"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

UDC: 539.3

USSR

RYABCHENKO, V. M.

"Some Problems of Substantiating and Using Large-Element Discrete Computational Schemes of Complex Momentless Shells"

Samoletostr. i tekhn. vozd. flota. Resp. mezhved. temat. nauch.-tekhn. sb. (Airplane Construction and Airfleet Engineering. Republic Interdepartmental Thematic Scientific and Technical Collection), 1972, vyp. 28, pp 66-73 (from RZh-Mekhanika, No 9, Sep 72, Abstract No 9B91)

Translation: The paper deals with problems relating to the construction of large-element discrete models of momentless reinforced shells, and to the improvement of computational precision when using such models. It is shown that reliability can be guaranteed for a finite number of internal forces of the model when special correction coefficients are introduced into the resolving equations of the model. A method of successive approximations is outlined for finding these coefficients. This procedure can also be used to find the stresses of the initial system from the known internal forces of a discrete model. Bibliography of 5 titles. Author's abstract.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

USSR

UDC 629.78.015.4

RYABCHENKO, V. M.

"One Limiting Property of Thinwall Systems of Minimum Weight and Its Utilization for Optimal Planning"

Samoletostr. i Tekhn. Vozd. Flota. Resp. Mezhved. Temat. Nauch.-Tekhn. Sb. [Aircraft Construction and Air Force Technology. Republic Interdepartmental Thematic Scientific and Technical Collection], 1971, Vol 25, pp 72-79. (Translated from Referativnyy Zhurnal Raketostroyeniye, No 1, 1972, Abstract No. 1.41.171 from the resume.)

Translation: Optimal planning of thinwall reinforced systems is studied, calculated using a discrete matrix method of forces according to a momentless calculation plan which is subjected to discretization. Using the general properties of the problem of linear programming, it is demonstrated that a thinwall system of minimum weight with a discrete calculation plan, analysis of only one case of loading and no design limitations is statically defined. The

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RYABCHENKO, V. M., Samoletostr. i Tekhn. Vozd. Flota. Resp. Mezhved. Temat. Nauch.-Tekhn. Sb. 1971, Vol 25, pp 72-79

results of certain theoretical studies and numerical experiments performed using a program for optimization of a short-span wing model allows the properties proven to be used for selection of a good approximation of the numerical solution of the problem of determining the optimal parameters. The results of numerical experiments are presented in a table and analyzed in detail. 1 fig, 10 biblio refs.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

UNCLASSIFIED PROCESSING DATE--04DEC70

1/2 027

TITLE--TEST BED EXAMINATION OF CHROMIUM NICKEL STEEL KH18N10T FOR STRESS CORROSION UNDER CONDITIONS OF HEAT FLOW -U-

AUTHOR-(02)-GERASIMOV, V.I., RYABCHENKOV, A.V.

COUNTRY OF INFO--USSR

SOURCE--FIZ.-KHIM. MEKHAN. MAT., 1970, 6,(2), 38-42

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, METHODS AND EQUIPMENT

TOPIC TAGS--TEST METHOD, CORROSION CRACKING, CHROMIUM NICKEL STEEL, OXYGEN, THERMAL EFFECT, METAL PIPE/(U)KH18N10T CHROMIUM NICKEL STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/0217 STEP NO--UR/0369/70/006/002/0038/0042

CIRC ACCESSION NO--AP0129473

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5"

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UNCLASSIFIED PROCESSING DATE--04DEC70

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CIRC ACCESSION NO--AP0129473

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A TEST BED METHOD OF STUDYING TUBULAR CR-NI STEEL PARTS AND ESTIMATING THEIR RESISTANCE TO STRESS CORROSION AND CORROSION CRACKING IS PROPOSED. THE MEDIUM MAY BE EITHER WATER (WITH OR WITHOUT ADDITIVES) OR STEAM AT HIGH TEMP. AND PRESSURES, CONTG. SALT IONS AND O, AND INVOLVING AN INTENSE FLOW OF HEAT THROUGH THE WALLS OF THE TUBES. UNDER SUCH CONDITIONS THERE IS A GENERAL TENDENCY FOR CORROSION CRACKING AND PITTING TO OCCUR IN THIS MATERIAL.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

UNCLASSIFIED

1/2 021 PROCESSING DATE--13NOV70

TITLE--PROTECTION AGAINST UNDESIRABLE COATINGS IN NICKEL PLATING -U-

AUTHOR-(03)-RYABCHENKOV, A.V., VELEMITSINA, V.I., ALEKSEEVA, L.N.

COUNTRY OF INFO--USSR

SOURCE--GER. OFFEN. 1,802,348

DATE PUBLISHED--23APR70

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

TOPIC TAGS--NICKEL PLATING, METAL COATING, CHEMICAL PATENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/1984 STEP NO--GY/0000/70/000/000/0000/0000

CIRC ACCESSION NO--AA0115783

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

2/2 021 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AA0115783

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PROTECTION AGAINST UNDESIRABLE COATINGS WAS ACHIEVED BY ANODIC PASSIVATION OF THE OBJECT WHICH SHOULD BE NI PLATED. DURING THE ANODIC PASSIVATION THE CATHODE WAS IMMERSED INTO AN ALK. SOLN. LOCATED IN A POROUS CERAMIC BEAKER FOR SEPN. FROM THE ELECTROLYTE. FACILITY: CENTRAL SCIENTIFIC RESEARCH INSTITUTE OF TECHNOLOGY AND MACHINE BUILDING.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

USSR UDC 620.194

~~RYABCHENKOV,~~ A. V., and GERASIMOV, V. I., Central Scientific Research Institute of Technology and Machine Building

"Effects of Nitrogen, Phosphorus, and Sulfur on the Resistance of Chromium-Nickel Austenitic Steels to Corrosion Cracking"

Moscow, Zashchita Metallov, Vol 6, No 2, Mar-Apr 70, pp 134-144

Abstract: The effects of nitrogen, phosphorus, and sulfur on the resistance of Kh20N35B-type steels under stress-corrosion conditions in concentrated chloride solutions in water of high parameters are discussed. Tests have shown that elements of the V group -- nitrogen and particularly phosphorus -- exert a negative effect on the resistance of chromium-nickel austenitic steels under stress-corrosion conditions in concentrated chloride solutions in water of high parameters. Kh20N35B-type steels are not prone to corrosion cracking if phosphorus and nitrogen do not exceed 0.01 and 0.030%, respectively; their total content in this case should not exceed 0.035%. The effects of these impurities are related to ordering, which leads to changes in the dislocation structure and the development of electrochemical heterogeneity which promotes the occurrence and development of corrosion cracking nuclei. At nickel concentrations (in the

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RYABCHENKOV, A. V., and GERASIMOV, V. I., Zashchita Metallov, Vol 6, No 2, Mar-Apr 70, pp 134-144

austenitic steels) below 30%, the steels tend to develop corrosion cracking in chloride solutions even at lower nitrogen and phosphorus contents. Up to 0.087%, sulfur does not increase the tendency of Kh20N35 steels to corrosion cracking in concentrated chloride solutions in high-parameter water containing chlorine ions and oxygen.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

USSR

UDC:621.039.325

RAUZEN, F. V., ZAKHAROV, YE. I., RYABCHIKOV, B. YE, KONORCHENKO, V. D. and ODINTSOVA, YE. G.

"Use of Sorption Pulsation Columns for Cleaning of Liquid Radioactive Wastes"

Moscow, Atomnaya Energiya, Vol 36, No 1, Jan 74, pp 27-31

Abstract: This article studies the preliminary results of testing of pulsating sorption columns with a distributor fitting for cleaning of liquid radioactive wastes arriving at the Moscow cleaning station. The design of continuous-operation pulsating columns is described. It is shown that these columns can be used to produce the same purification factors as sorption filters. The productivity of the columns, however, is 4-5 times greater, and the resin charge used is as many times less than the corresponding figures for filters. It was found that the minimum volume of equipment is achieved by using columns with great retention of resin in the apparatus.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

UDC 669.168:669.162.2

USSR

RYABCHIKOV, I. V., GARYAYEV, S. G., PODOL'SKIY, T. V., ALEKSANDROV, A. P., and ZAKHARCHENKO, E. V.

"Silicothermal Method for Obtaining Ferrosilicocalcium and Magnesium Alloys Based on It"

Moscow, Stal', No 2, Feb 71, pp 134-136

Abstract: This paper describes experiments performed in making alloys of ferrosilicocalcium and magnesium by the silicothermal method, which has the advantages of permitting the mechanization and automation of alloying processes in closed furnaces. The experiments were performed in an electric furnace of 1200 kVA power and a closed furnace of the SKB-6063 type at voltages of 60-85 and 89 volts respectively, and a current of 6.5 and 13 kA. The furnace charge was 65-75% ferrosilicates, lime, calcined dolomite, baryte ore, silicoaluminum production slag, and fluorspar. The experimental alloys showed that the concentration of magnesium and calcium in the melt depends primarily on the proportion of the charge components, the order in which they are loaded into the furnace, the electrical specifications, and the amount of electrical energy consumed per ton of charge.

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RYABCHIKOV, I. V., et al, Stal', No 2, Feb 71, pp 134-136

A diagram showing a device for introducing the magnesium into the molten metal is given.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

1/2 024 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--THERMODYNAMIC ANALYSIS OF SOME METAL OXYGEN CARBON SYSTEMS -U-

AUTHOR-(03)-RYABCHIKOV, I.V., KHRUSHCHEV, M.S., PAPIN, G.G.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., CHERN. MET. 1970, 13(2), 20-3

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--ZIRCONIUM COMPOUND, THORIUM COMPOUND, THERMODYNAMIC ANALYSIS, OXYGEN, CARBON

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/1032 STEP NO--UR/0148/70/013/002/0020/0023

CIRC ACCESSION NO--AT0121628

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

2/2 024 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AT0121628

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A METHOD FOR THE THERMODYNAMIC ANAL. OF A 3 COMPONENT SYSTEM M,O,C WAS DEVELOPED AND APPLIED TO SYSTEMS IN WHICH M EQUALS ZR AND TH. THE REGIONS AT WHICH CONDENSED PHASES EXIST AT DIFFERENT TEMP. AND GAS COMPN. WERE DETD. FROM DIAGRAMS LOG P SUBMO-P SUBCO AND LOG (P SUBMO PLUS P SUBCO) VS. 1-T. FACILITY: SIB. MET. INST., NOVOKUZNETSK, USSR.

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RYABCHIKOV, L. N.

Selected Translations of Metallurgy, JPRS 55671, 30 March 1973 – Fizika Metallov i Metallovedeniye Vol. 34, #6, 1972

UDC 539.374

FEATURES OF THE STRUCTURE AND PLASTIC DEFORMATION OF ZIRCONIUM SATURATED BY NITROGEN AND OXYGEN

V. M. Azhazha, P. V. V'yugov, L. N. Ryabchikov, and V. A. Finkel', Physics Engineering Institute of the Ukrainian SSR Academy of Sciences.

submitted to press 1 February 1972

pages 1298-1300

The purpose of this work is the study of the effect of the saturation with nitrogen and oxygen at low pressure on the mechanical properties, features of plastic deformation, and structure of zirconium iodide and a purer metal obtained by the zone smelting method [1].

