"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

KRICHEVSKIY, I.R.; YEFREMOVA, G.D.; PRYANIKOVA, R.O.; SEREBRYAKOVA, A.V.

Possible appearance of critical phenomena in three coexisting phases of a three-component system. Ukr. fiz. zhur. 9 no.5:481-486 My '64. (MIRA 17:9)

1. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut azotnoy promyshlennosti i produktov organicheskogo sinteza, Moskva.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

L 54795-65 EWT(m)/EWP(t)/EWP(b) IJP(c) JD

ACCESSION NR: AP5014312 UR/0073/65/031/006/0628/0631

542.944.03

AUTHOR: Serebryakova, A. V.; Govorushchenko, B. Ya.; Kolomoyets, Ye. S.

TITLE: High temperature chlorination of titanium slag

SOURCE: Ukrainskiy khimicheskiy zhurnal, v. 31, no. 6, 1965, 628-631

TOPIC TAGS: titanium tetrachloride, titanium, chlorination, slag

ABSTRACT: The purpose of this work was to study the effect which temperature in the 1000-2000°C interval has on the chlorination of titanium slag, the degree of chlorination of different slag components and the possibility of intensification of titanium tetrachloride production by increasing the temperature. The chlorination was conducted with titanium slag briquets made from industrial grade titanium slag. The process was carried out in a vertical graphite tube furnace shown in Fig. 1 of the Enclosure. Fig. 2 of the Enclosure shows the increase in the chlorination rate of the titanium slag with increase in the temperature and the time of chlorination. The greatest increase in the rate was observed in the 1000-1400°C interval and the maximum apparent energy of activation was 3200 cal/mol. The chlorination

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L 54795-65
ACCESSION NR: AP5014312

of titanium slags is a complex physico-chemical process because different slag components are chlorinated at different rates. The rates of chlorination of iron, aluminum and silicon were studied. It was found that an increase in temperature greatly increases the rate of chlorination of silicon, and the chlorination of aluminum and titanium to a lesser extent. It is shown that it is impractical to chlorinate titanium slag at 2000°C. Orig. art. has: 4 figures.

ASSOCIATION: Ukrgiprotsvetmet

SUBMITTED: 29Jan64 ENCL: 02 SUB CODE: IC, TD

NO REF SOV: 003 OTHER: 001

Card 2/4

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

SEREBRYAKOVA, A.V.; MARINA, G.F.; TSILENKO, V.T.

Preparation of silicon tetrachloride from waste products of abrasives plants. Khim. prom. 41 no.2:60-63 F '65. (MIRA 18:4)

1. Ukrainskiy gosudarstvennyy proyektnyy institut tsvetnoy metallurgii.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

ACC NR: AP6017957 SOURCE CODE: UR/0413/66/000/010/0025/0025

INVENTOR: Lebedev, G. N.; Serebryakova, A. V.; Starshenko, V. I.; Rogatkin, A. A.; Pundrovskiy, V. P.; Khlopkov, L. P.

ORG: None

TITLE: A method for removing phosgene from gases. Class 12, No. 181621

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 10, 1966, 25

TOPIC TAGS: phosgene, gas, filtration

ABSTRACT: This Author's Certificate introduces a method for removing phosgene from gases, particularly from waste gases in the production of titanium tetrachloride. The degree of purification is increased by adding hydrogen to the vapor-gas phase at a temperature below 500°C.

SUB CODE: 07/ SUBM DATE: 19Mar64

Card 1/1 UDC: 66.074.66

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

PHASE I BOOK EXPLOITATION SOV/5910

Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov

Veshchestva vysokoy chistoty i reaktivy; sbornik statey (High Purity Substances and Reagents; Collection of Articles) Moscow, Goskhimizdat, 1959. 186 p. (Series: Its: Trudy, vyp. 23) Errata slip inserted. 1,700 copies printed.

Sponsoring Agency: USSR. Sovet Ministrov. Gosudarstvennyy komitet po khimii.

Ed.: Yu.V. Lyands; Tech. Ed.: Ye.S. Shpak; Editorial Board of Series: V.G. Brudz', V.M. Dziomko, R.P. Lastovskiy (Resp. Ed.), A.M. Lukin, G.E. Malkiel', G.I. Mikhaylov, G.A. Pevtsov (Deputy Resp. Ed.), and I.G. Shafran.

PURPOSE: This book is intended for personnel of chemical research and industrial chemical laboratories.

COVERAGE: The book contains 36 articles by affiliates of the Scientific Research Institute for Chemical Reagents (IFHA) treating methods which may be adopted by different branches of industry in producing, analyzing, and studying inorganic and organic substances of high purity. Figures, tables, and references accompany each article. No personalities are mentioned.

Shafran, I.G. Chemical Methods of Determining Small Amounts of Impurities in a Number of High Purity Substances 88

Karasevich, G.G. Colorimetric Determination of Heavy Metals With the Aid of Thioacetamide 96

Bulgakova, A.M., A.N. Volkova, and G.S. Plotnikova. Determining Admixtures of Thallium in Sodium Iodide Single Crystals Activated by Thallium 102

Lukin, A.M., G.B. Zavarikhina, and N.S. Simonova. On the Problem of Analyzing Arylphosphonic Acids 106

Fretkin, Y.G., and N.G. Polivanova. Special Determination of Small Amounts of Iron in Selenium 113

Bozhevol'nov, Ye. A., and G.V. Serebryakova. Some Special Features of the Properties of Salicylaldehyde Semicarbazone as a Luminescent Acid-Base Indicator 116

Bozhevol'nov, Ye. A. Apparatus and Reagents for Luminescence Analysis 124

Dziomko, V.M., and K.A. Dunayevskaya. Synthesis of Some Azoxy Compounds and Their Reactions With Cations 138

Bozhevol'nov, Ye.A. The Connection Between Fluorescence and Structure in Organic Luminescent Indicators and Reagents 147

Shugam, Ye. A., and L.M. Shkol'nikova. Determination of the Elementary Cell and Space Group of the Sodium Salt of Cobalt (III)-ethylenediaminetetraacetic Acid 166

IV. REVIEWS

Brudz', V.G. Work of the Institute for Chemical Reagents for the [Past] Ten Years 169

AVAILABLE: Library of Congress

Card 6/6 JA/ra/gmp

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

SERE-BRYAKOVA, G.V.

PHASE I BOOK EXPLOITATION SOV/4973

Soveshchaniye po lyuminestsentsii, 8th, 1959

Metody lyuminestsentnogo analiza; materialy soveshchaniya (Methods for Luminescence Analysis; Materials of the 8th Conference) Minsk, Izd-vo AN BSSR, 1960. 147 p. 1,000 copies printed.

Sponsoring Agency: Akademiya nauk Belorusskoy SSR. Institut fiziki.

General Ed.: N. A. Borisevich; Ed.: L. Timofeyev; Tech. Ed.: N. Siderko.

PURPOSE: This collection of articles is intended for chemists and physicists interested in molecular luminescence, and for scientific personnel concerned with applications of this and related phenomena in research in the life sciences.

COVERAGE: The collection contains 28 papers read at the Eighth Conference on Luminescence, which took place 19-24 October, 1959 [place of conference not given]. These studies are concerned principally with the development of new luminescence methods for quantitative and qualitative chemical analysis, and with the applications of luminescence in medical and biological research. They discuss luminescence methods for the determination of uranium, mercury, magnesium, aluminum, boron, and other elements, as well as luminescence methods for the diagnosis of skin cancer and the detection of grippe virus, pathogenic microorganisms, etc. The structural design of new instruments for luminescence analysis is described. The conference was not concerned with studies on the phosphorescence of crystal phosphores. There is a discussion of the contributions of Soviet specialists in molecular luminescence in the course of the year and a half preceding the conference. The articles of V. K. Matveyev (p. 75) and of V. V. Patrikeyev (p. 79) have been annotated because of their importance. No personalities are mentioned. References accompany most of the articles.

Stolyarov, K. P., and N. N. Grigor'yev [Leningradskiy gosudarstvennyy universitet imeni A. A. Zhdanova (Leningrad State University imeni A. A. Zhdanov)]. Qualitative and Quantitative Luminescence Analysis of Inorganic Ions 32

Shcherbov, D. P., R. N. Korzheva, and A. I. Ponomarenko [Kazakhskiy institut mineral'nogo syr'ya (Kazakh Institute of Mineral Raw Materials)]. Determination of Boron with Benzoin with the Aid of the Objective Fluorometer for Liquids 37

Shcherbov, D. P., and R. N. Korzheva. Increasing the Sensitivity and Reproducibility of Fluorescence Analysis of Solutions 43

Gurkina, T. V., and A. V. Drobachenko. Fluorometric Determination of Boron in Solutions by Means of Morin With a Sensitive Fluorometer of New Design 50

Bozhevol'nov, Ye. A., and G. V. Serebryakova [Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov (IREA)(All-Union Scientific Research Institute of Chemical Reagents)(IREA)]. New Luminescence Reagent for the Determination of Magnesium 55

Bozhevol'nov, Ye. A., and V. M. Yanishevskaya [All-Union Scientific Institute of Chemical Reagents]. Determination of Aluminum by the Luminescence Method in Substances Having a High Degree of Purity 59

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APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

S/051/62/013/003/005/012
E202/E435

AUTHORS: Bozhevol'nov, Ye.A., Serebryakova, G.V.

