagation of acoustic waves (sound waves) and their absorption α . In performing an investigation of the basic acoustic parameters in the region of ultrasonic and hypersonic frequencies [10310 ¹⁰ hertz), i.e., operating on long waves, comparable with [I - USSR - L]

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UDC 547.586 + 547.539

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"Reaction of Homophtalic Acid With Phosphorus Pentachloride"

Leningrad, Zhurnal Organicheskoy Khimii, Vol 9, No 10, Oct 73, pp 2145-2149

Abstract: Reaction of homophtalic acid with phosphorus pentachloride yields a mixture of α,α -dichlorohomophtalic acid dichloride (I), 3-chloroisocoumarin (II), and 3,3,4,4-tetrachloro-3,4-dihydroisocoumarin (III). The latter can also be obtained from 3-chloroisocoumarin. Reacting PC15 with III leads to the formation of 1,1,3,3,4,4-hexachloroisochromane. The dichloride I reacted with aniline, 4-chloroaniline and 2,4-dichloroaniline in benzene solution gives quantitative yields of respective dianilides.

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Acc. Nr: Klinicheskaya Meditsina, 1970, Vol 48, PRIMARY SOURCE: Nr / , pp 84-89 INTRAVENOUS AND INTRASPLENIC RADIOPORTOGRAPHY IN PATIENTS WITH PORTAL HYPERTENSION M. D. Patsiora, T. F. Belinskaya, Yu. A.YErshov Summary Intravenous radioportography (determination of the cardioportal time) was carried out in 78 patients with portal hypertension. The investigations have shown that intrawenous radioportography in combination with other techniques is perspective in the diagnosis of portal hypertension. However, it not always make it possible to evaluate the form of portal hypertension, inasmuch as changes of the cardioportal time mainly depend on the degree of obstruction of the portal system and the development of collateral circulation.

Intrasplenic radioportography was done in 16 patients with renal hypertension. The latter technique is perspective in the diagnosis of portal hypertension, as well as in the evaluation of features specific to collateral routs of circulation. Intrasplenic radioportography in combination with other techniques should also be utilized for the recognition of the severity of liver affection in patients suffering from portal hypertension.

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