Specimens with the given content of gaseous impurities were prepared by saturation of the zirconium bands with a thickness of 0.3 millimeter, heated by alternating current in a vacuum chamber, as a result of the feeding of nitrogen or oxygen through a measuring valve. The temperature of the specimens was 1200°Centigrade, the saturation time 2 minutes, the pressure of the gases 10^{-5}--10^{-4} torr. The quantity of gas absorbed was calculated according to data concerning the rate of absorption [2] and was controlled by chemical analyses. After saturation by gases, the zirconium ribbons were annealed for the purpose of homogenization for 8 minutes, at the same temperature in a vacuum of 1×10^{-6} torr.

The mechanical properties were studied at room temperature on specimens with dimensions of the working part of 20 x 50 x 0.3 millimeter at a constant rate of tension 1.6×10^{-3} seconds^{-1}. The load was measured by the DF-0.2 specimen dynamometer.

For the study of the crystal structure of zirconium, a methodology developed earlier for obtaining specimens with a temperature gradient was used [3]: a shaped specimen was heated by alternating electric current, and in this case a temperature difference from 700 to 1400°C was created

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in it. Because of the different rate of absorption, the concentration of nitrogen or oxygen varied along the length of the specimen; aside from this, the section of the specimen found at a temperature above 860°C underwent a β -- α phase transformation (OTsK--GPU), while the other part was in the α-phase all the time.

X-ray photographs of the sections of the specimen corresponding to various saturation temperatures were taken in a Debye chamber with a diameter of 114 millimeters in CuKα -radiation. For precision measurement of the parameters of the lattices, the zirconium was subjected to x-ray photography according to the reverse photography method, and reflections from planes (211), (114) and (213) of the GPU lattice were fixed in the CuKα -radiation.

On x-ray photographs of zirconium saturated with nitrogen to a concentration of 0.07% with respect to mass, only α-Zr lines were obrerved; at a high content of nitrogen on the x-ray photographs of specimens cooled from a temperature higher than 900°C, a splitting of certain diffraction lines occurred. The nature of the splitting of the hexagonal reflexes indicates the fact that in these conditions, instead of an ordinary β -- α transformation (OTsK--GPU) a β -- α' transformation (OTsK--Rhomboid) occurs.

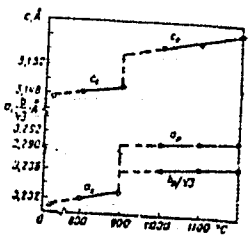

Figure 1. Parameters of the crystal lattice of zirconium saturated with nitrogen at a pressure of 6 x 10⁻⁴ torr as a function of the annealing temperature.

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1/2 027 UNCLASSIFIED

TITLE--MILITARY CYBERNETICS -U- PROCESSING DATE--11SEP70

AUTHOR--RYABCHUK, V., FISHTIK, L.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, RADIO, NO 2, FEB 70, PP 7-9

DATE PUBLISHED----FEB 70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, ELECTRONICS AND ELECTRICAL ENGR., MILITARY SCIENCES

TOPIC TAGS--CYBERNETIC CONTROL, MILITARY OPERATION, ARMED FORCES LOGISTICS, COMPUTER APPLICATION, AIR DEFENSE SYSTEM, COMMAND AND CONTROL, MISSILE COMMAND AND CONTROL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1987/1419 STEP NO--UR/0107/70/000/002/0007/0009

CIRC ACCESSION NO--AP0104733

UNCLASSIFIED

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2/2 027 UNCLASSIFIED

CIRC ACCESSION NO--AP0104733 PROCESSING DATE--11SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIS PAPER IS A VERY GENERAL NON TECHNICAL DESCRIPTION OF THE ROLE PLAYED BY MILITARY CYBERNETICS. NO SPECIFIC EQUIPMENT OR SYSTEM IS MENTIONED. ACCORDING TO THE AUTHORS, AT THE PRESENT TIME, THE BASIS OF MILITARY CYBERNETICS CONSISTS OF: 1) THE THEORY OF MILITARY INFORMATION; 2) MILITARY OPERATIONS RESEARCH THEORY (OPERATIONS RESEARCH THEORY APPLIED TO AN INVESTIGATION OF SPECIFIC PROBLEMS); AND 3) THE THEORY OF COMPUTERS FOR MILITARY PURPOSES AND THE THEORY OF AUTOMATIZATION OF CONTROL OF TROOPS AND COMBAT MEANS. ELECTRONIC COMPUTERS ARE AN IMPORTANT ELEMENT OF THE LAND BASED AIRDEFENSE SYSTEM, IN PARTICULAR CONTROLLED ANTIAIRCRAFT ROCKETS. IN THE FLEET, ELECTRONIC COMPUTERS SOLVE PROBLEMS OF THE LOCATION AND CLASSIFICATION OF NAUTICAL TARGETS, AND WORK OUT DATA FOR USE BY WEAPONS. THEY PLAY AN IMPORTNAT ROLE IN THE SAFETY OF NAVIGATION. AUTOMATIZATION OF THE INDIVIDUAL CONTROL PROCESSES ALONE DOES NOT COMPLETELY SOLVE THE PROBLEM OF INCREASING THE EFFECTIVENESS OF CONTROL OF TROOPS. CONSEQUENTLY, MILITARY RESEARCHERS HAVE REACHED THE CONCLUSION THAT AN ABRUPT INCREASE IN THE EFFECTIVENESS OF CONTROL OF TROOPS IS POSSIBLE ONLY ON THE BASE OF THE CREATION OF AN AUTOMATIZED SYSTEM OF TROOP CONTROL.

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USSR

UDC: 681.3.06:51

MALININ, S., NEMIROVSKAYA, V., RYABEN'KIY, S., YELTARENKO, Ye., RUMYANTSEV, V., SUMAROKOV, L.

"Deterministic Model of Evaluating Variants for Construction of Systems of Scientific-Information Servicing With Respect to Time and Cost Criteria"

V sb. Vopr. modelir. i optimiz. sistem inform. obsluzh. (Problems of Modeling and Optimizing Information Servicing Systems--collection of works), vyp. 2, Moscow, 1970, pp 39-71 (from RZh-Kibernetika, No 7, Jul 71, Abstract No 7V716)

Translation: In constructing the model, primary attention is given to selecting the functional structures of systems of scientific-information servicing. Two methods of data processing are taken into consideration: centralized and decentralized.

The process of functioning of the systems is represented in the model by a set of linear expressions of the form

$$\lambda_{out} = \lambda_{in} X,$$

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where λ_{in} is the line vector $(1 \times m)$ which maps the intensity of the flow of documents at the input of the process; X is a matrix which maps conversion of the flow at the input into the flow at the output; λ_{out} is the line vector $(1 \times n)$ which maps the intensity of the flow of documents at the output of the process. The time criterion is defined as the two-dimensional vector $\vec{t} = \{\vec{t}(t);\vec{t}(c)\}$, where $\vec{t}(t)$ is the average time for distribution of information counted from the moment when it appears in the medium external to the system; $\vec{t}(c)$ is the average time of response to demands as reckoned from the instant the system receives the demand from the user to the instant the user receives the response from the system.

The cost criterion is understood to mean the intensity of expenditures of materials, labor, equipment and monetary means necessary for normal functioning of the system.

The proposed model is illustrated by an example of a system of scientific-information servicing in electrical engineering.

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Acc. Nr: N0046126 Abstracting Service: INTERNAT. AEROSPACE ABST. 5-70 Ref. Code: UR0208

A70-25189 # Calculation of thermal conductivity on a system of rods (Raschet teploprovodnosti na sisteme sterzhnei). V. S. Riaben'kii. *Zhurnal Vychislitel'noi Matematiki i Matematicheskoi Fiziki*, vol. 10, Jan.-Feb. 1970, p. 236-239. In Russian.

Outline of a method of solving implicit evolutionary difference equations on finite graphs. The proposed method, which is applicable to a wide class of systems of linear equations, is employed to calculate the thermal conductivity on a system of three identical homogeneous heat-conducting rods emerging from a single point at which they are fastened together. According to this method, each rod is divided into N equal parts of length h, starting from the common end, and an elementary implicit difference scheme is used to calculate the solution to the equations at a certain moment of time from known values of the solution at another moment. A.B.K.

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SPRS 59208
6-73

XII-11b. KINETIC STUDIES OF THE GALLIUM TRANSPORT PROCESS BY GASEOUS HCl WHEN SYNTHESIZING SEMICONDUCTOR COMPOUNDS OF THE $A^{III}B^{V}$ TYPE

[Article by B. Z. Shalumov, Yu. Kh. Shaulov, Ye. A. Ryabenko, Moscow; Novosibirsk, III Simpozium po Protsessam Rosta i Sinteza Poluprovodnikovykh Kristallov i Plenok, Russian, 12-17 June 1972, p 175]

The structural and electrophysical properties of semiconductor compounds obtained in the gas transport process essentially depend on the composition and the relation of the active reaction components. In the case of gallium-containing compounds one of the active components is gallium monochloride. In the overwhelming majority of cases, GaCl is synthesized directly during the process of growth of the reaction of interaction of gaseous HCl with gallium. The proposed report is devoted to the results of an experimental determination of the kinetic laws of the process of gallium transport by hydrogen chloride and, namely, determination of the gallium transport rate, the gallium monochloride formation rate and the study of the gas composition in the zone of hydrochlorination of gallium. The gallium transport rate is described by the equation

$$r_{Ga} = 0{,}126 \cdot 10^{-2} \cdot g_{HCl}(T - 603)^{1/2},$$

where r_{Ga} is the transport rate, moles/hr;

g_{HCl} is the hydrogen chloride consumption rate, liters/hr;

T is the hydrochlorination temperature, °K.

In order to estimate the formation rate of GaCl, the following empirical relation was obtained

$$r_{GaCl} = 2{,}04 \cdot 10^{-2} \left(g_{HCl} + 0{,}5 \right) \left[1 - \exp\left(-\frac{T-571}{600}\right) \right]$$

An estimate was made of the composition of the gas phase which, depending on the hydrogen chloride consumption and the hydrochlorination varies from $GaCl_{1.00}$ to $GaCl_{2.7}$. The optimal process conditions for hydrochlorination of gallium were found for which the GaCl yield approaches 100 percent.

РЫАБЕНКО, Е. А.

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JPRS 59208

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XII-11a. EPITAXIAL DEPOSITION OF GALLIUM PHOSPHIDE FROM THE GAS PHASE USING PHOSPHINE

[Article by B. Z. Shalumov, Yu. Kh. Shaulov, Ye. A. Ryabenko, Moscow; Novosibirsk, III Simposium po Protsessam Rosta i Sinteza Poluprovodnikovykh Kristallov i Plenok, Russian, 12-17 June 1972, p 174]

This paper was devoted to the development of the method of epitaxial growth of gallium phosphide using chlorine and phosphorous hydrides. The relations for the growth rates of the epitaxial films of GaP as functions of the variable technological parameters of the process were found: the PH_3, HCl and H_2 consumption, the temperature of the gallium source and the growth temperature. By processing the relations obtained, the effect of the composition of the gas phase on the epitaxial growth rate and on the quality of the growing layers was determined. The composition of the gas phase was varied by varying the concentrations of the active components of the phosphorus and gallium monochloride reactions. The equations were obtained which relate the controlled process parameters to the epitaxial growth rate:

$$W = K_1' [f(\alpha_{GaCl})]^{\beta} \cdot e^{-f(\alpha_{GaCl})} + K_1''$$

$$W = -K_2' \left\{ 1 + \frac{[f(\alpha_p)]^2}{K_2''} \right\}^{1/2} + K_2''$$

$$W = K_3 \cdot [f(T)]^{\alpha} \cdot e^{-[f(T)]^{1/2}} + K_3''$$

where α_{GaCl}, α_p are the concentrations of the gallium monochloride and the phosphorus respectively;

T is the substrate temperature;

k_i are the constant coefficients corresponding to the various crystallographic directions of growth.