TITLE: Fluorescence of intracomplex cationic compounds

PERIODICAL: Optika i spektroskopiya, v.13, no.3, 1962, 390-395

TEXT: Following the work of D.E.Freeman and Ch.E.White (J. Amer. Chem. Soc., 78, 1956, 2678) and Z. Holzbecher (Chem. list., 49, 1955, 684), the authors studied absorption and fluorescence spectra of intracomplex compounds paying particular attention to the amount of Stokes shift, differentiating the fraction of the scattered energy from the energy of the absorbed quantum. 8-hydroxyquinoline (I) and salicylal-o-aminophenol (II) were chosen as exemplifying the rigid and non-rigid structures respectively. Of the fluorescing intracomplex forming cations, Al^{+++}, Ga^{+++}, In^{+++} and Zn^{++} were studied. The nonfluorescing cations were represented by Cu^{++}. The intracomplex compounds of the above cations were prepared in glycol and phthalic buffer solutions with optimum pH adjusted for each cation. The metallic complexes with (I) were extracted with chloroform and those with (II) were extracted with isoamyl alcohol. The absorption

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BOZHEVOL'NOV, Ye. A.; SEREBRYAKOVA, G. V.

Experimental technique in determining the microquantities of substances. Metod. anal. khim.reak. i prepar. no. 4:39-45 '62. (MIRA 17:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobo chistykh khimicheskikh veshchestv.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

SEREBRYAKOVA, G. V.; BOZHEVOL'NOV, Ye. A.; GODLINA, G. S.

Determination of magnesium in water and acids with bissalicylidene-ethylenediamine. Metod. anal. khim.reak. i prepar. no. 4:92-95 '62. (MIRA 17:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobo chistykh khimicheskikh veshchestv.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

BOZHEVOL'NOV, Ye. A.; SEREBRYAKOVA, G. V.

Determination of zinc in acids and potassium-sodium tartrate with 8-(p-toluenesulfonylamino)-quinoline. Metod. anal. khim.reak. i prepar. no. 4:120-125 '62.

89-92

Determination of magnesium in acids and calcium tartrate by "lumomagnezon" of the Institute of Chemical Reagents. Ibid.:~~100-107.~~ (MIRA 17:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobo chistykh khimicheskikh veshchestv.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

BOZHEVOL'NOV, Ye.A. (Moscow, Bogorodskiy val.d.3); SEREBRYAKOVA, G.V. (Moscow, Bogorodskiy val.d.3); YANISHEVSKAYA, V.M. (Moscow, Bogorodskiy val.d.3); KREYNGOL'D, S.U. (Moscow, Bogorodskiy val.d.3)

Use of luminescence analysis for determining inorganic contaminations. Acta chimica Hung 32 no.2:199-206 '62.

1. Vsesoyuznyy nauchno-issledovatelskiy institut khimicheskikh reaktivov.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

SEREBRYAKOVA, G.V.; LUKIN, A.M.; BOZHEVOL'NOV, Ye.A.

Luminescent properties of azo compounds based on barbituric acid. New reagent for magnesium. Zhur.anal. khim. 18 no.6:706-711 Je '63. (MIRA 16:9)

1. All-Union Scientific-Research Institute of Chemical Reagents and Chemical Substances of Special Purity, Moscow.
(Azo compounds) (Barbituric acid) (Magnesium—Analysis)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

SEREBRYAKOVA, G.V.; BOZHEVOL'NOV, Ye.A.; GODLINA, G.S.; LUKIN, A.M.

Bis-salicylal ethylenediamine, a luminescent reagent for the determination of magnesium. Trudy IREA no.25:9-16 '63. (MIRA 18:6)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

KREYNGOL'D, S.U.; BOZHEVOL'NOV, Ye.A.; SEREBRYAKOVA, G.V.

Determination of the instability constant of a complex of 8-(p-toluenesulfonylamino)-quinoline with zinc. Trudy IREA no.25:422-426 '63. (MIRA 18:6)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

SEREBRYAKOVA, G.Ye.

Determining the difference between the ephemeris and the universal time for 1951,1953,1954, and 1955. Biul. Inst. teor. astron. 7 no.2: 165-176 '58. (MIRA 13:3)
(Time) (Astronomy, Spherical and practical)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

BOLOTOV, I.Ye.; SEREBRYAKOVA, I.B.; SMIRNOV, N.S.

Effect of pondermotive forces on the formation of coating obtained by hot zinc plating [with summary in English]. Inzh.-fiz. zhur. no. 9:113-115 S '58. (MIRA 11:10)

1. Ural'skiy institut chernykh metallov, g. Sverdlovsk.
(Zinc plating)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

S/133/61/000/001/016/016
A054/A033

AUTHORS: Serebryakova, I. B., Engineer, Men'shikova, Z.P., Engineer, and Smirnov, N. S., Candidate of Technical Sciences

TITLE: Effects of Impurities in Zinc on its Fluidity During the Galvanization of Steel

PERIODICAL: Stal', 1960, No. 1, pp. 92 - 94

TEXT: Studies of the behaviour of zinc coatings during the galvanization process of steel revealed that the longer zinc is kept fluid (under the influence of metallostatic pressure) the less zinc will be carried off by the galvanized steel product. Since the flowability of zinc greatly depends on its composition, experiments were carried out to establish the flowability of zinc with various iron, lead, tin and aluminum additions. It was found that about 0.05 - 0.07% iron in the alloy does not modify its flowability considerably; an iron-content of about 0.075% even improves it, but larger precentages of iron reduce the flowability of the zinc alloy. A lead-content under 0.5% reduces the flowability of the zinc-alloy; when added in larger amounts, however, it improves the fluidity, because in this case, the alloy divides into two non-miscible

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S/133/61/000/001/016/016
A054/A033

Effects of Impurities in Zinc on its Fluidity During the Galvanization of Steel

liquid layers; the separation of pure zinc from the alloy improves the flowability, because pure zinc is more liquid than its alloy with lead. (Fig. 3) When less than 2% tin is added to the alloy, the flowability of the zinc-alloy decreases while tin concentration between 2-9% increase the flowability. The investigation of aluminum additions proved that an Al content of 0.5% corresponds to the minimum degree of flowability. An Al-addition of not more than 0.2% promotes the evolution of an intermittent zone of brittle ferrum-zinc metalloids and hereby the delamination of the zinc coating. From the tests it can be concluded that pure electrolytic zinc and its alloy containing a maximum of 2% lead shows the highest degree of liquidity. The most suitable for this purpose are 40(Ts0) grade electrolytic steel with a flowability of 115.5 cm and Ts 3 grade distilled zinc (flowability: 94.7 cm) with a lead content of not less than 2%. In the galvanizing shop of the Novomoskovskiy zavod (Novomoskva plant) the following relationships have been found between the lead content of the zinc alloy and the zinc consumption:

Pb-content on the zinc alloy, %

0.05	0.15	0.20	0.25	0.40	0.60	0.75
0.09	0.19	0.24	0.29	0.44	0.64	0.79

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

S/133/61/000/001/016/016
A054/A033

Effects of Impurities in Zinc on its Fluidity During the Galvanization of Steel

Zinc consumption, kg/t of product	197	231	344	307	217	209	178

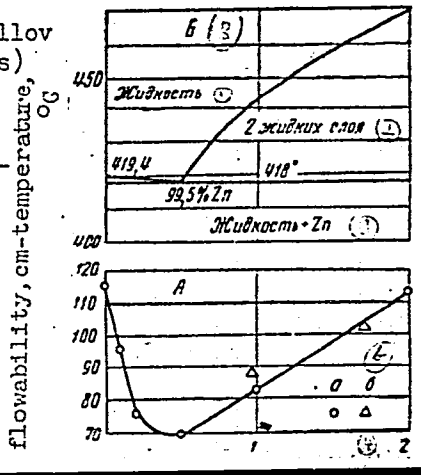
There are 5 figures and 15 references, 7 Soviet and 8 non-Soviet.

ASSOCIATION: Ural'skiy institut chernykh metallov (Ural Institute of Ferrous Metals)

Figure 3:

The dependence of the zinc flowability on its Pb-content (A) and the corresponding sector of the constitutional diagram of the Zn-Pb system (B)
a - electrolyte zinc; b - distillation zinc

1 - liquid; 2 - 2 liquid layers; 3 - liquid + Zn; 4 - lead content, %



Card 3/3

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

SEREBRYAKOVA, I.B.

Lowering zinc consumption during the hot galvanizing of wire. Stal' 25 no.4:380 Ap '65. (MIRA 18:11)

1. Ural'skiy nauchno-issledovatel'skiy institut chernykh metallov.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

SEREBRYAKOVA, I.B., inzh.; SMIRNOV, N.S., kand.tekhn.nauk

Iron content in molden zinc during hot galvanizing. Stal' 25 no.5:478-479 My '65. (MIRA 18:6)

1. Ural'skiy nauchno-issledovatel'skiy institut chernykh metallov.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

DANILOV, K.G.; SEREBRYAKOVA, I.V.

