"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

TSVETKOVA, V.I.; PIROGOV, O.N.; LISITSYN, D.M.; CHIRKOV, N.M.

Kinetics and mechanism of olefin polymerization on complex catalysts. Part 1: Kinetic equations and determination of the rate constants for the polymerization of α-olefins on the system $TiCl_3$ - AlR_3 when different methods of accomplishing the process are employed. Vysokom. soed. 3 no.4:585-593 Ap '61. (MIRA 14:4)

1. Institut khimicheskoy fiziki AN SSSR.
(Olefins) (Polymerization)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

RASPOPOV, L.N.; PIROGOV, O.N.; CHIRKOV, N.M.; LISITSYN, D.M.

Mechanical properties of -polyolefins. Part 1: Dependence of the mechanical properties of polypropylene on its molecular weight and fractional composition. Vysokom. soed. 5 no.12:1761-1764 D '63. (MIRA 17:1)

1. Institut khimicheskoy fiziki AN SSSR.

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

L 01153-66 EWT(m)/EWP(e)/EWP(j)/T RPL WW/RM

ACCESSION NR: AP5022004 UR/0286/65/000/019/0077/0077
678.742.2-134.23

AUTHOR: Dalin, M. A.; Bakhshi-Zade, A. A.o.; Kambarov, Yu. G. o.; Seidov, N. M. o.; Chirkov, N. M.; Tayetkova, V. I.; Lisitsyn, D. N.; Arutyunov, I. A.

TITLE: A method for producing an ethylene propylene elastomer. Class 39, No. 172989

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 19, 1965, 77

TOPIC TAGS: elastomer, ethylene, propylene, copolymerization, polymerization catalyst

ABSTRACT: This Author's Certificate introduces a method for producing an ethylene propylene elastomer by copolymerization of ethylene with propylene in a solvent in the presence of an organometallic Ziegler catalyst. Copolymerization is simplified by using liquid propylene as the solvent.

ASSOCIATION: none

SUBMITTED: 05Jul61 ENCL: 00 SUB CODE: MT

NO REF SOV: 000 OTHER: 000

Card 1/1 DP

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

LISITSYN, Fedor Pavlovich; VAZHEYKO, V.I., red.

[Sprinkler irrigation of farm crops; brief description of the design and use of sprinkling machines] Dozhdevanie sel'skokhoziaistvennykh kul'tur; kratkoe opisanie konstruktsii i primeneniia dozhdeval'nykh mashin. Frunze, MSKh Kirgizskoi SSSR, 1961. 38 p. (MIRA 17:10)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

LISITSYN, F.T.; SIYANITSKIY, F.M.

Moist thermal method for disinfecting containers. Zashch.rast. ot vred.i bol. 5 no.3:48-49 Mr '60. (MIRA 16:1)

1. Leningradskaya karantinnaya laboratoriya.
(Containers--Disinfection)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

KUCHEROVA, S.G., agronom-toksikolog; LISITSYN, F.T., agronom-toksikolog

Gas analyzer and its use in quarantine fumigation. Zashch. rast. ot vred. i bol., 7 no.8:52 Ag '62. (MIRA 15:12)

1. TSentral'naya karantinnaya laboratoriya Ministerstva sel'skogo khozyaystva SSSR i Leningradskaya karantinnaya laboratoriya.
(Fumigation) (Methane)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

KABALKINA, N.A., starshiy agronom-bakteriolog; LISITSYN, F.T.

Information and brief news. Zashch. rast. ot vred. i bol. 6 no.8:58-59 Ag '61. (MIRA 15:12)

1. Direktor Leningradskoy karantinnoy laboratorii (for Lisitsyn).
(Plants, Protection of)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

LISITSYN, G.

Industrial safety and labor protection propaganda. Mias.ind. SSSR 34 no.3:23-25 '63. (MIRA 16:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut myasnoy promyshlennosti.

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

LISITSYN, G. F.

LISITSYN, G. F.: "The dynamics of processes of magnetizing materials with rectangular characteristics". Moscow, 1955. Min Higher Education USSR. Moscow Order of Lenin Power Engineering Inst imeni V. M. Molotov, Chair of the Theoretical Principles of Electrical Engineering. (Dissertations for the degree of Candidate of Technical Science.)

SO: Knizhnaya Letopis' No. 50 10 December 1955. Moscow.