The maximum growth rate of the epitaxial films of GaP occurs for concentrations of $\alpha_{GaCl} = 4.5 \cdot 10^{-3}$ moles/2 moles of H_2 and $\alpha_p = 15 \cdot 10^{-3}$ moles/2 moles of H_2 and a growth temperature of T = 1,043° K. The metallographic, x ray and

RYABENKO, YE. A.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

USSR

UDC 621.315.592:546.19'681

KOVTONYUK, N. F., KURBATOV, L. N., NOZDRIN, V. V., ORLOV, V. S., RYABENKO, Ye. A., RASKIN, A. A., ROSTUNOVA, R. P., SOLOV"YEV, A. A., SEVAST'YANOV, V. G., UMNYAGIN, A. M., SHALUMOV, B. Z., and SHAULOV, Yu. Kh.

"Some Problems of a Technological Formulation of the Process of Obtaining Epitaxial Films of Gallium Arsenide by the Gas Phase Method"

V sb. Protsessy rosta kristallov i plenok poluprovodn. (Procedures for the Growth of Semiconductor Crystals and Films -- Collection of Works), Novosibirsk, 1970, pp 341-350 (from RZh-Elektronika i yeye primeneniye, No 7, July 1971, Abstract No 7B130)

Translation: The epitaxial films of GaAs obtained were produced by the gas phase method with the use of AsH_3, Ga, and HCL. GaAs wafers served as substrates. The surface of a wafer was subjected to chemical--mechanical processing and etching with H_2SO_4: H_2O_2: H_2O in the ratio 3: 1: 1. Synthesis of the GaAs was conducted in a reaction apparatus which was thoroughly scavenged by H_2 and etched by HCl at 950° C for 30 minutes. After cooling, the Ga was loaded into the chamber. The chamber was heated to a temperature of 850° C for activation of the Ga surface. After reduction of the temperature to 100--150° C, the GaAs substrate was introduced into the reaction zone. After heating the Ga area and the GaAs area, etching of the GaS was performed by HCl gas in a stream of AsH_3 and H_2. The films were doped by Se.

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KOVTONYUK, N. F., et al., Protsessy rosta kristallov i plenok poluprovodn. (Procedures for the Growth of Semiconductor Crystals and Films -- Collection of Works), Novosibirsk, 1970, pp 341-350 (from RZh-Elektronika i yeye primeneniye, No 7, July 1971, Abstract No 7B130)

The best specimens of film had n-type conductivity and a mobility of 4000--5000 $cm^2/v.sec$. Films doped by Se had a concentration of $5 \cdot 10^{17}$-- $5 \cdot 10^{18}$ at/cm^3 and a mobility of 2000 $cm^2/v.sec$. 8 ref. V.B.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

1/2 015 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--ADSORPTION OF ARSINE AND PHOSPHINE ON SILICA GEL -U-

AUTHOR-(04)-ZORIN, A.D., DUDOROV, V.YA., ROGOZHNIKOVA, T.S., RYABENKO, YE.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. FIZ. KHIM. 1970, 44(3), 717-19

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ADSORPTION, ARSINE, SILICA GEL, PHOSPHINIC ACID, VAN DER WAALS FORCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1228 STEP NO--UR/0076/70/044/003/0717/0719

CIRC ACCESSION NO--AP0123192

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

UNCLASSIFIED PROCESSING DATE--30OCT70

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CIRC ACCESSION NO--AP0123192

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ADSORPTION OF PH SUB3 AND ASH SUB3 ON 3 SILICA GEL SAMPLES (PORE DIAM. 8 AND 16 ANGSTRUM) WAS STUDIED IN THE TEMP. RANGE 20 TO MINUS 80DEGREES, USING CHROMATOG. TECHNIQUES. THE EXPTL. RESULTS COULD BE DESCRIBED BY USING THE LANGMUIR ADSORPTION ISOTHERM EQUATION. A COMPARISON OF THE HEATS OF ADSORPTION WITH THE HEATS OF CONDENSATION REVEALED THAT ASH SUB3 AND PH SUB3 INTERACT WITH THE SURFACE OF THE ADSORBENT AS A RESULT OF VAN DER WAALS FORCES.

FACILITY: NAUCH.-ISSLED. INST. KHIM., GORKI, USSR.

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Titanium

USSR

UDC 669.71'295.053.4.094(088.8)

MAZALETSKIY, G. D., KATS, M. SH., ZHURAVLEV, V. M., RYABIN, V. A., BAYTAKOVA, R. S., GOLODOV, S. M.

"Procedure for Processing Slag from Aluminothermal Production of Ferrotitanium"

USSR Author's Certificate No 276122, Filed 27 Mar 65, Published 15 Oct 70 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G147P)

Translation: A procedure is proposed for obtaining Ti concentrate and Al_2O_3 from slag obtained during aluminothermal production of Fe-Ti. The procedure includes sintering of the crushed slag with soda at 1,130-1,150°. The cake is processed in a sodium solution which converts the oxides to solution from which $Al(OH)_3$ is precipitated, and the Ti oxides remain in the slag.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

1/2 019 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--INTERACTION OF 3CAO.AL SUB2 O SUB3, 4CAO.AL SUB2 O SUB3.FE SUB2 O SUB3, AND 2CAO.SIO SUB2 WITH CHROMIC OXIDE AT 800-1100DEGREES -U-

AUTHOR-(04)-RYABIN, V.A., VILNYANSKIY, YA.YE., SHULIMOVICH, E.D., AARONSKIND, V.A.

COUNTRY OF INFO--USSR

R

SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(2), 440-2

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHROMIUM OXIDE, OXIDATION, MOLECULAR INTERACTION, CALCIUM OXIDE, ALUMINUM OXIDE, IRON OXIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1993/0287 STEP NO--UR/0080/70/043/002/0440/0442

CIRC ACCESSION NO--AP0113217

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5"

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2/2 019 UNCLASSIFIED PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0113217

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PRODUCTS OF REACTION IN THE SYSTEMS 3CAO.AL SUB2 O SUB3 NEGATIVE (4CAO.AL SUB2 O SUB3.FE SUB2 O SUB3, 2CAO.SIO SUB2)-CR SUB2 O SUB3 WERE STUDIED AT 800-1100DEGREES IN AN OXIDIZING ATM. AT 800-900DEGREES THE CR SUB2 O SUB3 IS TRANSFORMED TO CACRO SUB4. AT 1100DEGREES THE PRODUCTS ARE A MIXT. OF CA SALTS OF TRIVALENT AND HEXAVALENT CR IF OXIDN, OCCURS OR CAO.CR SUB2 O SUB3 IF NO OXIDN. OCCURS. FACILITY: ZH. PRIKL. KHIM. LENINGRAD.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

1/2 024 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--SATURATION OF CHROMATE SLURRIES BY A GAS WITH A LOW CARBON DIOXIDE CONTENT -U-

AUTHOR--MIROLYUBOV, B.V., RYABIN, V.A., VILNYANSKIY, YA.YE.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(2), 442-5

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CHROMATE, SLAG, FERROCHROMIUM, CHROMIUM OXIDE, CALCIUM OXIDE, MAGNESIUM OXIDE, SILICON DIOXIDE, IRON OXIDE, ALUMINUM OXIDE, CALCIUM CARBONATE, CRYSTAL HYDRATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1983/0924 STEP NO--UR/0080/70/043/002/0442/0445

CIRC ACCESSION NO--AP0053848

UNCLASSIFIED

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2/2 024 UNCLASSIFIED

CIRC ACCESSION NO--AP0053848 PROCESSING DATE--11SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SLAG (400 G), FROM THE PRODUCTION OF FERROCHROMIUM CONTG. CRO SUB3 22.47PERCENT, CAO 28.53, MGO 8.99, SIO SUB2 10.03, FE SUB2 O SUB3 5.49, AND AL SUB2 O SUB3 4.56PERCENT WAS GROUND TO A 150 MESH POWDER AND STIRRED INTO A SOLN. OF 9 G NA SUB2 CO SUB3 IN 700 G H SUB2 O. THE CHROMATES DISSOLVE ONLY PARTIALLY BECAUSE OF THE FORMATION OF INSOL. HYDRATES OF CHROMOALUMINATES OF CAO. FURTHERMORE, FILTRATION IS DIFFICULT BECAUSE OF COLLOIDAL HYDRATES OF ALUMINATES AND ALUMINOFERRATES OF CAO. SATG. THE PULP WITH STACK GAS CONTG. 4-5PERCENT CO SUB2 INCREASES THE YIELD OF SOL. CHROMATES BY 10PERCENT. NEUTRALIZATION BY CO SUB2 TO PH 8.3 CAUSES THE FORMATION OF EASY TO FILTER CACO SUB3 AND AL(OH) SUB3 AND CHROMATES ARE SET FREE. THE DURATION OF THE REACTION AND THE CONCN. OF CO SUB2 IN THE WASTE GASES ARE NOT ESSENTIAL. IN THE RESIDUE, 3CAO.AL SUB2 O SUB3.CACO SUB3.11H SUB2 O WAS DETECTED.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

UNCLASSIFIED PROCESSING DATE--03JUL70

TITLE--REACTION OF TETRACALCIUM ALUMINOFERRITE WITH SODIUM METASILICATE IN A SODIUM CHROMATE SOLUTION -U-

AUTHOR--RYABIN, V.A., MUKASHEVA, G., MIROLYUBOV, B.V.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(1), 32-5

DATE PUBLISHED--------70

23
5
28

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--AQUEOUS SOLUTION, CHEMICAL SEPARATION, CHROMATE, SILICATE, ALUMINUM COMPOUND, FERRITE, SODIUM COMPOUND, HYDROLYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1979/1200 STEP NO--UR/0080/70/043/001/0032/0035

CIRC ACCESSION NO--APO046123

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

Acc. Nr. AP0046123 Abstracting Service: CHEMICAL ABST. 5/70 Ref. Code UR0080

92460n Reaction of tetracalcium aluminoferrite with sodium metasilicate in a sodium chromate solution. Mitolyubov, B. V.; Ryabin, V. A.; Mukasheva, G. (Ural. Nauch.-Issled. Khim. Inst., Sverdlovsk, USSR). *Zh. Prikl. Khim. (Leningrad)* 1970, 43(1), 32–5 (Russ). When chromate is leached from melts by water or Na_2CrO_4 solns., insol. hydrated Ca chromate-aluminate (I) forms because of hydrolysis of tetracalcium aluminoferrite (II). Na_2SiO_3 ($\geqq 1.5$ g/l. SiO_2 in soln.) prevents the formation of I by slowing the hydrolysis of II. Most of the Na_2SiO_3 remains in soln. The Na_2SiO_3 must be present in the leach solns. before leaching begins; it has no effect on chromate leaching after I has formed. Mary Frances Richardson

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

USSR

UDC: 681.3.06;51

RYABININ, A. D., SHKVAR, A. M., SHEVCHENKO, A. I.