Transfer of the old liquid by means of the connected vessels system.
Trudy TSNIISP no.12:17-22 '62. (MIRA 17:3)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

L 51388-65 EWT(1)/EWA(j)/EWA(b)-2 RO/JK

ACCESSION NR: AP5011968 UR/0348/65/000/002/0016/0018

AUTHORS: Prokhorov, M. (Professor); Serebryakova, L. (Junior research associate)

TITLE: Introduction of bacterial cultures in grain media

SOURCE: Zashchita rasteniy ot vrediteley i bolezney, no. 2, 1965, 16-18

TOPIC TAGS: agriculture, pesticide, biological research, bacteria, bacteriologic culture

ABSTRACT: Grain inculcated with cultures of rodent typhus is widely used as a zooicide in the SSSR because of its many advantages over liquid preparations. Properly prepared grain contains the elements necessary for culture growth, preserves the bacterial activity for long periods, and may be distributed by several methods, including the aerial. The grain carries 5-20 times as many bacteria as a liquid medium, and it is substantially more lethal. In 1958 only 500 kg of treated grain were prepared, and in 1959 the publication "Metodicheskiye ukazaniya po izgotovleniyu i primeneniyu preparata bacteriy na zernovykh sredakh dlya deratizatsii" by M. I. Prokhorov and L. K. Serebryakova was printed. Many laboratories began making the preparation thereafter. Between 1958 and 1964, 30 tons were produced in the Saratov district, while 300 tons were used throughout the entire nation. The low cost and effectiveness gained a rapid acceptance for this preparation. The

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ACCESSION NR: AP5011968

quantities, costs, and results of its applications in various regions are listed. The applications are most effective in early spring and late fall. The treated grain has no harmful effects on humans or livestock, does not germinate, and is lethal to all types of small rodents.

ASSOCIATION: Vsesoyuznyy institut sel'skokhozyaystvennoy mikrobiologii, Leningrad (All-Union Institute of Agricultural Microbiology)

SUBMITTED: 00 ENCL: 00 SUB CODE: LS

NO REF SOV: 000 OTHER: 000

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APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

SEREBRYAKOVA, L. A.

"Water Balance in Oak and Maple Plantings in the Dark Chestnut Brown Zone of the Lower Volga." Cand Agr Sci, Saratov Agricultural Inst, Saratov, 1953. (RZhBiol, No 1, Sep 54)

SO: Sum 432, 29 Mar 55

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

GERNGROSS, O.G.; PYSINA, T.V.; SEREBRYAKOVA, L.N.

Characteristics of the influenza outbreak in Vladivostok in 1959. (MIRA 18:5)
Trudy VladIEMG no.2:133-136 '62.

1. Iz Vladivostokskogo nauchno-issledovatel'skogo instituta epidemiologii, mikrobiologii i gigiyeny.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

SEREBRYAKOVA, L.N.; BULATOVA, A.V.

Improving the method for the preparation of vanadium pentoxide. Prom. khim. reak. i osobo chist. veshch. no.1:13-14 '63. (MIRA 17:2)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

TOLKACHEVA, N.I.; SEREBRYAKOVA, L.N.

Two cases of intravital diagnosis of interventricular septum rupture following myocardial infarct. Kaz.med.zhur. no.2:70-71 Mr-Ap'63 (MIRA 16:11)

1. Terapevticheskoye otdeleniye (zav. - Z.D.Valyugina) Respublikanskoy bol'nitsy (glavnyy vrach - V.G.Mirskov) Mordovskoy ASSR, g. Saransk.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

SEREBRYAKOVA, L.V.; KURTEVA, A.K.

Fungous diseases of children and their treatment. Vest.derm. i ven. 31 no.2:48 Mr-Ap '57. (MIRA 12:12)

1. Iz Omskogo mikologicheskogo statsionara.
(DERMATOMYCOSIS) (CHILDREN--DISEASES)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

VLASOVA, N.A.; SEREBRYAKOVA, L.Ye.

Localization of nucleic acids in relation to the rate of development of the embryo sac in cotton. Uzb. biol. zhur. 7 no.1:27-33 '63 (MIRA 17:7)

1. Institut genetiki i fiziologii rasteniy AN Uzbekskoy SSR.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

SEREBRYAKOVA, M.B.; RAZUMNAYA, Ye.G.

Form of uranium occurrence in apatite. Dokl. AN SSSR 143 no.6: 1438-1441 Ap '62. (MIRA 15:4)

1. Vsesoyuznyy institut mineral'nogo syr'ya. Predstavleno akademikom A.G.Betekhtinym.
(Uranium) (Apatite)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

ROZHKOVA, Ye.V.; SEREBRYAKOVA, M.B.; MAKAROVA, T.V.

Possibility of calcium phosphate precipitation in sea-water basins. Min.syr'e no.6:46-60 '62. (MIRA 16:4)
(Calcium phosphates) (Deep-sea deposits)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

ROZHKOVA, Ye.V.; SER[redacted]EBRYAKOVA, M.B.

[Manual on the use of electrodialysis in the study of rocks, ores and minerals] Rukovodstvo po primeneniiu elektrodializa dlia izucheniia gornykh porod rud i mineralov. Moskva, Gos.izd-vo geogl.lit-ry, 1953. 48 p. (MLRA 6:8)

1. Vsesoiuznyy nauchno-issledovatel'skyy institut mineral8Nogo syr'ya ministerstva geologii. (Electrochemical analysis) (Mineralogy)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

SEREBRYAKOVA, M. V.

Changes in the properties of sodium borosilicate glass under the influence of thermal treatment. O. S. Molchanova and M. V. Serebryakova. *Trudy Opticheskogo Inst.* 23, No. 141, 3-12(1953); *Referat. Zhur., Khim.* 1954, No. 31228.—The rate of interreaction of alkali borosilicate glass with HCl, HF, and KOH was studied. The changes of phys. properties with temp. is different in these glasses than in ordinary glass. The d. and n of these glasses start decreasing at the annealing temp., reach a certain min., and then start rising up to the temp. of softening. The max. interaction of these glasses with HCl, HF, and KOH coincides with the smallest d., and the min. coincides with high d. This behavior is peculiar to alkali borosilicate glasses contg. Na_2O not exceeding 10-12%. It is suggested that these glasses contain appreciable quantities of Na borates and that the mol. compn. may vary within limits sufficient to affect the rate of interaction of these glasses with acids and alkalies, whereas it is insufficient to affect the refraction. The dependence of d. and n on temp. characterizes 2 kinds of processes taking place in the glasses during thermal treatment: chem. processes taking place at 500-750° and phys. processes occurring at temp. below 500°. By studying only the phys. properties without considering the chem. processes it is impossible to arrive at reliable conclusions concerning the structure of glass. M. Hosch

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

M.SEREBRYAKOVA, (E.Rozhkova), (Ye.G.Razumnaya), (O.Shcherbak)

"SORPTION AND CONCENTRATION OF URANIUM IN SEDIMENTARY ROCKS" by E. Rozhkova,

Ye. G. Razumnaya, M. Serebryakova, O. Shcherbak.

Report presented at 2nd UN Atoms-for-Peace Conference, Geneva, 9-13 Sept 1958

SEREBRYAKOVA, M.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

SEREBRYAKOVA, M. V.

15(2) PHASE I BOOK EXPLOITATION SOV/2071

Vargin, V. V., Ye. A. Antonova, L. L. Gutorova, Ye. I. Litvinova, V. V. Luchinskiy, Yu. V. Mazurek, V. Ya. Senderovich, and M. V. Serebryakova

Tekhnologiya emali i emalirovaniya metallov (Technology of Enamel and Enameling of Metals) Moscow, Gosstroyizdat, 1958. 397 p. Errata slip inserted. 5,000 copies printed.

Reviewers: G. I. Belyayev, Chief (Dnepropetrovsk Chemical and Technological Institute, Division of Silicate Technology), Candidate of Technical Sciences, Docent, and V. P. Vaulin, Candidate of Technical Sciences; Ed.: V. V. Vargin, Doctor of Technical Sciences;

Ed. of Publishing House: N. A. Gomozova; Tech. Eds: E. M. El'kina, and L. Ya. Medvedev.

PURPOSE: This book is intended for students of technological institutes and may also be useful to engineers and technicians.

COVERAGE: In this book the physicochemical, mechanical, thermal, optical, chemical, and electrical properties of enamels and enamel coating are described. General information on raw materials, classification and calculation of enamel compositions and processing methods is given. This book is for the most part a collective effort of faculty members of the Glass Department, Leningradskiy tekhnologicheskoy institute imeni Lensoveta (Leningrad Technological Institute imeni Lensovet). Chapters I, X and XV, and the section Adherence of Enamel to Metal in Chapter III were written by M. V. Serebryakova; Chapters II and III by Ye.A. Antonova, Candidate of Technical Sciences; Chapter IV by V. Ya. Senderovich, Candidate of Technical Sciences; Chapter V and the section Chemical Stability in Chapter III by Professor V. V. Vargin; Chapter VI by Yu. V. Mazurek, Candidate of Technical Sciences; Chapters VII and XVI by Ye. I. Litvinova; Chapters VIII and IX and the section Stress in an Enamel Layer in Chapter III by Engineer V. V. Luchinskiy; and Chapters XVII, XVIII, XIX, and the section Baseless Enamel Coating in Chapter XII by Senior Scientific Worker L. L. Gutorova. Ye. V. Kuklin, V. Ya. Lokshin, N. N. Kholodilin, K. P. Azanov, K. K. Tikhomirov, and V. P. Vaulin are mentioned as having contributed to the development of the Soviet enamel industry. The uses of enamel coatings for protection against corrosion, electric insulation, and for combustion chambers and other parts of jet engines are treated briefly in the introduction. Basic research on enamel is being conducted at Leningrad Technological Institute, Novocherkasskiy politekhnicheskiy institut imeni S. Ordzhonikidze (Novocherkassk Polytechnical Institute imeni S. Ordzhonikidze), Khar'kovskiy politekhnicheskiy institut imeni Lenina (Khar'kov Polytechnical Institute imeni Lenin), Dnepropetrovskiy khimiko-technologicheskiy institut (Dnepropetrovsk Institute of Chemical Technology), Khar'kov Branch Nauchno-issledovatel'skiy institut khimicheskogo mashinostroyeniya (Scientific Research Institute of Chemical Machinery) and others. There are 9 references: 5 Soviet, 3 German and 1 English.