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

18(3)

SOV/161-58-3-1/27

AUTHORS: Shamayev, Yu. M., Candidate of Technical Sciences, Docent (Moscow), Lisitsyn, G. F., Candidate of Technical Sciences, Assistant (Moscow), Pirogov, A. I., Jr. Scientific Collaborator (Moscow)

TITLE: Methods and Results of Measurements of the Static and Dynamical Characteristics of Ferrites With Rectangular Loop of the Hysteresis (Metodika i rezul'taty izmereniy staticheskikh i dinamicheskikh kharakteristik ferritov s pryamougol'noy petley gisterezisa)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Elektromekhanika i avtomatika, 1958, Nr 3, pp 3-17 (USSR)

ABSTRACT: In the first chapter it is pointed out that the behavior of ferrite cores is known under static conditions, and derivation of the differential equation for the general case of dynamic magnetic induction is outlined. Work was carried out at the Kafedra teoreticheskikh osnov elektrotekhniki Moskovskogo ordena Lenina energeticheskogo instituta (Chair for the Theoretical Foundations of Electrical Engineering at the Institute of Power Engineering, Moscow) which was awarded the Order of Lenin. An improved type of galvanometer was used

Card 1/4

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SOV/161-58-3-1/27

Methods and Results of Measurements of the Static and Dynamical Characteristics of Ferrites With Rectangular Loop of the Hysteresis

for the investigations. For weak fields up to 5 oe the generators 26 I and GIS-2 were used as pulse generators, and for fields above 5 oe a special generator was developed. A basic scheme for the experimental arrangement is then given (Fig 4) with photographs of several oscillograms (Figs 3, 6). In connection with the results of statical tests, a diagram (Fig 7) shows the reciprocal value of the time needed for magnetization as a function of the external magnetic field of the ferrites VT-2. Next, derivation of induction with respect to time as a function of the external field is given (Fig 8), and in the third diagram (Fig 9) the variation of induction with respect to time as a function of the reciprocal pulse increase is given. The two first diagrams show an initial linear increase with increasing field strength, and with higher values of field strength increase becomes less. Next, the results obtained by investigations of the influence exercised by temperature within the range of from -60°C to just below Curie point (Figs 10, 11), and the results obtained by investigating 9 types of ferrites are given by a table. When dealing with the dynamical tests, the corresponding differen-

Card 2/4

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SOV/161-58-3-1/27

Methods and Results of Measurements of the Static and Dynamical Characteristics of Ferrites With Rectangular Loop of the Hysteresis

tial equation is first written down, in which the terms with derivatives of a higher degree are neglected. Next, the variation of induction with time in dependence of the external field strength is investigated and the results obtained are shown in form of a diagram (Fig 12). The magnetic resistance and the shift coefficient, and, in conclusion, the time needed for magnetic reversal are investigated. Finally, the similarity to the magnetic reversal in ferrites with rectangular hysteresis loop of a great variety of types is dealt with. The other figures show the following: Figure 1: a representation of the dynamical characteristic in form of a surface with the coordinates B, H, $\frac{dB}{dt}$; figure 2: a schematical drawing of the pulse fields generated by the generators; figure 5: hysteresis loop; figure 13: the dependence of $r_0(B)\left[= \frac{dB/dt}{H - H_s}\right]$ on induction; figure 14: the surface of the shift coefficient; figure 15: the curve of magnetic reversal

Card 3/4

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

SOV/161-58-3-1/27

Methods and Results of Measurements of the Static and Dynamical Characteristics of Ferrites With Rectangular Loop of the Hysteresis

$\frac{1}{\tau} = f_1(H_m)$; figure 16: $\frac{\tau_{fr}}{\tau} = f(H_m/H_{cr})$. ($\tau_{fr}$ = time for impulse front; τ = time for magnetic reversal; H_m = amplitude of the external field; H_{cr} = critical value of the external amplitude in which τ_{fr} becomes τ). There are 16 figures, 1 table, and 7 references, 5 of which are Soviet.

This article was recommended for publication by the Kafedra teoreticheskikh osnov elektrotekhniki Moskovskogo energeticheskogo instituta (Chair for the Theoretical Fundamentals of Electrical Engineering at the Moscow Institute of Power Engineering)

ASSOCIATION: Kafedra teoreticheskikh osnov elektrotekhniki Moskovskogo energeticheskogo instituta (Chair for the Theoretical Fundamentals of Electrical Engineering at the Moscow Institute of Power Engineering)

SUBMITTED: June 3, 1958

Card 4/4

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

SHAMAYEV, Yu.M., dotsent, kand.tekhn.nauk; LISITSYN, G.F., kand.tekhn. nauk; MEL'NIKOV, E.A., inzh.; OVCHINNIKOV, V.M., inzh. SKUCHAREV, V.V., kand.tekhn.nauk; TITOV, D.G., inzh.