"Some Singularities of Difference Processing of Information in Neural Networks"

V sb. Biol., med. kibernet. i bionika (Biology, Medical Cybernetics and Bionics--collection of works), vyp. 2, Kiev, 1970, pp 4-12 (from RZh--Kibernetika, No 7, Jul 71, Abstract No 7V718)

Translation: The authors consider problems in evaluating the convergence of adaptation processes which arise in systems of scientific-information servicing. The control of adaptation processes is conditionally divided into two subsystems: the subsystem of control of data accumulation processes, and the subsystem of adaptation to ambient conditions. The nature of the functioning of each subsystem is analyzed in detail and convergence of the learning process is evaluated for the resolving algorithm proposed in the paper by Ye. A. Yeltarenko, A. G. Romanenko, V. P. Rumyantsev and A. N. Sumarokov (RZhMat, 1969, 12V538). V. Mikheyev.

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USSR

UDC 612.08

KARPUKHINA, A. M., RYABININ, A. D., and RYABININ, V. A., Kiev

"An Amplitude Discriminator with Variable Discrimination Levels"

Leningrad, Fiziologicheskiy Zhurnal SSSR imeni I. M. Sechenov, Vol 58, No 12, 1972, pp 1878-1881

Abstract: Employed for amplitude discrimination of neuron group pulses, the new discriminator is an improvement over the ABIS-10 in that the amplitude to be recorded (x) and the amplitude range (Δx) can be adjusted. x can vary from 0 to 70 v, and Δx from 0 to -x/2. The discriminator can operate independently or with a Dneprl digital computer for pulse activity analysis. The output pulse is standard for computer input, can be recorded on an oscillograph, and can be transformed into sound signals. Pulses of single neurons of a group can be isolated by employing several discriminators simultaneously or by feeding the tape-recorded signals of the group one at a time through a single discriminator. The device operates on the basis of two channels defining the upper and lower thresholds of amplitude sensitivity. A circuit diagram of the discriminator and a sample output oscillogram are provided.

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USSR

UDC 538.4:669-154

RYABININ, A. G., and KHOZHAINOV, A. I.

"Unsteady Flows of Liquid Metals in MHD Devices"

Leningrad, Nestatsionarnyye Techeniye Zhidkikh Metallov v MGD-Ustroystvakh (cf. English above), "Mashinostroyeniye" Publishing House, 1970, 144 pp

Abstract: This book presents studies of unstationary flows of liquid metals in channels of conduction MHD devices with a constant magnetic field. The preferentially laminar flow modes of liquid metal are discussed. A portion of the monograph is devoted to a study of the integral characteristics of unsteady turbulent magnetohydrodynamic flows. All solutions of the problems are illustrated with extensive computational material. Studies of the authors published in recent years in the periodical literature is the basis of the monograph. The book is intended for scientific workers and research engineers concerned with the development of MHD devices and their introduction into industry. The monograph has 2 tables, 46 illustrations, 101 references.

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RYABININ, A. G., and KHOZHAINOV, A. I., Nestatsionarnyye Techeniya Zhidkikh Metallov v MGD-Ustroystvakh, "Mashinostroyeniye" Publishing House, 1970, 144 pp

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

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KYAHNIN, A. G., and KHOZHAINOV, A. I., Nestatsionarnyye Techeniya Zhidkikh Metallov v MGD-Ustroystvakh, "Mashinostroyeniye" Publishing House, 1970, 144 pp

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RYABININ, A. G., and KHOZHAINOV, A. I., Nestatsionarnyye Techeniye Zhidkikh Metallov v MGD-Ustroystvakh, "Mashinostroyeniye" Publishing House, 1970, 144 pp

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

USSR

KYARININ, A. G., and KHOZHAINOV, A. L., Nestatsionarnyye Techeniye Zhidkikh Metallov v MGD-Ustroystvakh, "Mashinostroyeniye" Publishing House, 1970, 144 pp

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

USSR

UDC 543.544.2:546.791:551.464

RYABININ, A. I., ROMANOV, A. S., DOROSHENKO, G. A., and LAZAREVA, Ye. A.

"Sorption Method for Isolating Uranium and Other Valuable Metals From Sea Water"

Leningrad, Radiokhimiya, Vol 15, No 6, 1973, pp 884-885

Abstract: Experimental results are reported on extraction of uranium and other elements out of sea water using a specially prepared exchange resin. The resin was obtained by saturating granules of AN-2F anion exchange resin with highly dispersed titanium hydroxide. Sea water was passed through a column packed with this material; 46% of the uranium present in sea water was extracted in one passage. This material separated also Cu, Co, Zn, Ag, In, Tl, Cd, and Hg. Traces of Ni, V, Mo, Pb and Mn were identified spectrophotometrically.

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USSR

UDC 543.21'544.6

RYABININ, A. I., and LAZAREVA, Ye. A., Marine Hydrophysical Institute, Academy of Sciences Ukr. SSR, Sevastopol'

"Dynamic Adsorption of Uranium (VI) by a Mixture of Ferric Hydroxide and Cation Exchanger"

Moscow, Zhurnal Analiticheskoy Khimii, Vol 25, No 12, Dec 70, pp 2,377-2,381

Abstract: Adsorption of U(VI) in mg amounts on a mixture of cation exchanger KU-2 in the K form (PK) and $Fe(OH)_3$ was studied. The mixture with the composition $(PK)_3 \cdot Fe(OH)_3$ was prepared by the action of KOH on KU-2 in the Fe(III) form. At U(VI) concentrations of $0.89-3.66 \times 10^{-4}$ M in $UO_2Cl_2-K_2CO_3-H_2O$ and $UO_2Cl_2-K_2CO_3-(0.5M)KCl-H_2O$ solutions, U(VI) was adsorbed completely from these solutions in glass columns with a diameter of 4 mm charged with a mixture containing 169.5 mg $Fe(OH)_3$ and 1 g cation exchanger at an adsorbent grain size of 0.5 ± 0.25 mm. Complete adsorption took place at a pH ~6.0 measured at the exit of the column. With increasing values of pH, the adsorption decreased. Saturation of the adsorbent with U took place after passage of 0.5 mg U_3O_8 through the column. The adsorption was of the cation-exchange type; U could be desorbed with KCl and K_2CO_3 solutions. The procedure described can be

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RYABININ, A. I., and LAZAREVA, Ye. A., Zhurnal Analiticheskoy Khimii, Vol 25, No 12, Dec 70, pp 2,377-2,381

applied for the concentration of small amounts of U(VI) to be determined analytically.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

Radiation Chemistry

USSR

UDC 541.123.6:546.741

NIKOLAYEV, A. V., RYABININ, A. I., and AFANAS'YEV, Yu. A.

"Extraction of Nitrates of Rare Earths, Thorium and Uranium, Using Undiluted Tributyl Phosphate"

Moscow, Radiokhimiya, Vol 12, No 2, 1970, pp 326-335

Abstract: Securing full information on quantitative functions of distribution coefficients (D) from concentrations of the extract, coextracts, and salting-out components requires plotting of the complete distribution diagram when studying an extraction system. Otherwise, a broad interval between experimental points can leave peculiarities of system behavior undetected. A table listing distribution coefficients of rare earth nitrates in the systems $Ln(NO_3)_3$-H_2O-$(C_4H_9O)_3PO$ at 25° showed that D as a function of concentration for all elements studied (Pr, Sm, Gd, and Lu) passes through a maximum in the 0.8-1.5 M concentration interval. Another table listed distribution coefficients of nitrates in the systems $Me(NO_3)_{gamma}$-HNO_3-H_2O-$(C_4H_9O)_3PO$ at 25° for the elements La, Pr, Sm, Gd, Ho, Lu, Ce(IV), and Th. Tabled data showed that nonmonotonicity with the maximum of D for samarium is observed at nitrate concentrations $\leq$ 0.5 M. With an increase

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USSR

NIKOLAYEV, A. V., et al., Radiokhimiya, Vol 12, No 2, 1970, pp 326-335

in concentration past 0.5 M, the nonmonotonicity is complicated by the observation that at 0.8 M the maximum in D exists not only for samarium, but also for holmium.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

UDC 669.18:621.746.58

USSR

DOROKHOV, V. I., PALYANICHKA, V. A., KLEMESHOV, G. A., YEVTYUTOV, V. P., GLAZOV, V. I., PANASENKO, V. G., RYABININ, B. G., and ROSTORGUYEV, V. D., Ukrainian Scientific Research Institute of Metals

"Casting of Large Sheet Ingots of Low-Alloy Steel Under Protective Slag Coating"

Moscow, Metallurg, No 3, Mar 72, pp 17-19

Abstract: Joint investigations of the Ukrainian Scientific Research Institute of Metals and the Zhdanov Plant imeni Il'ich, revealed that stratifications in sheets of silicomanganous steel can be caused by accumulations of macro-inclusions of endogenic origin or increased content of hydrogen. Experiments in casting sheet ingots of silicomanganous steel 09G2S, weighing 118-27.0 tons, under a protective coating of synthetic slag, are described. The experiments were conducted in order to decrease stratifications resulting from nonmetallic impurities. It was found that by using slag with optimum physico-chemical properties in casting steel, the content of oxide inclusions can be lowered by more than 30% and stratifications can be practically eliminated in thick sheets. The nonmetallic inclusions do not change

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

USSR

DOROKHOV, V. I., et al., Metallurg, No 3, Mar 72, pp 17-19

character, but are merely redistributed, and a refining of metal from oxides, particularly from alumina, takes place. One illustration, two tables.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

USSR UDC: 51.621.391

RYABININ, I. A.

"A Logical-Statistical Method of Studying the Reliability of Complex Technical Systems"

V sb. Osnovn. vopr. teorii i praktiki nadezhnosti (Fundamental Problems in the Theory and Practice of Reliability--collection of works), Moscow, "Sov. radio", 1971, pp 173-193 (from RZh-Kibernetika, No 11, Nov 71, Abstract No 11V615)

[No abstract]

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

USSR

UDC[537.226+537.311.33]:[537+535]

BUNAREV, V. I., ZIMIN, V. N., KRASOVSKIY, V. M., RYABININ, I. V., and TROITSKAYA, N. V.