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

ROZHKOVA, Ye.V.; SEREBRYAKOVA, M.V.

Possible role of sorption in the formation of contact zones [with summary in English]. Sov. geol. 1 no.4:144-157 Ap '58. (MIRA 11:6)

1.Vsesoyuznyy institut mineral'nogo syr'ya.
(Geochemistry)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

VARGIN, V.V.; SEREBRYAKOVA, M.V.

Silicate leadless enamels for aluminum. Trudy LTI no.49:133-148 '58. (MIRA 15:5)

(Enamel and enameling)
(Aluminum)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

SEREBRYAKOVA, M. V.

50

PHASE I BOOK EXPLOITATION SOV/6060

Vargin, V. V., Professor, ed.

Emalirovaniye metallicheskikh izdeliy (Enameling of Metal Articles). Moscow, Mashgiz, 1962. 546 p. Errata slip inserted. 7500 copies printed.

Reviewer: A. S. Ragozin, Engineer; Ed.: M. V. Serebryakova, Engineer; Eds. of Publishing House: I. A. Borodulina, A. I. Varkovetskaya, and T. L. Leykina; Tech. Ed.: L. V. Shchetinina; Managing Ed. for Literature on Machinery Manufacture (Leningrad Division, Mashgiz): Ye. P. Naumov, Engineer.

PURPOSE: This book is intended for specialists in enameling, technical personnel of plants, and personnel of scientific research laboratories and institutes. It can also be used by teachers and students of schools of higher education.

COVERAGE: The book provides a brief discussion on raw materials and processes for melting enamels, describes in detail furnaces for melting enamels,

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and offers some recommendations for selection and calculation of furnaces. A special section [Ch. IV, sect. 8] on heat-resistant coatings is included. A flowsheet is given for centralized production of enamels. The properties and preparation of slips are also comprehensively described. The production of new enameled products such as pipelines, architectural and building materials, and aluminum articles is described. Individual chapters were written both by plant personnel and by technical personnel of scientific research institutes and schools of higher eduction. [See: Table of Contents.] No personalities are mentioned. There are 638 references, mainly Soviet, with many English and some German.

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Enameling of Metal Articles

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PART II. THE TECHNOLOGY OF ENAMELING METAL ARTICLES

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Enameling of Metal Articles (...) SOV/6060

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AVAILABLE: Library of Congress
SUBJECT: Metals and Metallurgy
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APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

ALEKSEYEV, A.G.; VARGIN, V.V.; VERTSNER, V.N.; KIND, N.Ye.; KONDRAT'YEV, Yu.N.; PODUSHKO, Ye.V.; SEREBRYAKOVA, M.V.; TIKHOMIROV, G.P.; TUDOROVSKAYA, N.A.; FLORINSKAYA, V.A.; LIBERMAN, N.R., red.

[Controlled catalyzed crystallization of glasses of the lithium aluminosilicate system] Katalizirovannaia reguliruemaia kristallizatsiia stekol litievoaliumosilikatnoi sistemy. Leningrad, Khimiia. Pt.1. 1964. 119 p. (MIRA 18:4)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

VARGIN, V.V., prof., doktor tekhn. nauk; ANTONOVA, Ye.A., kand. tekhn. nauk; GUTOROVA, L.L., st. nauchn. sotr.; LITVINOVA, Ye.I., kand. tekhn. nauk; LUCHINSKIY, V.V., inzh.; MAZUREK, Yu.V., kand. tekhn. nauk; SENDEROVICH, V.Ya., kand. tekhn. nauk; SEREBRYAKOVA, M.V., st. nauchn. sotr.

[Technology of enamels and the enameling of metals] Tekhnologiia emali i emalirovaniia metallov. Moskva, Stroiizdat, 1965. 315 p. (MIRA 18:5)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

SEREBRYAKOVA, M.V.

Conference on enamels and the enameling of metals held in Leningrad in 1964. Stek. i ker. 22 no.2:46-47 F '65.
(MIRA 18:3)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

VARGIN, V.V., prof., red.; RAGOZIN, A.S., inzh., retsenzent; SEREBRYAKOVA, M.V., inzh., red.; BORODULINA, I.A., red. izd-va; VARKOVETSKAYA, A.I., red. izd-va; LEYKINA, T.L., red. izd-va; SHCHETININA, L.V., tekhn. red.

[Enameling of metal objects] Emalirovanie metallicheskikh izdelii. Moskva, Mashgiz, 1962. 546 p. (MIRA 15:7)
(Enamels and enameling)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

[illegible] Ye.N.; [illegible]

Disc-shaped microwave [illegible] on the pole pieces of an electromagnet. Pribory i tekhn. eksp. [illegible]

1. Moskovskiy gosudarstvennyy pedagogicheskiy institut.

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

L 31159-66 EWT(1)/EWT(m)/T/EWP(t) IJP(c) JD/AT

ACC NR: AP6006810 SOURCE CODE: UR/0181/66/008/002/0332/0341

AUTHOR: Blagosklonskaya, L. Ye.; Gershenzon, Ye. M.; Gurvich, Yu. A.; Ptitsyna, N. G.; Serebryakova, N. A.

ORG: Moscow State Pedagogical Institute im. V. I. Lenin (Moskovskiy gosudarstvennyy pedagogicheskiy institut)

TITLE: Cyclotron resonance of hot electrons in silicon and germanium

SOURCE: Fizika tverdogo tela, v. 8, no. 2, 1966, 332-341

TOPIC TAGS: cyclotron resonance, electron, silicon semiconductor, germanium semiconductor, impurity scattering

ABSTRACT: The cyclotron resonance of hot electrons in silicon and germanium was measured at 4.2 and 1.4°K in the three-centimeter range. Single crystal specimens of p-type silicon and germanium were used with a resistivity of 5000-18000 and approximately 70 Ω·cm respectively and a donor-acceptor impurity concentration of less than $5 \cdot 10^{13}$ cm^{-3}. The free carriers in the specimens were excited by light from an incandescent lamp modulated with a frequency of 500 cps. The cyclotron resonance was recorded as a function of magnetic field strength. The level of the

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ACC NR: AP6006810

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incident resonator power was varied within a range of 60 db. The maximum power corresponded to a field on the specimen of the order of 20 v/cm. Curves are given showing the half width of the resonance line as a function of the incident power. Line width measurements give identical results for all specimens in strong electric fields. The resonance lines show different widths for various specimens in weak fields due to impurity scattering. At 4.2°K in fields greater than 10 v/cm in germanium and 6 v/cm in silicon, a region of spontaneous emission of acoustic phonons is observed. At 1.4°K, this region is observed in both semicondctors starting from fields of 2 v/cm. In stronger fields $\tau \sim \varepsilon^{-1}$, while in weaker fields $\tau \sim \varepsilon^{-1/2}$. In this field intensity interval as well as in the region of spontaneous emission, the resonance curves for hot electrons are described by a single parameter which is of the order of the relaxation time at $\omega = \omega_c$. The authors thank Yu. P. Ladyzhinskiy for assistance with the calculations, and M. I. Ginzburg and G. I. Kononov for furnishing the germanium and silicon single crystals. Orig. art. has: 3 figures, 24 formulas.

49, 55 18

SUB CODE: 20/ SUBM DATE: 08Jun65/ ORIG REF: 006/ OTH REF: 008

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

SEREBRYAKOVA, N.I., assistent

Echinococcotome. Khirurgiia 34 no.9:135-136 S '58.
(MIRA 12:4)

1. Iz fakul'tskoy khirurgicheskoy kliniki (zav. - prof. I.M. Popov'yan) Saratovskogo gosudarstvennogo meditsinskogo instituta (dir. - dots. B.A. Nikitin).

(SURGICAL INSTRUMENTS AND APPARATUS)
(HYDATIDS)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

SEREBRYAKOVA, N.I. (Saratov, ul. Sovetskaya, d.21, kv.22); STAROVEROV, A.T.

Effective surgical treatment of an intrapericardial wound of vena cava inferior. Nov. khir. arkh. no.5:111-112 S-O '60. (MIRA 14:12)

1. Kafedra fakul'tetskoy khirurgii (zav. - prof. I.M.Popov'yan) Saratovskogo meditsinskogo instituta.
(VENA CAVA--WOUNDS AND INJURIES)
(HEART--WOUNDS AND INJURIES)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

POKROVSKIY, V.I., kand.med.nauk; KRASIL'SHCHIK, R.B., kand.med.nauk; SEREBRYAKOVA, N.I.

Clinical aspects and treatment of pneumococcal meningitis. - Sov.med. 24 no.3:66-72 Mr '60. (MIRA 14:3)

1. Iz kliniki infektsionnykh bolezney (zav. - prof. K.V.Bunin) I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M. Sechenova i 1-y Moskovskoy klinicheskoy infektsionnoy bol'nitsy (glavnyy vrach N.G.Zaleskver).

(MENINGITIS)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

SEREBRYAKOVA, N. I., CAND MED SCI, "CLINIC AND SURGICAL TREATMENT OF ECHINOCOCCOSIS OF THE LIVER." STALINGRAD, 1960. (MIN OF HEALTH RSFSR, STALINGRAD STATE MED INST). (KL, 3-61, 235).