Developing and testing the method of automatic object adjustment of the width of the line on the screen for electron-beam tubes. Trudy MEI no.27:267-280 '58. (MIRA 13:4)
(Cathode ray tubes)

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

24(3)

AUTHORS: Shamayev, Yu. M., Lisitsyn, G. F., Pirogov, A. I. SOV/48-23-3-32/34

TITLE: On the Problem of Dynamic Characteristics of Ferrites (K voprosu o dinamicheskikh kharakteristikakh ferritov)

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959, Vol 23, Nr 3, pp 420-423 (USSR)

ABSTRACT: The analysis of various experimental data shows that the dynamics of the magnetic reversal of ferromagnetics is in each case characterized by a loop B(H). The loop $B(H_{st})$ does not exert any direct determining effect upon dynamics. The experimental results show that the characteristics B(H) vary greatly under different conditions of magnetic reversal. Similar results are obtained also in the investigation of the sinusoidal field: The characteristics differ in the case of the same amplitude and different frequency and in the case of the same frequency and different amplitude. Dynamic characteristics of ferrites were investigated by means of a device with a generator for current pulses and with two indicators. A large number of different ferrites was investigated by means

Card 1/3

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of this device (VT-1, VT-2, VT-4, K-series, etc). It was found that the most essential dependences of different ferrites have a similar form. Figures 1a and 1b show the oscillograms of current pulses taken on the controlling resistor, and the voltages on the measuring coiling. As may be seen, the magnetic reversal can take place in a longer (Fig 1a) or shorter (Fig 1b) period of time than the time of ascent of the current pulses (τ_{fr}). Pulse characteristics $1/\tau = f(H)$ were taken for various ferrites at different constant values of the duration of ascent of the pulse of the field reversing the magnetism. The duration of magnetic reversal τ was determined according to the voltage in the ferrite coiling in a height of 0.1 U_m with respect to the voltage pulse. The characteristics found are well approximated in a wide range of field variations by the formula $(H - H_0)\tau = S_w$. Figure 2 shows the dependence $\tau_{fr}/\tau = f(H_m/H_{kr})$ which was taken at different amplitudes and the duration of magnification in diameter of the external field (τ_{fr} - duration of the pulse front, τ - duration of

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

magnetic reversal, H_m - amplitude of the external field, H_{kr} - the critical value of the amplitude of the external field if $\tau_{fr} = \tau$). It is possible to draw three different conclusions from figure 2: 1) There is a similarity between the processes of magnetic reversal of pulses. 2) The slowing down of the magnetic reversal is connected with the possibilities of the experimental device. 3) It is convenient to determine S_w and H_o from the formula $(H_m - H_o)\tau = S_w$ at $\tau > \tau_{fr}$, i.e. on the linear part of the curve $1/\tau = f(H_m)$. It is also possible to obtain this curve analytically from the dynamic characteristic of the ferrite which takes into account the binding B and H with at least one derivation dB/dt. There are 2 figures and 2 Soviet references.

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

LISITSYN, G. F.

PHASE I BOOK EXPLOITATION SOV/4893

Vsesoyuznoye soveshchaniye po fizike, fiziko-khimicheskim svoystvam ferritov i fizicheskim osnovam ikh primeneniya. 3d, Minsk, 1959

Ferrity; fizicheskiye i fiziko-khimicheskiye svoystva. Doklady (Ferrites; Physical and Physicochemical Properties. Reports) Minsk, Izd-vo AN BSSR, 1960. 655 p. Errata slip inserted. 4,000 copies printed.

Sponsoring Agencies: Nauchnyy sovet po magnetizmu AN SSSR. Otdel fiziki tverdogo tela i poluprovodnikov AN BSSR.

Editorial Board: Resp. Ed.: N. N. Sirota, Academician of the Academy of Sciences BSSR; K. P. Belov, Professor; Ye. I. Kondorskiy, Professor; K. M. Polivanov; Professor; R. V. Telesnin, Professor; G. A. Smolenskiy, Professor; N. N. Shol'ts, Candidate of Physical and Mathematical Sciences; E. M. Smolyarenko; and L. A. Bashkirov; Ed. of Publishing House: S. Kholyavskiy; Tech. Ed.: I. Volokhanovich.

PURPOSE: This book is intended for physicists, physical chemists, radio electronics engineers, and technical personnel engaged in the production and use of ferromagnetic materials. It may also be used by students in advanced courses in radio electronics, physics, and physical chemistry.