"Structural and Electrophysical Properties of Aluminum Oxide-on-Silicon Films"

Elektron. tekhnika. Nauch.-tekhn. sb. Mikroelektronika (Electronic Engineering. Collection of Scientific and Technical Works on Microelectronics), 1971, vyp. 3(29), pp 75-79 (from RZh-Fizika, No 1, Jan 72, Abstract No 1YE1406 by authors)

Translation: The authors studied the structural and electrophysical properties of aluminum oxide films as a function of the procedures of their deposition on silicon, as well as the electrophysical properties of the $Al-Al_2O_3-Si$ structure.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

USSR

UDC 612.08

KARPUKHINA, A. M., RYABININ, A. D., and RYABININ, V. A., Kiev

"An Amplitude Discriminator with Variable Discrimination Levels"

Leningrad, Fiziologicheskiy Zhurnal SSSR imeni I. M. Sechenov, Vol 58, No 12, 1972, pp 1878-1881

Abstract: Employed for amplitude discrimination of neuron group pulses, the new discriminator is an improvement over the ABIS-10 in that the amplitude to be recorded (x) and the amplitude range (Δx) can be adjusted. x can vary from 0 to 70 v, and Δx from 0 to -x/2. The discriminator can operate independently or with a Dneprl digital computer for pulse activity analysis. The output pulse is standard for computer input, can be recorded on an oscillograph, and can be transformed into sound signals. Pulses of single neurons of a group can be isolated by employing several discriminators simultaneously or by feeding the tape-recorded signals of the group one at a time through a single discriminator. The device operates on the basis of two channels defining the upper and lower thresholds of amplitude sensitivity. A circuit diagram of the discriminator and a sample output oscillogram are provided.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

USSR UDC: 621.385.6

KAMINSKIY, F. D., KASHIRIN, A. P., LELIOVSKIY, A. F., MATROSOV, Ye. I., RYABININ, V. A., TERRA, K. R.

"An Electronic SHF Device"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 32, 1970, Soviet Patent No 270093, Class 21, field 17 Jul 67, pp 215-216

Abstract: This Author's Certificate introduces: 1. An electronic SHF device (such as a triode) containing an electron-optical system which is part of the vacuum input and half-wave short-circuited output (anode) resonators and which is made in the form of individual cells, each consisting of a cathode and grid operating into a common anode. As a distinguishing feature of the patent, the reliability is improved and the output power of the device is increased by making vacuum-tight coupling apertures for energy output in one of the walls of the output resonator located at a high-frequency voltage node symmetric with the axis of the device. 2. A modification of this device in which the distinguishing feature is that control of the width of the frequency passband is provided by installing a rotating disc at the energy output point on the axis of the device with apertures identical in size and shape to the coupling apertures, and in the same position relative to the axis of the device.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

1/2 039 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--INDUCED ANISOTROPY OF CHEMICALLY PRECIPITATED IRON NICKEL PHOSPHORUS FILMS -U-

AUTHOR-(04)-YERSHOV, R.YE., RYABININ, V.P., BATENKOVA, A.YA., LAZAREVA, L.V.

COUNTRY OF INFO--USSR

R

SOURCE--IZV. VYSSH. UCHEB. ZAVED., FIZ. 1970, 13(3), 136-8

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, MATERIALS

TOPIC TAGS--ANISOTROPY, IRON ALLOY, NICKEL ALLOY, PHOSPHORUS ALLOY, METAL FILM, SURFACE FILM, MAGNETIC FIELD

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/1030 STEP NO--UR/0139/70/013/003/0136/0138

CIRC ACCESSION NO--AT0121626

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

2/2 039 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AT0121626

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INDUCED ANISOTROPY IN FILMS OF FE 14 PLUS NI 74 PLUS P 12PERCENT, 1 MU THICK, OBTAINED BY CHEM. PPTN. ON BRASS DISKS, 12 MM IN DIAM., WAS STUDIED IN MAGNETIC FIELDS OF 50-500 OE PARALLEL TO THE SURFACE. THE COERCIVE FORCE, H SUBC, INDUCED BY H IN FILMS ON ELECTROPOLISHED BRASS, AS A FUNCTION OF THE ANGLE, ALPHA, BETWEEN THE DIRECTION OF H DURING PPTN. AND THE DIRECTION DURING MAGNETIZATION, PASSED THROUGH A MAX. AT ALPHA EQUALS 90DEGREES. BUT IN FILMS PPTD. ON DISKS POLISHED SO THE SCRATCHES WERE PARALLEL TO EACH OTHER, THE H SUBC PASSED THROUGH A MIN. AT 90DEGREES; I.E., DIRECTED POLISHING OF THE SUBSTRATE INDUCED A HIGHER ANISOTROPY THAN A MAGNETIC FIELD. FACILITY: INST. FIZ., KRASNOYARSK, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

UNCLASSIFIED PROCESSING DATE--27NOV70

1/2 031

TITLE--THE PLASTICITY AND STRENGTH OF SOLID BODIES AT HIGH PRESSURES -U-

AUTHOR-(05)-BERESNEV, B.I., MARTYNOV, YE.D., RODIONOV, K.P., BULYCHEV, D.K., RYABIBIN, YU.N.

COUNTRY OF INFO--USSR

SOURCE--THE PLASTICITY AND STRENGTH OF SOLID BODIES AT HIGH PRESSURES (PLASTICHNOST' I PROCHNOST' TVERDYKH TEL PRI VYSOKIKH DAVLENIYAKH)

DATE PUBLISHED-------70

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

TOPIC TAGS--PLASTIC DEFORMATION, HIGH PRESSURE EFFECT, MECHANICAL STRENGTH, METAL MECHANICAL PROPERTY/(U)GTSK METAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/1703 STEP NO--UR/0000/70/000/000/0001/0150

CIRC ACCESSION NO--AM0130571

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

UNCLASSIFIED PROCESSING DATE--27NOV70

2/2 031

CIRC ACCESSION NO--AM0130571

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TABLE OF CONTENTS: PREFACE 5. INTRODUCTION 9. CHAPTER I. THE EQUIPMENT FOR THE REALIZATION OF PLASTIC DEFORMATION OF SOLID BODIES AT HIGH PRESSURES 11. II. PLASTICITY, STRENGTH AND DESTRUCTION OF SOLID BODIES AT HIGH PRESSURE 39. III. THE INLUENCE OF DEFORMATION UNDER HIGH PRESSURE ON THE PROPERTIES OF PLASTIC GTSK (?) METALS 99. LITERATURE 158. THE MONOGRAPH DEALS WITH QUESTIONS CONNECTED WITH THE DEVELOPMENT OF EQUIPMENT FOR THE CREATION OF PRESSURE IN LIQUID UP TO 25,000 KG-CM PRIME2 AS WELL AS FOR THE REALIZATION UNDER THESE CONDITIONS OF PLASTIC DEFORMATION. DESCRIBED IS THE INFLUENCE OF PRELIMINARY DEFORMATION UNDER PRESSURE ON THE CHANGE IN MECHANICAL PROPERTIES FOR VARIOUS METALS. THE BOOK IS DESIGNED FOR SPECIALISTS IN THE PHYSICS OF SOLID BODIES AND METALLURGISTS.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

Thermomechanical Treatment

USSR

UDC 669.721:621.789-977

RYABININA, R. M., and LESHCHINER, L. N.

"High-Temperature Mechanical and Thermal Treatment of the AK6 Alloy"

Moscow, Metallovedeniye, No 5, May 70, pp 62-64

Abstract: Extruded rods (composition in %, 0.51 Mg, 1.03 Si, 2.27 Cu, 0.56 Mn, and 0.45 Fe) were deformed by upsetting blanks on a 1-ton drop press after heating to 500± 15°C. The formed races were not preheated. The magnitude of deformation was calculated as the decrease in height of the blank and amounted to 10, 20, 30, 40, and 50%. The heated blanks were water quenched for 20-25 seconds after being taken from the furnace. Standard samples were cut from the blanks with a 70-mm-diameter and 80-mm length. These samples were aged at 165°C for 30-40 minutes, quenched, and then aged for 1, 4, 8, 12, and 16 hours. Hardness and electrical conductivity were measured after aging, along with testing the mechanical properties of longitudinal and transverse samples. All the samples showed increased conductivity, reduced degree of elongation, and a higher yield strength/tensile strength ratio at the longer aging times.

The combination of hot plastic deformation and high-temperature thermomechanical treatment (HTTM) of the AK6 alloy increased the strength properties of the alloy by approximately 5-6% (for deformation degrees of 10-30%) without lowering

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USSR

RYABININA, R. M. and LESHCHINER, L. N., Metallovedeniye, No 5, May 70, pp 62-64

elongation. Prevention of solid solution decomposition during the HTTM of the AK6 alloy can be done by heating to a maximum temperature of 520-525°C. The process of HTTM decreases the depth of recrystallization in the races, thereby yielding a more uniform crystalline structure.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

1/2 018 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--HYDROGENATION OF ALKYNES ON RHODIUM IN DIFFERENT MEDIA -U-

AUTHOR-(04)-SOKOLSKAYA, A.M., SHOSHENKOVA, V.A., RYABININA, S.A., SOKOLSKIY, D.V.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 192(3), 577-9

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CATALYTIC HYDROGENATION, ISOMER, RHODIUM COMPOUND, ORGANOMETALLIC COMPOUND, ALKYNE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/1874 STEP NO--UR/0020/70/192/003/0577/0579

CIRC ACCESSION NO--AT0132136

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

2/2 018 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AT0132136

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. KINETIC CURVES WERE SHOWN FOR HYDROGENATION OF ISOMERIC OCTYNES OVER RH BLACK IN 96PERCENT ETOH AT 30DEGREES; WITH THE CATALYST SUPPORTED ON BASO SUB4. RH WAS ALSO EXAMD. IN THIS REACTION RUN EITHER IN AQ. HACL OR AQ. KOH. RH-BASO SUB4, REGARDLESS OF THE SOLVENT, GAVE LOWER RATE OF REACTION FOR TERMINAL OCTYNE AND LOWER ALKYNES THAN FOR THE PRODUCT OF ITS HYDROGENATION. THE RATE OF REACTION DECLINED IN THE ORDER: 1,HEXYNE, 1,HEPTYNE, 1,OCTYNE, WITH A CORRESPONDING SHIFT OF THE CATALYST POTENTIAL TOWARD ANODIC VALUES. THIS INDICATES THE ENHANCED ADSORPTIONAL PROPERTIES AS THE ALKYNE CHAIN INCREASES. THE RATE OF REACTION OF THE RESULTING ALKENE DECLINES WITH INCREASING SIZE OF THE MOL. BUT IN COMPOS. WITH THE UNSATD. BOND FURTHER DOWN THE CHAIN FROM THE TERMINAL POSITION THE RATE OF HYDROGENATION IS GREATLY INCREASED; IN THE CASE OF THE HEPTYNES, THE RESULTING HEPTENE FROM HYDROGENATION OF 3,HEPTYNE DOES NOT REACT FURTHER WITH H. 3,HEPTYNE IN 96PERCENT ETOH REMOVED MORE ADSORBED H FROM THE RH-BASO SUB4 SURFACE THAN DOES THE 1,ISOMER. AMONG ISOMERIC OCTYNES THERE WAS ALSO OBSD. THE SAME INCREASED RATE OF HYDROGENATION AS THE TRIPLE BOND WAS MOVED DOWN THE CHAIN AND IN 3,OCTYNE NO FURTHER REACTION TOOK PLACE AFTER THE CONVERSION TO 3,OCTENE.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

Acc. Nr: AP0052532 Abstracting Service: CHEMICAL ABST.5-70 Ref. Code: UR 0031

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104293a Standardization of a platinum catalyst. Sokol'skaya A. M.; Gorokhov, A. P.; Ryabinina, S. A. (USSR). *Vestn. Akad. Nauk Kaz. SSR* 1970, 26(2), 66-7 (Russ). The content of cations of alkali metals in PtO_2 must be detd. exactly in order to prep. a catalyst that is optimal for a given type of chem. bond. The degree of PtO_2 purification can be controlled by the electrochem. potential of Pt-black. The potential varies inversely with the cation content. The hydrogenation rate of compds. with various types of chem. bonds is a function of the potential of the Pt black. The washing is speeded up by a flow-type app. During the process batches of 0.1 g PtO_2 are taken, reduced with H, and the potential is detd. in relation to a SCE. L. Holl

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

1/2 027 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--DISCRETENESS OF THE FIELD DISTRIBUTION OF THE INTENSITY OF THE BARKHAUSEN EFFECT OF YTTRIUM FERRITE -U-

AUTHOR-(03)-PAVLOV, V.F., RYABINKIN, L.N., SMOLIN, R.P.