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

KHONDKARIAN, O.A.; KHVAN, L.M.; SEREBRYAKOVA, N.I.; NAUMENKO, Yu.I.; RUDENSKIY, Ye.G.

Postvaccinal lesions of the nervous system. Zhur.nevr.i psikh. 61 no.3:359-367 '61. (MIRA 14:7)

1. Institut nevrologii (dir. - prof. N.V.Konovalov) AMN SSSR i 1-ya klinicheskaya infektsionnaya bol'nitsa (glavnyy vrach N.G.Zaleskver), Moskva.

(SMALLPOX) (ENCEPHALITIS) (NERVOUS SYSTEM--DISEASES)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

POPOV'YAN, I. M., prof.; SEREBRYAKOVA, N. I.

Influence of liver function on postoperative outcome following echinococcotomy of the liver. Khirurgiia 37 no.7:67-70 Jl '61. (MIRA 15:4)

1. Iz fakul'tetskoy khirurgicheskoy kliniki imeni S. R. Mirotvortseva (zav. - prof. I. M. Popov'yan) Saratovskogo meditsinskogo instituta.

(LIVER—HYDATIDS)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

CEREBRYAKOVA, N. M.

Cerebryakova, N. M.

"Protein fractions of the blood in fluorosis injuries to children." Sverdlovsk State Medical Inst. Sverdlovsk, 1956. (Dissertation For the Degree of Candidate in Medical Science).

Knizhnaya letopis'
No 34, 1956. Moscow.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

SOV/179-59-2-31/40

AUTHOR: Serebryakova, N. N. (Gor'kiy)

TITLE: On the Behaviour of Dynamic Systems with One Degree of Freedom Near Points of Stability Situated at the Boundary Dividing Safe and Danger Zones (O povedenii dinamicheskoy sistemy s odnoy stepen'yu svobody vblizi tekh tochek granitsy oblasti ustoychivosti, gde "bezopasnaya" granitsa perekhodit v "opasnuyu")

PERIODICAL: Izvestiya Akademii nauk SSSR OTN, Mekhanika i mashinostroyeniye, 1959, Nr 2, pp 178-182 (USSR)

ABSTRACT: This problem can be reduced to finding a value which would classify the region of stability according to Lyapunov's number (Ref 2). The work is concerned with a boundary where the first Lyapunov number becomes zero; this can be done when a system Eq (1) is transferred into the conical form Eq (5). Then it can be written as Eqs (8) and (9), the solution of which can be shown as Eq (10). When Eq (10) is substituted into Eq (9) a system of equations $u_1(0) = 1$, $u_j(0) = 0$ $(j \neq 1)$ is obtained, from which $u_1(\varphi)$, $u_2(\varphi)$, $u_3(\varphi)$, etc can be determined. Thus, if $\varphi = 2\pi$ the function:

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

SOV/179-59-2-31/40

On the Behaviour of Dynamic Systems with One Degree of Freedom Near Points of Stability Situated at the Boundary Dividing Safe and Danger Zones

$$\rho = \rho_0 + \alpha_3\rho_0^3 + \alpha_4\rho_0^4 + \alpha_5\rho_0^5 + \dots \qquad (\alpha_j = u_j(2\pi))$$

can be derived, which has a form

$$\rho = \rho_0 + \alpha_5\rho_0^5 + \dots \quad \text{for} \quad \alpha_3 = 0 \ .$$

The value of α_5 can be found from the equation at the foot of p 179. For the trajectories near the boundary of stability where the first Lyapunov number becomes zero, the following can be stated: if at a point M_0 in the plane Eq (5), $a_1 = \alpha_3 = 0$, $\alpha_5 \neq 0$, then for every $\varepsilon < 1$ such ε_0 and δ_0 can be found that for M from ε_0 - neighbourhood of the point M_0, the following will be satisfied: 1) if at the

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

On the Behaviour of Dynamic Systems with One Degree of Freedom Near Points of Stability Situated at the Boundary Dividing Safe and Danger Zones

point M in the series a_1, α_3 and α_5, two changes of sine occur, then in the δ_0-neighbourhood, the system Eq (5) has two limiting cycles if $\alpha_3^2 (1 - \varepsilon) - 8\pi a_1 \alpha_5 < 0$, and has no limiting cycles if $\alpha_3^2 (1 - \varepsilon) - 8\pi a_1 \alpha < 0$;

2) If at point M in the series a_1, α_3 and α_5 there is not more than one change of the sine the number of limiting cycles in δ_0-neighbourhood of Eq (5) is equal to the number of changes of sine in the series a_1, α_3 and α_5. The

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SOV/179-59-2-31/40

On the Behaviour of Dynamic Systems with One Degree of Freedom Near Points of Stability Situated at the Boundary Dividing Safe and Danger Zones

problem is illustrated by the figure on p 181 and proved by Eqs (11) and (15). Thanks are given to N. N. Bautin for advice. There is 1 figure and there are 3 Soviet references.

SUBMITTED: October 29, 1958.

Card 4/4

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

SEREBRYAKOVA, N.N., kand.med.nauk; KARAL'NIK, K.D.; LEKHTIK, L.M.

Diagnosis and clinical aspects of congenital heart defects in children. Vop.okh.mat.i det. 5 no.4:20-23 Jl-Ag '60. (MIRA 13:7)

1. Iz kafedry gospital'noy pediatrii Sverdlovskogo meditsinskogo instituta.

(HEART--ABNORMITIES AND DEFORMITIES)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

S/040/63/027/002/004/019
D251/D308

AUTHOR: Serebryakova, N. N. (Gor'kiy)

TITLE: On the periodic solutions of dynamical systems of the second order which are close to piece-wise linear

PERIODICAL: Prikladnaya matematika i mekhanika, v. 27, no. 2, 1963, 218-230

TEXT: The author considers the following nonautomatic system which is close to piece-wise linear:

$$dx/dt = y, \quad dy/dt = -\psi(x) + \mu f(x,y,t) \qquad (1.1)$$

where

$$\psi(x) \equiv \alpha_i x + \beta_i \text{ for } x_{i-1} < x < x_i \quad (i = \ldots -1, 0, 1, 2, \ldots)$$

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

$$f(x,y,t) \equiv f_i^{(1)}(x,y,t) \text{ for } x_{i=1} < x < x_i, y > 0$$

$$f(x,y,t) \equiv f_i^{(2)}(x,y,t) \text{ for } x_{i-1} < x < x_i, y < 0$$

Here the $f_i^{(j)}(x,y,t)$ $(j = 1,2)$ are analytic functions, periodic with respect to t with period 2π and μ is a small positive parameter. A point-transformation of the half-plane $x = x_0$, $y > 0$ into itself is considered, where $\mu = 0$, (1.1) has a family of periodic solutions $L(y_0, t_0)$. Several theorems are given, among them:1) In order that the point-transformation should have a fixed point $P_0(x_0, y_0^0 + \mu y_1, t_0^0 + \mu t_1)$ which converges to $P(x_0, y_0^0, t_0^0)$ as $\mu \to 0$,

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it is necessary that

$$F(y_0^{\,o},\ t_0^{\,o}) \equiv \frac{1}{y_0^{\,o}} \int_L f(x,y,t)dx = 0, \quad T(y_0^{\,o}) = \frac{2\pi n}{m} \qquad (1.12)$$

where L is a closed integral curve of (1.1) for $\mu = 0$, which passes through the points $P(x_0 y_0^o, t_0^o)$ and $P^{(1)}(x_0 y_0^o, t_0^o + 2\pi n)$ $T(y_0)$ is the period of the periodic solution of (1.1) with respect to y_0, and n/m is a rational fraction. 2) If y_0^o, t_0^o are a solution of (1.12), and if $T'(y_0^o)F_{t_0}'(y_0^o,\ t_0^o) \neq 0$ then there exists a unique fixed point $P_0(x_0 y_0^o + \mu y_1, t_0^o + \mu t_1)$ which converges to P as $\mu \to 0$. The corres-

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ponding autonomic problem is considered, the equations being the same except that they are now independent of t, and $f_i^{(j)}(x,y)$, $(j = 1,2)$ are analytic with respect to x and y. The point transformation is 3): If for sufficiently small μ (2.3) has a fixed point $P_o(x_o, y_o^o + \mu y_1)$ which converges to $P(x_o, y_o^o)$ as $\mu \to 0$, then necessarily

$$F(y_o^o) = 0 \tag{2.4}$$

4) If y_o is a solution of (2.4) and if $F'(y_o^o) \neq 0$, then (2.3) will have a unique fixed point P_o which tends to P as $\mu \to 0$. This will be stable if $F'(y_o^o) < 0$ and unstable if $F'(y_o^o) > 0$. An example from the theory of electrical machines is discussed in detail. There are 3 figures.