COVERAGE: The book contains reports presented at the Third All-Union Conference on Ferrites held in Minsk, Belorussian SSR. The reports deal with magnetic transformations, electrical and galvanomagnetic properties of ferrites, studies of the growth of ferrite single crystals, problems in the chemical and physicochemical analysis of ferrites, studies of ferrites having rectangular hysteresis loops and multicomponent ferrite systems exhibiting spontaneous rectangularity, problems in magnetic attraction, highly coercive ferrites, magnetic spectroscopy, ferromagnetic resonance, magneto-optics, physical principles of using ferrite components in electrical circuits, anisotropy of electrical and magnetic properties, etc. The Committee on Magnetism, AS USSR (S. V. Vonsovskiy, Chairman) organized the conference. References accompany individual articles.

Ferrites (Cont.) SOV/4893

Soboleva, L. P., and Ya. N. Kolli. Dynamics of the Reversal of Magnetization of a Ferrite Bar With a Rectangular Cross Section 364

Brin, I. A., G. F. Lisitsyn, and Yu. M. Shamayev. The Surface Effect in a Ferrite Plate With Rectangular Hysteresis Loop 377

Shamayev, Yu. M. Stability of Particular Cycles and "Accomodation" During Pulsed Reversal of Magnetization of Ferrites With Rectangular Hysteresis Loop 386

Shamayev, Yu. M., A. I. Pirogov, and V. P. Belyavskiy. Pulsed Reversal of Magnetization of Ferrites With Rectangular Hysteresis Loop 391

Rabkin, L. I., and B. Sh. Epshteyn. Ferrites With Rectangular Hysteresis Loop in Weak Fields 401

Card 12/18

Card 4/18

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

LISITSYN, G. F.

PHASE I BOOK EXPLOITATION SOV/4893

Vsesoyuznoye soveshchaniye po fizike, fiziko-khimicheskim svoystvam ferritov i fizicheskim osnovam ikh primeneniya. 3d, Minsk, 1959

Ferrity; fizicheskiye i fiziko-khimicheskiye svoystva. Doklady (Ferrites; Physical and Physicochemical Properties. Reports) Minsk, Izd-vo AN BSSR, 1960. 655 p. Errata slip inserted. 4,000 copies printed.

Sponsoring Agencies: Nauchnyy sovet po magnetizmu AN SSSR. Otdel fiziki tverdogo tela i poluprovodnikov AN BSSR.

Editorial Board: Resp. Ed.: N. N. Sirota, Academician of the Academy of Sciences BSSR; K. P. Belov, Professor; Ye. I. Kondorskiy, Professor; K. M. Polivanov; Professor; R. V. Telesnin, Professor; O. A. Smolenskiy, Professor; N. N. Shol'ts, Candidate of Physical and Mathematical Sciences; E. M. Smolyarenko; and L. A. Bashkirov; Ed. of Publishing House: S. Kholyavskiy; Tech. Ed.: I. Volokhanovich.

PURPOSE: This book is intended for physicists, physical chemists, radio electronics engineers, and technical personnel engaged in the production and use of ferromagnetic materials. It may also be used by students in advanced courses in radio electronics, physics, and physical chemistry.

COVERAGE: The book contains reports presented at the Third All-Union Conference on Ferrites held in Minsk, Belorussian SSR. The reports deal with magnetic transformations, electrical and galvanomagnetic properties of ferrites, studies of the growth of ferrite single crystals, problems in the chemical and physicochemical analysis of ferrites, studies of ferrites having rectangular hysteresis loops and multicomponent ferrite systems exhibiting spontaneous rectangularity, problems in magnetic attraction, highly coercive ferrites, magnetic spectroscopy, ferromagnetic resonance, magneto-optics, physical principles of using ferrite components in electrical circuits, anisotropy of electrical and magnetic properties, etc. The Committee on Magnetism, AS USSR (S. V. Vonsovskiy, Chairman) organized the conference. References accompany individual articles.

Ferrites (Cont.) SOV/4893

Shamayev, Yu. M., A. I. Pirogov, and G. F. Lisitsyn. Method and Results of an Experimental Study of the Dynamic Characteristics of Pulsed Reversal of Magnetization of Ferrites 409

Bardizh, V. V., and V. V. Kobelev. Computation of Curves of the Reversal of Magnetization of Ferrite Cores 423

Shamayev, Yu. M. The Relationship Between Static and Dynamic Characteristics of Ferrites During Pulsed Reversal of Magnetization 437

Syrkin, L. N., M. A. Shamovskaya, and G. N. Pivigina. The Pulse Method of Studying Magnetostrictive Oscillations in Ferrites 441

Kupriyanov, I. K., and D. I. Mirovitskiy. Magnetic Analog of the Dielectric Film of Southworth 451

Card 13/18

Card 3/18

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

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D201/D304

24.2200 (1147,1144,1164)

AUTHORS: Brin, I.A., Lisitsyn, G.F. and Shamayev, Yu.M.