COUNTRY OF INFO--USSR

SOURCE--ZH. TEKH. FIZ. 1970, 40(4), 859-61

DATE PUBLISHED--------70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR., EARTH SCIENCES AND OCEANOGRAPHY, PHYSICS

TOPIC TAGS--YTTRIUM COMPOUND, FERRITE, SINGLE CRYSTAL, GARNET, MAGNETIC PROPERTY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0282 STEP NO--UR/0057/70/040/004/0859/0861

CIRC ACCESSION NO--AP0124041

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

2/2 027 UNCLASSIFIED

CIRC ACCESSION NO--AP0124041 PROCESSING DATE--20NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DISTRIBUTION OF THE NO. OF JUMPS IN THE INTENSITY ALONG THE FIELD WAS DETD. FOR Y FE GARNET SINGLE CRYSTAL. THE DISCRETE NATURE OF THE DISTRIBUTION CURVES SUPPORTS THE GROUP ORIGIN OF THE JUMPS DURING MAGNETIC REVERSAL. THE NATURE OF THE DISTRIBUTION IS VERY STABLE, WHICH IS ATTRIBUTED TO THE STABILITY OF THE DYNAMICS FOR THE MAGNETIC STRUCTURES DURING REPEATED REVERSALS. THE EXISTENCE OF RESOLN. LIMITS WITH RESPECT TO THE FIELD, ABOVE WHICH THE FORM OF THE DISTRIBUTION CURVE REMAINS UNCHANGED, INDICATES THE LIMITATIONS OF THE METHOD OF TAKING THE CURVES IN A SLOWLY CHANGING FIELD. FACILITY: INST. FIZ., KRASNOYARSK, USSR.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

USSR

UDC 621.382.2

YEMEL'YANOV, A. V., RYABINKIN, Yu. S.

"Model of a Cathode Contact for Devices Using the Gunn Effect"

Elektron. tekhnika. Nauchno-tekhn. sb. Mikroelektronika (Electronic Technology. Scientific-Technical Collection. Microelectronics), 1970, Issue 4(25), pp 84-88 (from RZh--Elektronika i yeye primeneniye, No 5, May 1971, Abstract No 5B123)

Translation: A model of a cathode contact for devices using the Gunn effect is proposed. The contact consists of a metal (alloy) highly-doped n^+ region and a high-resistance ν-layer formed by diffusion of gold and silver. A computation of the contact resistance is presented, using the assumption that it is dependent upon the resistance of the ν-layer. Author's Abstract.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

USSR

UDC 533.697

RYABINKOV, G. M.

"Experimental Study of Supersonic Nozzles"

Uch. zap. Tsentr. aerogidrodinam. in-ta (Scientific Notes of the Central Aerodynamics Institute), Vol 1, No 1, 1970, pp 34-47 (from RZh-Mekhanika, No 10, Oct 70, Abstract No 10 B336)

Translation: This article contains a discussion of the semiempirical method of calculating planar and axisymmetric supersonic nozzles forming a homogeneous plane-parallel flow in a characteristic rhombus. The experimental studies of nozzles in which shockless supersonic flow was realized with a sufficient degree of uniformity for practice in the operating section of a wind tunnel confirmed the correctness of the basic principles setdown as the basis for the calculation procedure. A brief description of the experimental setup, the measuring equipment and the research procedure are presented. The results of experimental study of a series of planar nozzles designed for Mach numbers from 1.25

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

USSR

RYABINKOV, G. M., Uch. zap. Tsentr. aerogidrodinam.in-ta, Vol 1, No 1, 1970, pp 34-47

to 7 and also four symmetric nozzles designed for Mach numbers from 6 to 9 are presented. The effect of a number of factors (pressure and air temperature, deviations of the actual outline of the nozzle from the calculated outline, shoulders where the output section of the nozzle joins the operating section, the degree of sealing of the nozzle and the air humidity) on the flow characteristics in the operating section of the wind tunnel is investigated.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

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USSR

GAL'CHINETSKIY, L. P., KOSHKIN, V. M., KUMAKOV, V. M., KULIK, V. N., RUDENKO, M. I., RYABKA, P. M., ULMANIS, U. A., SHAKHOVTSOV, V. I., and SHINDICH, V. L.

"Radiation Stability Effect in Semiconductors With Stoichiometric Vacancies"

Leningrad, Fizika Tverdogo Tela, vol 14, No 2, 1972, pp 646-648

Abstract: Because such lattice defects as impurity atoms have no effect on the electrical characteristics of semiconductors of the $A^{III}_2B^{VI}_3$ type, such as In_2Te_3, Ga_2Te_3, and Ga_2Se_3, the authors were led to the assumption that irradiation of these crystals by high-energy particles would have little effect on their electrical characteristics as well. To test this assumption, they subjected crystals of In_2Te_3 and Ga_2Te_3 to irradiation by gamma quanta, fast electrons, and fast neutrons in a pulse reactor, as well as by mixed reactor radiation. Tables of the characteristics of these crystals before and after the irradiation are presented. The authors of this brief communication thank V. S. Vavilov and V. L. Vinetskiy for their helpful discussions of the results.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

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USSR UDC 537.1.074

GAL'CHINETSKIY, L.P., KOSHKIN, V.M., KULAKOV, V.M., KULIK, V.N., RUDENKO, K.I., RYABKA, P.N., ULANIS, U.A., SHAMKOVTSOV, V.I.

"Study Of The Possibility Of Use Of Type In_2Te_3 Semiconductors As Detectors Of Reactor Radiation"

V sb. Metrol.neytron.izlucheniya na reaktorakh i uskoritelyakh (Metrology Of Neutron Radiation At Reactors And Accelerators--Collection Of Works), Moscow, 1971, p 56 (from RZh:Elektronika i yeye primeneniye, No 2, Feb 72, Abstract No 2B275)

Translation: During irradiation of $A^{III}B^{VI}$ compounds of the In_2Te_3 type by fast neutrons with fluxes up to 5×10^{16} cm^{-3}, electrons with an energy of 100 Mev with fluxes up to 10^{19} cm^{-2}, and gamma quanta with an energy of 1.2 Mev with fluxes up to 10^{18} cm^{-2}, a marked radiation sensitivity is discovered. An irreversible change of the electrophysical properties after irradiation is not established. The possibility is studied of the use of these materials as the basis for radiation-resistant detectors. A.M.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

USSR UDC 621.311.21.001.57

RYABKIN, G. M., BYDIN, A. L.

"Hydraulic Studies of the Composition of the Riga Hydroengineering Complex"

V sb. Nauchn. issled. po gidrotekhn. v 1969 g. T. 1 (Scientific Research in Hydroengineering in 1969. Vol 1 -- collection of works), Leningrad, Energiya Press, 1970, pp 268-269 (from RZh-Elektrotekhnika i Energetika, No 4, Apr 71, Abstract No 4 D131)

Translation: The Riga Hydroelectric Power Plant -- the lower stage of the cascade of hydroelectric power plants on the Daugava River -- is designed for operation under peak conditions with daily runoff regulation. The goals of the hydraulic research were the following: to study versions of headraces and tailraces; to test the bracing of the base of the upstream escarpment of earthen dams; to select the length of the separating pier between the hydroelectric power plant and the spillway. The studies were performed on a 1:75 scale three-dimensional model of the hydroengineering complex for the case of passage of a calculated flow through the structure with a 0.1% probability of being exceeded ($Q = 10,700\ m^3/sec$) and for the normal operational flow rate ($Q = 2,580\ m^3/sec$). Recommendations which were used in the operating design were developed from the research results.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

1/2 020 UNCLASSIFIED PROCESSING DATE--11DEC70

TITLE--PROPERTIES OF COBALT HYDROXIDE PRECIPITATED BY CHLORINE -U-

AUTHOR-(02)-PANTULIN, N.G., RYABKO, G.T.

R

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(4), 725-31

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--COBALT COMPOUND, HYDROXIDE, OXIDATION, CHLORINE, COLLOID, PHYSICAL CHEMISTRY PROPERTY, CHEMICAL PRECIPITATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/0953 STEP NO--UR/0080/70/043/004/0725/0731

CIRC ACCESSION NO--AP0131538 UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

2/2 020 UNCLASSIFIED PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AP0131538

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE OXION. OF CO PRIME2 POSITIVE SOLNS. BY CL IN THE PRESENCE OF A NEUTRALIZING AGENT SUCH AS NAOH, NA SUB2 CO SUB3, OR NA SUB3 SO SUB4, DIFFERS FROM THAT BY HYPOCHLORITE IN THAT THE PROCESS IS LOCALIZED AT CONATCT POINTS OF THE NEUTRALIZING AGENT WHERE THE OXIDANT CONCN. IS A MIN. THUS, THE CL OXION. GIVES LESS COLLOIDAL CO(OH) SUB3 BUT IS MORE SENSITIVE TO THE COMPN. OF THE NEUTRALIZING AGENT AND TO THE TEMP. WITH INCREASING TEMP. OF THE SOLN., THE COLLOIDAL PROPERTIES OF THE PPT. DECREASE AND WITH INCREASING SIZE OF THE NEUTRALIZING AGENT, LARGER COLLOIDAL PPTS. ARE FORMED. THE OPTIMUM CONDITIONS FOR CO(OH) SUB3 PPTS. WITH SATISFACTORY SINTERABILITY WERE DETD.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

USSR

UDC 539.2.01:548.4

RYABKO, P. V., and RYABOSHAPKA, K. P., Institute of Metal Physics, Academy of Sciences UkrSSR

"Theories of Yield Stress of Heterophase Systems With Coherent Deformations"

Kiev, Metallofizika, No 31, 1970, pp 5-32

Translation: This survey investigates the theories of yield stress of heterophase systems with depositions surrounded by a field of elastic deformations. Principal attention is given to an analysis of the theoretical sequence of work both during an account of the mechanism of interaction of the dislocation with the stress field and during the use of the yield criterion. Experimental work is used only to justify the correctness of theoretical models.

Bibliography: 31 entries, 5 illustrations.

1/1

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

USSR

UDC: 681.335.5

KONTOROVICH, B. I., KOROVIN, A. N., RYABKOV, V. M.