SUBMITTED: December 27, 1962

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

S/040/63/027/001/019/027
D251/D308

AUTHOR: Serebryakova, N.N. (Gor'kiy)

TITLE: Qualitative investigation of a system of differential equations of the theory of oscillations

PERIODICAL: Prikladnaya matematika i mekhanika, v. 27, no. 1, 1963, 160-166

TEXT: The author considers the system of equations

$$\frac{dx_1}{dt_1} = x_1(mx_1+ny_1+p), \qquad \frac{dy_1}{dt_1} = y_1(a'x_1+b'y_1+c') \qquad (0.1)$$

which occurs in the theory of oscillations. In the case when none of the coefficients n, m, p is equal to zero, by writing

$$x_1 = \frac{p}{m}x, \qquad y_1 = \frac{p}{n}y, \qquad t_1 = \frac{t}{p}$$

simplifying, and eliminating t, the points of equilibrium are found to be

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$$P_1(0,0), \quad P_2\left(0, -\frac{c}{b}\right), \quad P_3(-1,0), \quad P_4\left(\frac{c-b}{b-a}, \frac{a-c}{b-a}\right)$$

$$\Delta = \begin{vmatrix} 1 & 1 \\ a & b \end{vmatrix} \neq 0$$

By finding the roots of the corresponding characteristic equations, and transforming onto a Poincaré sphere the behavior of the trajectory may be studied (including behavior at infinity, different relationships between the remaining coefficients being considered). The case of some coefficients of the first and second equations of (0.1) being simultaneously equal to zero is considered by a modified method. There are 5 tables and 4 figures.

SUBMITTED: July 2, 1962

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

SEREBRYAKOVA, N.N. (Gor'kiy)

Periodic solutions to second-order dynamic systems closely approaching peicewise linear systems. Prikl.mat.i mekh. 27 no.2:218-230 Mr-Ap '63. (MIRA 16:4)
(Differential equations--Numerical solutions)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

MEDVED', L.I., doktor med. nauk, red.; BURKATSKAYA, Ye.N., kand.med. nauk, red.; VOYTENKO, G.A., kand. med. nauk, red.; KAGAN, Yu.S., red.; KRIVOGLAZ, B.A., prof., red.; KUNDIYEV, Yu.I., kand. med. nauk, red.; MAKOVSKAYA, Ye.I., doktor med. nauk, red.; SEREBRYANAYA, S.G., dots., red.; SPYNU, Ye.I., kand. med. nauk, red.; TOSTANOVSKAYA, A.A., kand. med. nauk, red.; TROTSENKO, M.A., kand. khim. nauk, red.; NOVIKOV, Yu.V., red.; CHULKOV, I.F., tekhn. red.

[Hygiene and toxicology of new pesticides and clinical aspects of poisoning; reports of the Second All-Union Scientific Conference of the Committee for the Study and Reglementation of Poisonous Chemicals of the Main State Sanitary Inspection of the U.S.S.R.] Gigiena i toksikologiia novykh pestitsidov i klinika otravlenii; doklady 2-i Vsesoiuznoi nauchnoi konferentsii Komiteta po izucheniiu i reglamentatsii iadokhimikatov Glavnoi gosudarstvennoi sanitarnoi inspektsii SSSR. Pod obshchei red. L.I.Medvedia. Moskva, Medgiz, 1962. 478 p. (MIRA 16:4)

1. Vsesoyuznaya nauchnaya konferentsiya po gigiyene i toksikologii insektofungitsidov, 2d, 1962.

(Continued on next card)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

MEDVED', L.I.---(continued). Card 2.

2. Predsedatel' Komiteta gosudarstvennoy sanitarnoy inspektsii SSSR po izucheniyu i reglamentatsii yadokhimikatov (for Medved'). 3. Kiyevskiy nauchno-issledovatel'skiy institut gigiyeny truda i profzabolevaniy (for Burkatskaya, Voytenko, Spynu, Kagan, Trotsenko). 4. Ukrainskiy nauchno-issledovatel'skiy institut pitaniya (for Serebryanaya).

(PESTICIDES--TOXICOLOGY)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

VLADYCHINA, Ye.N.; GOTS, V.L.; SEREBRYANIKOV, S.N.

Method of testing the electrostatic atomizer for electrostatic spray painting systems. Lakokras.mat.i ikh prim. no.5:40-44 '62. (MIRA 16:1)

(Spray painting, Electrostatic--Equipment and supplies)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

SEREBRYANNAYA, N.

Is this the correct way to build? Mest.prom.i khud.promys. 3 no.12:22-23 D '62. (MIRA 16:2)
(Factories--Design and construction)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

SEREDA, G.A.; ROVINSKIY, F.Ya.

Shift of radioactive equilibrium between Sr^{90} and Y^{90} in lake waters. Atom.energ. 14 no.3:326-327 Mr '63. (MIRA 16:2)
(Strontium isotopes—Radioactive properties)
(Yttrium isotopes—Radioactive properties)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

KAVUN, Vasiliy Mikhaylovich. Prinimali uchastiye: BABSKIY, I.I.; BOROVSKIY, V.A.; VITKOVSKIY, M.P.; ZIMOVETS, V.N.; SEREDENKO, B.N.; PITUL'KO, V.Ye.; CHEPURNOV, I.A.; BLAZHEVSKIY, V.K.; YAROPUD, V.N.; RYBAK, V.N.; KUZIK, G.I.; ZADNEPRYANETS, G.V.; IVANOV, A.N., red.; BELOVA, N.N., tekhn. red.

[Efficient farm management] Ratsional'noe vedenie khoziaistva. Moskva, Sel'khozizdat, 1963. 205 p. (MIRA 16:4)

1. Ukrainskiy nauchno-issledovatel'skiy institut ekonomiki i organizatsii sel'skogo khozyaystva (for Babskiy, Borovskiy, Vitkovskiy, Zimovets, Seredenko, Pitul'ko, Chepurnov). 2. Vinnitskaya gosudarstvennaya sel'skokhozyaystvennaya opytnaya stantsiya (for Blazhevskiy, Yaropud). 3. Ukrainskiy nauchno-issledovatel'skiy institut zemledeliya (for Rybak). 4. Sekretar' partiynoy organizatsii kolkhoza imeni XXII s"yezda Kommunisticheskoy partii Sovetskogo Soyuza (for Kuzik). 5. Glavnyy agronom kolkhoza imeni XXII s"yezda Kommunisticheskoy partii Sovetskogo Soyuza (for Zadnepryanets).
(Collective farms—Management)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

ROMANENKO, I.N., prof.; CHAYKOVSKIY, A.F.[Chaikovs'kyi, A.F.], kand. ekon. nauk; MEL'NIK, O.K.[Mel'nyk, O.K.], st. nauchnyy sotr.; USTINOVSKAYA, L.T.[Ustynovs'ka, L.T.], kand. sel'khoz. nauk; SERIDKO, A.M., kand. biol. nauk; ZHADAN, I.I., kand. sel'khoz. nauk; SEREDENKO, B.M., kand. tekhn.nauk; NIZHNIY, M.I., kand. ekon. nauk; OBZHELYANSKIY, S.Ya.[Obzhelians'kyi, S.IA.], kand. ekon. nauk; PUDENKO, G.I.[Pudenko, H.I.]; LYSYY, Yu.B. [Lysyi, IU.B.], red.; POTOTSKAYA, L.A.[Pototska, L.A.], tekhn. red.

[Intensified specialization of farm production within a district as exemplified by Khorol District, Poltava Province] Ukrains'kyi naukovo-doslidnyi instytut ekonomiky i organizatsii sil's'koho hospodarstva. Vnutriraionna pohlyblena spetsializatsiia sil's'-kohospodars'koho vyrobnytstva; na prykladi Khorol's'koho raionu, Poltavs'koi oblasti. Kyiv, Vyd-vo UASHN, 1962. 222 p. (MIRA 16:5)

1. Kiev. Ukrains'ka Akademiya sil'skohospodars'kykh nauk. 2. Chlen-korrespondent Vsesoyuznoy akademii sel'skokhozyaystvennykh nauk im. V.I.Lenina (for Romanenko). 3. Nachal'nik Khorol'skogo teritorial'nogo proizvodstvennogo kolkhozno-sovkhoznogo upravleniya, Poltavskaya oblast' (for Pudenko).
(Khorol District--Agriculture)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

SEREBRYAKOVA, N.N. (Gor'kiy)

Qualitative study of a system of differential equations in the theory of oscillations. Prikl. mat. i mekh. 27 no.1: 160-166 Ja-F '63. (MIRA 16:11)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

SEREBRYAKOVA, N.N. (Gor'kiy)

Qualitative investigation of a system of differential equations in the automatic control theory. Izv.AN SSSR.Mekh. i mashinostr. no.5:29-41 S-O '63. (MIRA 16:12)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

ACCESSION NR: AP4041416 S/0179/64/000/003/0061/0070

AUTHOR: Serebryakova, N. N. (Gor'kiy)

TITLE: Dynamic model of a clock on a rotating platform

SOURCE: AN SSSR. Izv. Mekhanika i mashinostroyeniye, no. 3, 1964, 61-70

TOPIC TAGS: rotating platform, unbalanced clock pendulum, centrifugal force, pendulum motion equation, pendulum autooscillation period, maximal pendulum cycle, series expansion parameter method, piecewise linear function approximation

ABSTRACT: The article analyzes the effects of centrifugal force on the oscillations of an unbalanced pendulum. The selected model is a clock placed on a horizontal platform rotating at a constant angular velocity ω. The pendulum axis O is vertical and does not coincide with the axis of platform rotation O_1 (see Fig. 1 in the Enclosure). Several simplifying assumptions are made. Using the series expansion parameter method and piecewise linear function approximation, the equation for the motion of the pendulum is written as

$$-b < \varphi < b \qquad (1)$$

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ACCESSION NR: AP4041416

The system (1) is then analyzed for the condition $\mu = 0$ and maximum cycles. The phase area of (1) is defined as an area enclosed by straight lines $\varphi = 2\pi$ and $\varphi = -2\pi$. The maximum cycle of system (1) is situated for adequately small μ near the curve for $L = L(\varphi\delta)$ — a closed integral curve for the system (1) at $\mu = 0$ which passes through point $(\varphi_0, 0)$ $(\varphi_0 > 0)$ — and is stable. Auto-oscillation periods of system (1) for the above cycle are determined for several conditions and are analyzed in relation to parameters Q and ω^2. Finally, the system (1) is analyzed for minor unbalancing of the pendulum. "In conclusion, the author expresses gratitude to N. N. Bautin for his valuable advice." Orig. art. has: 12 graphs and 31 numbered equations.

ASSOCIATION: none

SUBMITTED: 10Jan64 DATE SEL: 23[illegible]64 ENCL: 01

SUB CODE: ME NO REF SOV: 001 OTHER: 000

Card 2/3

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ACCESSION NR: AP4041416

ENCLOSURE: 01

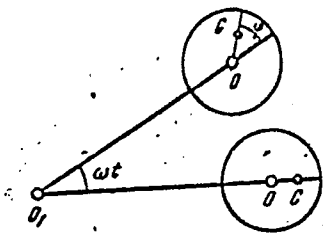

Figure 1. G = center of gravity of unbalanced pendulum, φ= angle of pendulum deflection from equilibrium

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

L 11338-65

ACCESSION NR: AP4048726 S/0179/64/000/004/0140/0141

AUTHOR: Serebryakova, N. N. (Gor'kiy)

TITLE: Dynamic model of a clock on a vibrating platform

SOURCE: AN SSSR. Izvestiya. Mekhanika i mashinostroyeniye, no. 4, 1964, 140-141

TOPIC TAGS: vibration effect, vibration, oscillation, differential equation, vibration measurement, vibration damping

Abstract: The effect of linear platform vibrations on oscillations of a clock balance, described by differential equations with non-analytical rules of components is investigated. The small parameter method (SEREBRYAKOVA, N. N., Prikladnaya Matematika i Mekhanika, No. 2, 1963) is used to find periodic modes of balance oscillations with a period equal to the period of an external force, and an evaluation is made of the interval of frequencies of natural oscillations of the balance, for which such modes exist. It is found that the damping bandwidth decreases for an increase of the amplitude of balance oscillations. The author acknowledges the advice of N. N. Bautin.

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

L 11338-65
ACCESSION NR: AP4048726

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ASSOCIATION: none

SUBMITTED: 24Feb64 ENCL: 00 SUB CODE: AS

NO REF SOV: 001 OTHER: 000 JPRS

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

L 35460-65 EWT(d) Pg-4 IJP(c)

ACCESSION NR: AP5005170 S/0179/64/000/006/0020/0031

AUTHOR: Serebryakova, N. N. (Gor'kiy)

12
B

TITLE: Dynamic model of a clock performing forced oscillations

SOURCE: AN SSSR. Izvestiya. Mekhanika i mashinostroyeniye, no. 6, 1964, 20-31

TOPIC TAGS: clock dynamics, stability analysis, forced oscillation

ABSTRACT: The effects of external periodic forces on the motion of the balance in a clock performing forced vibrations were investigated by the Van der Pol method on the differential equations of motion, and the regimes of possible motion were determined. The equation of motion for the configuration in Fig. 1 in the Enclosure was derived as

$$I_1(\varphi'' + \psi'') + k\varphi = R + M$$

(where

$$R = -\mu_1\varphi', \quad M = {}^1/_2(\varphi' + |\varphi'|)I_0\delta(\varphi - \varphi_0) + {}^1/_2 I_0(\varphi' - |\varphi'|)\delta(\varphi + \varphi_0)$$

and k = balance spring stiffness, I_1 = moment of inertia, μ_1 = viscous friction

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L 35460-65

ACCESSION NR: AP5005170

coefficient). After transformation to Van der Pol variables a and b

$$\varphi = a\cos t + b\sin t, \qquad \varphi' = -a\sin t + b\cos t$$

$$x = \pi a/2I, \quad y = \pi b/2I, \quad \varphi_1 = \pi\varphi_0/2I, \quad A = \pi A_0/2I$$

$$\tau = {}^1/_2\mu t, \quad r^2 = x^2 + y^2,$$

the differential equations take the form

$$\frac{dx}{d\tau} = -A - x + \zeta y + \frac{x\sqrt{r^2 - \varphi_1^2}}{r^2} - \frac{y\varphi_1}{r^2} \equiv P(x, y)$$

$$\frac{dy}{d\tau} = -y - \zeta x + \frac{x\varphi_1}{r^2} + \frac{y\sqrt{r^2 - \varphi_1^2}}{r^2} \equiv Q(x, y).$$

The equilibrium solutions for these equations were investigated by obtaining the resonance curve, and the stability as a function of system parameters was studied. The limiting cycles were also evaluated. It was found that for no external excitation and for $\phi_1^2 \geq 1/4$ the vibrations of the balance should die out; for finite excitation and $\phi_1^2 \geq 1/4$, the balance vibrates with the frequency of the exciting force; for $\phi_1^2 < 1/4$ the equations have a quasiperiodic solution

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L 35460-65

ACCESSION NR: AP5005170

$$\varphi = 2I\pi^{-1}r(t)\cos(t-\theta(t)),$$

where $r = r(t)$ and $\theta = \theta(t)$ are the equations of the stable limiting cycles. Thus, for certain conditions a regime of beats is established in which the vibration amplitude of the balance periodically changes. The frequency of the balance vibration in this region is given by

$$\omega_1 = 1 - \mu(-\zeta r_1^2 + \varphi_1 + Ar_1 \sin\theta_0)/2r_1^2.$$

The author thanks N. N. Bautin for his help in interpreting the results. Orig. art. has: 13 figures and 14 formulas.

ASSOCIATION: none

SUBMITTED: 26Aug64 ENCL: 01 SUB CODE: MA, GP

NO REF SOV: 006 OTHER: 001

Card 3/4

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

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ACCESSION NR: AP5005170

ENCLOSURE: 01

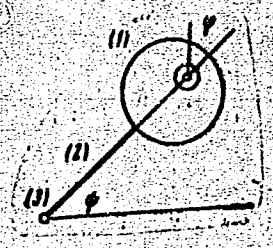

Fig. 1. Balance vibration geometry

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L 25866-66 EWT(1)

ACC NR: AP6011135 SOURCE CODE: UR/0424/66/000/001/0171/0172

AUTHOR: Serebryakova, N. N. (Gor'kiy)

ORG: none

TITLE: Position error in clocks

SOURCE: Inzhenernyy zhurnal. Mekhanika tverdogo tela, no. 1, 1966, 171-172

TOPIC TAGS: mathematic physics, clock, oscillator theory, oscillator

ABSTRACT: The conditions for the stabilization of the period of a linear oscillator subjected to a saw-tooth shaped excitation torque are derived. The derivation is based on the integration of the equation of motion

$$\varphi'' + \varphi + \alpha \sin \varphi = 0,$$

where α is a usually small parameter characterizing the instability of the balance and variable with position changes of the clock. For large values of α the $\sin \varphi$ is replaced by a saw-tooth shaped function (see Fig. 1).

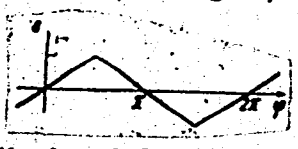

Fig. 1. Saw-tooth shaped function replacing $\sin \varphi$.

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The equation of motion then assumes the form

$$[d\varphi / d\tau = y, \quad dy / d\tau = -\varphi - \alpha s(\varphi) \equiv -\varphi - \alpha [(-1)^n 2\varphi / \pi + (-1)^{n-1} 2n]]$$

where

$$[(2n-1)\pi / 2 < \varphi < (2n+1)\pi / 2, \qquad n = \ldots -2, -1, 0, 1, 2, \ldots]$$

The solution for this equation is presented graphically (see Fig. 2).

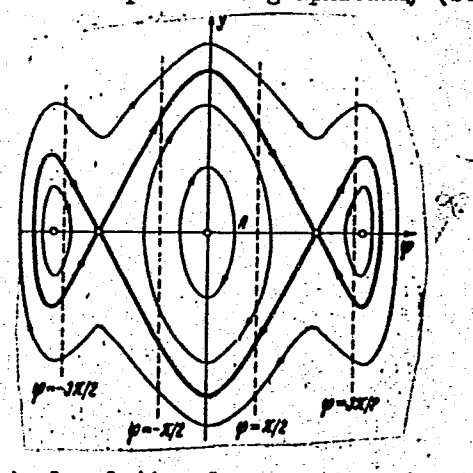

Fig. 2. Graphical solution for equation of motion.

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The curve L_0, corresponding to an amplitude A, for which the period of the excited motion equals the period of nonexcited motion (i.e., $\alpha = 0$) is selected from Fig. 2. The required amplitude is then given by the condition

$$T \equiv \int_{L_0} dt \equiv \int_{L_0} \frac{d\varphi}{y} = 2\pi$$

which yields

$$\frac{1}{2}\left(\frac{\pi - 2\alpha}{\pi}\right)^{1/2} D = \operatorname{arc\,ctg} \frac{\pi(\pi + 2\alpha)}{\sqrt{-B}} \quad \text{for} \quad \alpha < \frac{\pi}{2}$$

$$\frac{1}{2}\left(\frac{2\alpha - \pi}{\pi}\right)^{1/2} D = \operatorname{ar\,cth} \frac{\pi(\pi + 2\alpha)}{\sqrt{B}} \quad \text{for} \quad \alpha > \frac{\pi}{2}$$

where

$$D = \pi - 2\left(\frac{\pi}{\pi + 2\alpha}\right)^{1/2} \operatorname{ar\,ctg} \frac{\pi\sqrt{4\alpha^2 - \pi^2}}{\sqrt{B}}$$

$$B = \pi^2(\pi + 2\alpha)^2 - 4\left[2\alpha\pi + A(\pi - 2\alpha)\right]^2 .$$

Thanks are given to N. N. Bautin for his advice. Orig. art. has: 4 figures and 5 equations.