"A Device for Multiplying Analog Quantities"

USSR Author's Certificate No 318951, filed 28 Jul 70, published 27 Jan 72 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 7, Jul 72, Abstract No 7B491 P)

Translation: A device is known which contains a phase shifter, modulator, demodulator, and load. The trouble with the device is that the result of multiplication depends on the nature and magnitude of the load. The I/O characteristic is nonlinear, since the charge and discharge circuits of the parasitic capacitances and the filter capacitances are different. The purpose of the invention is to improve the operating precision of the device. The proposed unit uses a demodulator based on a four-transistor bridge circuit. The output winding of the modulator is connected between the pairwise joined collectors, and the load is connected between the pairwise joined emitters of the transistors. The bases of the transistors whose emitters are joined are connected through transformers to the phase shifter outputs. The transformer primaries are connected in series, and their common tiepoint is connected to the joined emitters.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

USSR

UDC 621.43.011:533;621.5:533

BRIZHENYUK, N. I., POZNANSKIY, V. I., RYBAKOV, V. S., SELEZNEV, Yu. V., KHOKHLOV, Yu. G.

"On the Problem of Determining the Rate of Combustion of Fuel in Diesels"

V sb. 11-ya Vses. konf. po vopr. ispareniya, goreniya i gaz. dinamike dispersn. sistem. 1972 (11th All-Union Conference on Problems of Evaporation, Combustion and Gasdynamics of Disperse Systems, 1972 -- Collection of Works), Odessa, 1972, p 44 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3B421)

Translation: A formula for determining the rate of combustion of fuel in diesels that was proposed by one of the authors of the article is analyzed. It is shown that one of the factors determining the rate of combustion is the rate of evaporation of the fuel, which depends in turn on the thermodynamic parameters of the medium, the surface and the volume of the fuel jet. The rate of heat release was investigated as a function of the basic physicochemical parameters. Yu. F. Dityakin.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

R

USSR UDC 621.396.6:621.318(088.8)

ARON, P. M., RYABKOVA, L. D., YERASTOVA, V. I.

"A Method of Producing Ferrite Powders"

USSR Author's Certificate No 252498, Filed 15 Jan 68, Published 13 Feb 70 (from RZh-Radiotekhnika, No 10, Oct 70, Abstract No 10V409 P)

Translation: The proposed method of producing ferrite powders by crushing a mixture of initial oxides and annealing the mixture with subsequent pulverization is distinguished by the fact that the activity of the powders is increased by adding to the mixture of initial oxides up to 5 wt.% ammonium sulfate, and annealing the mixture at the temperature of interaction between ammonium sulfate and the oxides for five hours, followed by a raise in temperature to 800-1,000°C.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

USSR

UDC 621.376.2

RYABOKON, D. S.

"Classification of Piezoelectric Band Filters of Bridge Structure"

Elektron. tekhnika. Nauchno-tekhn. sb. (Electronic Engineering. Scientific and Technical Selection), 1970, ser 9, vyp. 2, pp 59-61 (from RZh-Radiotekhnika, No 9, Sep 70, Abstract No 9D231)

Translation: This article contains an investigation of some relations between the filter class with respect to characteristic resistance and the filter class with respect to characteristic damping of a band filter of bridge structure. There are two illustrations and a two-entry bibliography.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

1/2 010 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--EFFECT OF SINTERING PROCESS PARAMETERS ON PELLET QUALITY AS STUDIED BY A FACTOR METHOD UNDER INDUSTRIAL CONDITIONS -U-

AUTHOR-(05)-SHARYGIN, D.A., ONISHCHENKO, A.E., RYABOKON, F.A., NESTEROV, G.S., URIN, V.D.

COUNTRY OF INFO--USSR

SOURCE--STAL' 1970, 30(2), 105-7

DATE PUBLISHED--------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--IRON OXIDE, SULFUR, DESULFURIZATION, INDUSTRIAL PRODUCTION, HIGH TEMPERATURE EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/1950 STEP NO--UR/0133/70/030/002/0105/0107

CIRC ACCESSION NO--AP0115758

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

2/2 010 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0115758

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECTS OF TEMP. OF THE PREHEATING ZONE, THICKNESS OF THE PELLET LAYER, TIME IN THE FIRING ZONE, AND SPECIFIC GAS CONSUMPTION ON THE CRUSHING STRENGTH OF PELLETS, THEIR FEO AND S CONTENTS, THE DEGREE OF DESULFURIZATION, AND THE PROPORTION OF SMALLER THAN OR EQUAL TO 5-MM FINES WERE STATISTICALLY INVESTIGATED, USING PRODUCTION DATA. AFTER DETG. THE REGRESSION COEFFS., THE CORRESPONDING VALUE OF THE QUALITY PARAMETER, Y, CAN BE GIVEN AS Y EQUALS B SUBO PLUS PRIMEK SIGMA B SUBI X SUBI PLUS PRIMEK SIGMA SUBI SMALLER THAN J B SUBIJ X SUBI X SUBJ, WHERE B IS THE COEFF. OF REGRESSION AND X ARE INDEPENDENT VARIABLES. ANAL. OF THE DATA OBTAINED PERMITTED AN IMPROVEMENT OF PELLET PREPN. BY SELECTING CORRESPONDING TREATMENT PARAMETERS. PLANT RESULTS CHECKED THE ACCURACY OF THESE PREDICTIONS. FACILITY: SOKOLOVSKO SARBAISKII GORNOOBOGAT. KOMB., USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

UDC: 621.315.592

USSR

RYABOKON', V. N. and SVIDZINSKIY, K. K.

"Shift of the Radiation Line in GaAs Injection Diodes With Silicon Doping"

Leningrad, Fizika i tekhnika poluprovodnikov, vol 6, No 6, 1972, pp 1096-1102

Abstract: Using as a model a GaAs light emission diode with silicon doping, the authors show that the characteristics of the emission spectra and the variation in the radiation region at various temperatures can be explained by the combined effect of two factors: the inequality in the degree of compensation of the diode base, and the finite width of the impurity zone of the acceptor centers. It is assumed, in this analysis, that the Fermi level throughout the diode base is sufficiently far from the limits of the forbidden zone such that small donors and acceptors are completely ionized in the entire temperature interval. The effect of the impurity zone on the recombination kinetics is estimated, and an expression is obtained for the injection coefficient.
The authors express their gratitude to V. Kholodnov for his assistance with the work and to R. Suris for his useful comments.
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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

USSR UDC 621.314.61(088.8)

RYABCKRIS, L.E.

"Inductive Current Divider"

USSR Author's Certificate No 259996, filed 11 Dec 68, published 27 Apr 70 (from RZh--Elektronika i yeye primeneniye, No 12, December 1970, Abstract No 12B499P)

Translation: With the object of increasing the effectiveness of an inductive current divider of a magnetic circuit, a supplementary winding is provided which is connected between both basic windings. 1 ill. I.R.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

USSR

UDC 536.495:548.4

RYABOSHAPKA, K. P., Institute of Metal Physics, Academy of Sciences UkrSSR

"The Statistical Approach in the Theory of Yield Stress of Heterophase Systems at High Temperatures"

Kiev, Metallofizika, No 31, 1970, pp 32-37

Translation: The statistical approach developed by Cox is used to describe the characteristics of the behavior of heterophase systems under load at high temperatures, when the diffusion transfer of impurities is possible. An examination is made of incoherent impurities, whose boundary can be presented in the form of an amorphous layer, so that the shearing stress along the boundary surface is equal to zero. It is concluded that, in connection with the entrainment of impurities by the moving dislocations, under such conditions the transition region near the yield stress can be widened considerably.

Bibliography: 12 entries.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

USSR

UDC 539.2.011548.4

RYABKO, P. V., and RYABOSHAPKA, K. P., Institute of Metal Physics, Academy of Sciences UkrSSR

"Theories of Yield Stress of Heterophase Systems With Coherent Deformations"

Kiev, Metallofizika, No 31, 1970, pp 5-32

Translation: This survey investigates the theories of yield stress of heterophase systems with depositions surrounded by a field of elastic deformations. Principal attention is given to an analysis of the theorethical sequence of work both during an account of the mechanism of interaction of the dislocation with the stress field and during the use of the yield criterion. Experimental work is used only to justify the correctness of theoretical models.

Bibliography: 31 entries, 5 illustrations.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

USSR

UDC: 531.01

RYABOV, A. B.

"On Analysis of the System of Forces Acting on a Body of Revolution in a Force Field With Axial Rotational Symmetry"

Tr. Mosk. aviats. in-ta (Works of the Moscow Aviation Institute), 1970, vyp. 204, pp 72-75 (from RZh-Mekhanika, No 4, Apr 71, Abstract No 4A179)

Translation: The author considers the effect which the forces of a magnetic field with axial symmetry have on the rotor of a cryogenic gyroscope suspended in this field. It is shown that under certain limitations, the resultant of the forces considered passes through some point which can be considered the fixed center of suspension. When the center of mass is located at this point, the forces generated by drift of the gyroscope will not act on the rotor. A. P. Duvakin.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

1/2 032 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--CALCULATING THE POWER CHARACTERISTICS OF A SINGLE COIL SUSPENSION FOR A CRYOGENIC GYROSCOPE ROTOR -U-

AUTHOR-(02)-RYABOV, A.B., RYABOV, B.A.

COUNTRY OF INFO--USSR

SOURCE--LENINGRAD, IZVESTIYA VYSSHIKH UCHEBNYKH ZAVEDENIY. PRIBOROSTROYENIYE, NO 2, 1970, PP 86-90

DATE PUBLISHED----------70

SUBJECT AREAS--NAVIGATION

TOPIC TAGS--GYROSCOPE SYSTEM, CRYOGENIC DEVICE, ELECTROMAGNETIC EFFECT, GYROSCOPE SUSPENSION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1687 STEP NO--UR/0146/70/000/002/0086/0090

CIRC ACCESSION NO--AT0123511

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

2/2 032 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AT0123511

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A METHOD IS PROPOSED FOR CALCULATING THE COILS OF AN ELECTROMAGNETIC SUSPENSION FOR A SPHERICAL CRYOGENIC GYROSCOPE. FACILITY: MOSCOW AVIATION INSTITUTE IMENI S. ORDZHONIKIDZE.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

USSR UDC 621.373:539.145.6

RYABOV, A. I., TOROPKIN, G. N.

"On the Problem of Emission Power Stability in Single-Mode Helium-Neon Lasers"

Elektron. tekhnika. Nauchno-tekhn. sb. Gazorazryadn. pribory (Electronic Technology. Scientific and Technical Collection. Gas-Discharge Devices), 1970, vyp. 1 (17), pp 42-45 (from RZh-Radiotekhnika, No 10, Oct 70, Abstract No 10D188)

Translation: It is shown that when a single-mode Ne-He laser is operated under variable ambient temperature (or pressure) conditions, spontaneous modulation of its output power takes place due to the continuous drift of longitudinal modes as a result of the change in the optical length of the resonator. Resumé.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

1/2 016 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--COATING SUSPENSIONS FOR CORROSION INHIBITING PAPER -U-

AUTHOR-(03)-RYABOV, A.K., SMIKUN, T.YA., ZOSIM, Z.L.