SUB CODE: 20/ SUBM DATE: 11Jul65/ OTH REF: 001

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

BUZINOV, P.A., kand.sel'skokhozyaystvennykh nauk; SEREBRYAKOVA, N.V., kand.sel'skokhozyaystvennykh nauk

Utilize wastes from the essential oils industry as fertilizer. Masl.-zhir. prom. 24 no.4:39-40 '58. (MIRA 11:5)
(Essences and essential oils--By-products)
(Fertilizers and manures)

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

5(3), 5(4) SOV/156-59-2-14/48

AUTHORS: Stepanov, B. A., Kakovskiy, I. A., Serebryakova, N. V.

TITLE: The Redox Potentials of Xanthogenates (Okislitel'no-vosstanovitel'nyye potentsialy ksantogenatov)

PERIODICAL: Nauchnyye doklady vysshoy shkoly. Khimiya i khimicheskaya tekhnologiya, 1959, Nr 2, pp 277-279 (USSR)

ABSTRACT: In the present investigation the same method was used that the authors employed for determining the redox potentials of dithiophosphates (Ref 1). The calculation of the potentials of the reaction (1) 2 ROCSS' - 2e = $(ROCSS)_2$ was carried out according to the graphical method described in reference 1. The redox potentials of methyl-, ethyl-, n-propyl-, n-butyl-, n-amyl-, n-hexyl-, n-heptyl-, n-octyl-, n-nonyl- and n-decyl xanthogenate are shown by figure 1 and listed in table 1. The potential increases as a result of the decreasing solubility of dixanthogenide with growing carbon chain. The second author found in an earlier investigation (Ref 10) that the solubility of the members of a homologous chain is reduced by 1/4.25 in the case of an elongation of the chain by a CH_2-member. This corresponds to $1/(4.25)^2 = 1/18$ in the case

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of the disulphide with 2 radicals. This is in agreement with the increase of the potentials for the higher xanthogenates (over C_8), while in the case of the low ones the values of measurement are too low by 5 - 15 mv as compared to calculation. This may be explained by the partial irreversibility of the reaction (1) with low xanthogenates on the platinum electrode. The reversibility of reaction (1) is to be investigated in a later paper. There are 1 figure, 1 table, and 10 references, 5 of which are Soviet, and 1 Rumanian.

PRESENTED BY: Kafedra metallurgii blagorodnykh metallov Ural'skogo politekhnicheskogo instituta (Chair of Metallurgy of Precious Metals, Ural Polytechnic Institute)

SUBMITTED: December 15, 1958

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

5(4) SOV/76-33-8-27/39

AUTHORS: Kakovskiy, I. A., Stepanov, B. A., Ryazantseva, O. F., Serebryakova, N. V. (Sverdlovsk)

TITLE: Redox Potentials of Dithiophosphates

PERIODICAL: Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 8, pp 1830-1839 (USSR)

ABSTRACT: Organic sulph-hydryl reagents, such as xanthogenates, dithiophosphates, mercaptanes, dithiocarbamates, etc, are used to an ever-increasing extent in industry for flotations, in hydrometallurgy, in analytical chemistry, etc. For thermodynamic balance calculations in connection with the above reagents, it is necessary to know the redox potential (RP) of these compounds, but the publications hardly contain any of the desired data. The present paper is, for this reason, devoted to the study of the (RP) of the ions of dialkyldithiophosphates. The firmness of the chemical bond between the two disulphide molecules is determined by the density of the electron cloud between them, i.e. the character of the central core of the group and the structure of the apolar part. The synthesis of dithiophosphoric acids was carried out by means of the reaction of alcohols with phosphorus

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pentasulphide (Ref 9). For the determination of the (RP) of the dithiophosphates (DP), two methods were used - a determination of the equilibrium constant of the oxidation reaction of the (DP) with iodine, and a measurement of the (RP) by the compensation method. The results furnished by the former method for an initial concentration of the (DP) of $1.85 \cdot 10^{-3}$ g.mol/l are given (Table 1), as well as those obtained by the potentiometrical measurements of various (DP) (Table 2). In order to determine the accuracy of determination, the standard potential was calculated by means of an equation (4) for dihexyldithiophosphate and compared with the experimental data (Table 3). The reversibility of the oxidation process of the (DP) with iodine was found, and the standard (RP) of alkyldithiophosphates was determined for systems in which liquid disulphide was regarded as standard state. The effect of the length of the hydrocarbon chain of the (DP) radicals upon the magnitude of the (RP) was examined, and an appropriate equation given for calculating the (RP) as a function of the carbon number of the radical. The influence of the isostructure of the apolar group of the (DP) upon the magnitude of the (RP) was also found. Furthermore, the solubility of

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Redox Potentials of Dithiophosphates SOV/76-33-8-27/39

dimethyldithiophosphate disulphide in water was determined at 25°C and a formula for the calculation of the solubility of disulphides and other (DP) was suggested. The standard (RP) of the homologous (DP) series for the standard state (disulphide solution in water) was calculated with an activity = 1. There are 1 figure, 3 tables, and 19 references, 16 of which are Soviet.

ASSOCIATION: Ural'skiy politekhnicheskiy institut im. S. M. Kirova (Urals Polytechnic Institute imeni S. M. Kirov)

SUBMITTED: February 11, 1958

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

SEREBRYAKOVA, R. M.

Reaction of iron, nickel, and cobalt silicates with elementary sulfur. I. D. M. Chizhikov and R. M. Serebryakova. *Tsvetnye Metal.* 29, No. 2, 45-8(1956). Powd. samples of Co (total) 51-52, Co (metallic) 0.63, and SiO_2 24.8, and of Fe 48.8 and SiO_2 33.75% placed in a boat were inserted into a reaction tube and washed with N_2; the tube was placed in a furnace and heated to 600-800°. S, placed in a flask connected to the N line was boiled, and its vapors were carried with N into the tube for 2 hrs. A tenfold quantity of S above that required for the formation of the compds. was used. The samples were cooled in N and analyzed for sulfides, sulfates, and oxides. The percentage of metal reacting with S increased with temp.; 44 CoS and 8.62% $CoSO_4$ formed at 600° were changed to 69 CoS and 0.8% $CoSO_4$ at 800°, while for Fe the figures were correspondingly 21.67 FeS and 100% FeS, both FeS and FeS_2 being present. Application of the same practice to Ni slag of converter blowing lead to 53.65-91.35 Co, 54.1-83.3 Ni, and up to 89.08% Fe being converted to sulfides in the 700-900° range. Details are given in graphs and tables.

J. D. Gat

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

MILOVANOVA, S.K.; SEREBRYANAYA R.M.; BOGDANOV, E.A.

Production of phosphoric acid from Kara-Tau flotation concentrate by sulfuric acid decomposition. Khim.prom. no.5:307-308 My '61. (MIRA 14:6)

(Phosphoric acid)

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

5(2); 28(5)

06400
SOV/170-59-2-18/23

AUTHORS: Samsonov, G.V., Neshpor, V.S., Serebryakova, T.I.

TITLE: The Increase in Electric Resistance of Directly Heated Cathodes Made of Borides of Rare-Earth Metals

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, 1959, Nr 2, pp 118-120 (USSR)

ABSTRACT: The use of thermal cathodes made of hexaborides of lanthanum, cerium and yttrium has been expanded in the recent time, but still it is hampered by their relatively low electric resistance. One of the possible ways of increasing their electric resistance is the use of their alloys instead of individual borides [Ref 2]. The authors prepared alloys of hexaborides of lanthanum and cerium by hot pressing the mixture of their powders under a pressure of 150 kg/cm^2 and at temperatures of 1,600 to 2,000°C. The sintered samples were subjected by an X-ray analysis in the RKE chamber, and the data obtained are presented in Table 1. The roentgenograms do not reveal characteristic lines of individual borides but two lines of their solid solution are observed. The specific electric resistance of the solid solutions of some borides is shown in the form of curves,

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001548020006-5

SOV/70-4-4-12/34

AUTHORS: Samsonov, G.V., Paderno, Yu.B. and Serebryakova, T.I.

TITLE: On the Borides of Praesodymium, Erbium and Terbium

PERIODICAL: Kristallografiya, 1959, Vol 4, Nr 4, pp 542-544 (USSR

ABSTRACT: The borides of Pr, Er and Tb were made from the oxides by the reactions:

$$Me_2O_3 + 3B_4C = 2MeB_6 + 3CO$$

and

$$Me_2O_3 + 15B = 2MeB_6 + 3BO$$

which were carried out in an electric resistance furnace under vacuum at 1 500 - 2 000 °C. X-ray powder photographs were taken in a 57.3 mm camera. PrB_6 was cubic with a = 4.12 Å. With Er a product identical with UB_4 was found, presumably ErB_4 with a tetragonal cell with a = 7.08, c = 4.02 Å. On the cooler parts of the furnace a blue film of ErB_6 was condensed and has been described earlier (V.S. Neshpor and the author - Ref 8).

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