COUNTRY OF INFO--USSR

SOURCE--BUM. PROM. 1970, (1), 18

DATE PUBLISHED-------70

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

TOPIC TAGS--CORROSION INHIBITOR, PAPER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1984/1250 STEP NO--UR/0329/70/000/001/0018/0018

CIRC ACCESSION NO--AP0055921

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

2/2 016 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0055921

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A STUDY OF SUSPENSION STABILITY WAS CARRIED OUT ON SUSPENSIONS CONTG. SLIGHTLY SOL. CORROSION INHIBITORS, DICYCLOHEXYLAMMONIUM NITRATE AND CYCLOHEXYLAMMONIUM CHROMATE, AND CONTG, SYNTHETIC LATEXES AS BINDERS AND EITHER NH SU84 CASEINATE OR SOL. ME CELLULOSE (I) AS THE PROTECTIVE COLLOID. A RHEOL. STUDY OF THE SUSPENSIONS CONFIRMED THE HIGHER EFFECTIVENESS OF I AS THE PROTECTIVE COLLOID. AT SIMILAR TO 40DEGREES, I. E. THE TEMP. OF PAPER COATING UNDER INDUSTRIAL CONDITIONS, THE VISCOSITY OF SUSPENSIONS CONTG. I WAS ABOUT TWICE THE VISCOSITY OF THOSE CONTG. THE CASEINATE. THE STRENGTH OF STRUCTURES FORMED AT 40DEGREES WAS LOWER THAN THAT OF THOSE FORMED AT 25DEGREES, INDICATING GOOD PROCESSABILITY OF SUSPENSIONS CONTG. I. CURVES OF INHIBITOR PARTICLE SEDIMENTATION RATE AS A FUNCTION OF THEIR SIZE, WITHIN THE 2-100 MU RANGE, FOR SUSPENSIONS HAVING VISCOSITIES RANGING FROM 17.4 TO 107 CP, SHOWED A SIGNIFICANT SEDIMENTATION RATE FOR PARTICLES THE DIAM. OF WHICH EXCEEDED 10 MU. CONSEQUENTLY, IF THE PARTICLE SIZE OF THE INHIBITORS SUPPLIED TO PAPER MILLS EXCEEDS 10 MU, SUCH INHIBITORS SHOULD BE SUBJECTED TO ADDNL. MILLING BEFORE BEING USED IN THE PREPN. OF SUSPENSIONS. WHEN SUSPENSIONS PREPD. FROM CORROSION INHIBITORS WITH THE PROPER PARTICLE SIZE CONTAIN 10-14PERCENT I, THEY REMAIN STABLE FOR 2 HR. AT 5PERCENT I, THEY ARE STABLE FOR AT LEAST 1 HR.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

1/2 026 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--EFFECT OF THE CONDITIONS OF ALUMINUM OXIDE PREPARATION ON ITS POLYMORPHOUS TRANSFORMATIONS -U-

AUTHOR-(03)-RYABOV, A.N., KUZHINA, I.I., KOZLOV, I.L.

COUNTRY OF INFO--USSR

R

SOURCE--ZH. NEORG. KHIM. 1970, 15(3), 602-6

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--OXIDE, ALUMINUM OXIDE, HYDROXIDE, X RAY DIFFRACTION STUDY, CHEMICAL SYNTHESIS, PHASE TRANSITION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1993/0557 STEP NO--UR/0078/70/015/003/0602/0606

CIRC ACCESSION NO--AP0113448

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

2/2 026 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0113448

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FROM AN X RAY DIFFRACTION STUDY, THE NATURE OF THE STARTING MATERIALS AFFECTS THE POLYMORPHOUS TRANSITIONS OF THE RESULTING AL SUB2 O SUB3 (ALPHA GAMMA OR THETA MODIFICATION). WHEN PREPD. FROM AL HYDROXIDE, THE PHASE TRANSITION FROM GAMMA TO ALPHA AL SUB2 O SUB3 PROCEEDS VIA THE INTERMEDIATE THETA MODIFICATION, WHICH IS MORE ORDERED THAN THE GAMMA MODIFICATION. THIS TRANSITION INTERMEDIATE WAS NOT OBSD. WHEN THE GAMMA YIELDS ALPHA TRANSITION OCCURRED IN AL SUB2 O SUB3 PREPD. FROM ALUMS.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

1/2 021 UNCLASSIFIED

TITLE--COPOLYMERIZATION OF N VINYLPYRROLIDONE IN A CARBOXYLIC ACID MEDIUM -U-

PROCESSING DATE--27NOV70

AUTHOR-(03)-SEMCHIKOV, YU.D., RYABOV, A.V., KASHAYEVA, V.N.

COUNTRY OF INFO--USSR

SOURCE--VYSOKO MOL. SOEDIN., SER. B 1970, 12(5), 381-4

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--COPOLYMERIZATION, STYRENE, HYDROGEN BONDING, CHEMICAL REACTION RATE, CARBOXYLIC ACID, CHLORINATED ORGANIC COMPOUND, PYRROLIDONE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1231

STEP NO--UR/0460/70/012/005/0381/0384

CIRC ACCESSION NO--AP0134905

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

2/2 021 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0134905

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE COPOLYMN. OF N,VINYL,2,PYRROLIDONE (I) WITH H SUB2 C:CHCL, H SUB2 C:CHOAC, OR STYRENE IN HOAC OR CHCH SUB2 CO SUB2 H SOLNS. WAS CARRIED OUT. THE REACTIVITY RATIOS, POLARITY FACTORS, AND SP. ACTIVITY FACTORS WERE DETD. THE CHANGES OF THESE PARAMETERS ARE DUE TO H BONDING BETWEEN I AND THE ACIDS. IR SPECTROSCOPY SHOWS THAT THE H BONDS INVOLVE THE CO GROUP OF I. HOAC CONSIDERABLY INCREASES THE POLYMN. RATE OF I. FACILITY: NAUCH.-ISSLED. INST. KHIM., GORKI, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

1/2 019

UNCLASSIFIED

TITLE--CORRELATION BETWEEN THE THERMAL STABILITY OF A VINYL IDENE CHLORIDE ACRYLONITRILE COPOLYMER WITH ITS INTRAMOLECULAR STRUCTURE -U-

PROCESSING DATE--27NOV70

AUTHOR-(04)-SEMCHIKOV, YU.D., SLAVNITSKAYA, N.N., RYABOV, A.V., DOLOSKOVA, L.M.

COUNTRY OF INFO--USSR

SOURCE--VYSOKOMOL. SOEDIN., SER. B 1970, 12(5), 328-9

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--THERMAL STABILITY, ACRYLONITRILE, COPOLYMERIZATION, MOLECULAR STRUCTURE, CHLORINATION, VINYLIDENE RESIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1235

STEP NO--UR/0460/70/012/005/0328/0329

CIRC ACCESSION NO--AP0134909

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

2/2 019 UNCLASSIFIED

CIRC ACCESSION NO--AP0134909 PROCESSING DATE--27NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THERMAL DECOMP. OF RADICAL, BULK POLYMD. VINYLIDENE CHLORIDE (I) ACRYLONITRILE (II) COPOLYMERS (III) AT 170DEGREES IN VACUO GAVE A MAX. OF THE DEHYDROCHLORINATION RATE FOR III CONTG. SIMILAR TO 33PERCENT II (OVERLAPPING WITH THE MAX. NO OF I I II TRIADS IN III) AND A MIN. AT 50-60PERCENT II FOR III PROBABLY CONTG. II I II TRIADS; WHEREAS SIMILAR DECOMPN. OF A MIXT. OF I AND II HOMOPOLYMERS SHOWED INCREASING DEHYDROCHLORINATION RATES APPROACHING THOSE OF III AT II CONCNS. GREATER THAN 60PERCENT. THUS, AT LESS THAN OR EQUAL TO 60PERCENT II CONTENT THERE WAS AN INTRAMOL. INFLUENCE BY II ON DEHYDROCHLORINATION OF I IN III; BUT AT GREATER THAN 60PERCENT II CONTENT, THE EFFECT WAS INTERMOL.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

1/2 025 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--EFFECT OF THE MOLECULAR WEIGHT OF POLY(METHYL METHACRYLATE) ON VISCOUS AND DEFORMATION STRENGTH PROPERTIES OF ITS SOLUTIONS IN METHYL

AUTHOR-(05)-RYABOV, A.V., YEMELYANOV, D.N., CHEKNODEYEVA, I.V., ROSLYAKOVA, V.A., SHABALINA, N.A.

COUNTRY OF INFO--USSR

SOURCE--VYSOKOMOL. SOEDIN., SER. B 1970, 12(3), 192-5

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--MOLECULAR WEIGHT, POLYMETHYLMETHACRYLATE, METHYL METHACRYLATE, SHEAR STRESS, FLUID VISCOSITY, THIXOTROPE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/1202 STEP NO--UR/0460/70/012/003/0192/0195

CIRC ACCESSION NO--AP0116667

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

2/2 025 UNCLASSIFIED

CIRC ACCESSION NO--AP0116667 PROCESSING DATE--16OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SHEAR STRESS (P) VS. VISCOSITY (ETA) RELATIONS OF 15PERCENT POLY(ME METHACRYLATE) (I) IN ME METHACRYLATE DEPEND ON THE MOL. WT. (M) OF I. IN 0-80 DYNE-CM PRIME2 P RANGE ETA IS CONST. WHEN M IS 5.6 TIMES 10 PRIME4 OR 1.2 TIMES 10 PRIME5. HOWEVER, WHEN M EQUALS 1.3 TIMES 10 PRIME6 THESE SOLNS. ARE THIXOTROPIC: ETA RAPIDLY DECREASES WHEN P GREATER THAN 8 DYNES-CM PRIME2. FACILITY: NAUCH.-ISSLED. INST. KHIM., GOR'K. GOS. UNIV. IM. LOBACHEVSKOGO, GORKI, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202720010-5

USSR

RYABOV, B. A. and SACHKOV, G. P.

UDC: 62-50

"Technical Realizability of Invariant Systems With Constant Parameters"

Moscow, Avtomatika i Telemekhanika, No 11, 1972, pp 16-21

Abstract: Using the concept of the "coarseness" of a stable invariant system developed by A. A. Andronov (A. A. Andronov, et al, Teoriya kolebaniy -- Theory of Oscillations -- Fizmatgiz, 1959), the authors of the present paper theoretically investigate the technical realizability of constant-parameter systems allowing, however, variation of the parameters within specified limits. The Andronov concept is subdivided into coarseness "in the small " and coarseness "in the large." The first is defined as the preservation of the qualitative characteristics of a dynamic system for infinitely small variations of the parameters; the second imposes no limits on the smallness of the variations, allowing them to have finite deviations from the basic values. For the more general case in which the small variations are variable and limited functions of time, it is shown that the system is coarse even for finite variations.

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TITLE--CALCULATING THE POWER CHARACTERISTICS OF A SINGLE COIL SUSPENSION FOR A CRYOGENIC GYROSCOPE ROTOR -U- PROCESSING DATE--30OCT70

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ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A METHOD IS PROPOSED FOR CALCULATING THE COILS OF AN ELECTROMAGNETIC SUSPENSION FOR A SPHERICAL CRYOGENIC GYROSCOPE.

S. ORDZHONIKIDZE. FACILITY: MOSCOW AVIATION INSTITUTE IMENI

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