TITLE: Surface effect in a rectangular hysteresis loop ferrite membrane

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 8, 1961, 53, abstract 8 I342 (V sb. Ferrity. Fiz. i fiz.-khim. svoystva, Minsk, AN BSSR, 1960, 377-385)

TEXT: The surface effect has been evaluated in a thin ferrite membrane with and without the effect of magnetic viscosity. If the viscosity is absent it is assumed that the process of magnetic polarity reversal of material layers occurs instantaneously as soon as the intensity of the reversed magnetic field reaches the value H_c inside the layer. The equation has been derived for this case of the inter-domain boundary displacement. For actual ferrites, the time τ of the magnetic polarity reversal is of the order of

Card 1/2

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

ACC NR: AR6021237 SOURCE CODE: UR/0271/66/000/003/B056/B056

AUTHOR: Lisitsyn, G. F.; Starostin, A. N.

TITLE: Operating principle of core transistor digital elements

SOURCE: Ref. zh. Avtomat telemekh i vychisl tekhn, Abs. 3B467

REF SOURCE: Tr.Mosk. energ. in-ta, vyp. 60, 1965, 13-24

TOPIC TAGS: computer circuit, switching circuit, logic element

ABSTRACT: The operating principle and the physical processes occurring in the core-transitor elements are analyzed. A simplest example of a loaded core-transistor element together with related oscillograms illustrating its operation are given. The variation of the core's magnetic state in the core-transistor element is shown. The transmission characteristic of the core-transistor element is analyzed as a function of the transistor collector load, transistor characteristics, supply voltage, and the number of transistor base windings. The effect of introducing back bias is investigated. Two methods of realizing logic operations using core-transistor elements are examined: by application of special signals to the storage transformer input windings controlling its magnetic flux, and by switching on the transistors of the corresponding elements. [Translation of abstract] 9 illustrations and bibliography of 2 titles. V. M.

SUB CODE: 09

Card 1/1 UDC: 681.142.67:621.318.136

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

ACC NR: AR6018976 SOURCE CODE: UR/0271/66/000/002/B051/B051

AUTHOR: Lisitsyn, G. F.; Ovchinnikov, V. M.; Titov, D. G.

TITLE: A group of ferrite core-transistor units with a clock frequency of 100 KHz

SOURCE: Ref. zh. Avtomat telemekh i vychisl tekhn, Abs. 2B364

REF SOURCE: Tr. Mosk. energ. in-ta, vyp. 60, 1965, 139-153

TOPIC TAGS: magnetic core, pulse generator, electromagnetic memory

TRANSLATION: A ferrite core-transistor component group is designed using VT ferrite cores 1, 2 × 1.4 × 0.8 mm and P14A transistors. A table of 6 unit types is included. The component group load is in the collector circuit and may be varied between 1 and 4 component groups. The write pulse generators are available either in transistorized or in vacuum tube versions. The operational temperature range is 40-70°C. The winding data for four types of accumulators is given. The various systems based on component groups are extensively described: a memory cell, an inhibit unit, a gate-coincidence unit with two inputs, an eight input summing unit, and shift pulse generators. 10 figures, 2 references. N. S.

SUB CODE: 09 UDC: 681.142.67:621.382

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Card 1/1

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

OCHKIN, V.A., inzh.-mekhanik; LISITSYN, G.K., konstruktor; GORBATOV, V.M., red.; KORBUT, L.V., red.; SATAROVA, A.M., tekhn. red.

[Safety guards for machines and apparatus in meat industry enterprises]Ograditel'nye ustroistva mashin i apparatov na predpriiatiiakh miasnoi promyshlennosti. Pod red. V.M.Gorbatova. Moskva, Pishchepromizdat, 1962. 83 p. (MIRA 15:9)

1. Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut myasnoy promyshlennosti. (Meat industry—Equipment and supplies) (Machinery—Safety appliances)

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

PAPOROTSKIY, L.A.; DAVYDOV, S.A.; LISITSYN, G.T.; URUMOV, T.M.; SAPARGALIYEV, M.S.; SULEYMANOV, M.S.; AN, M.Ch.

Comment on the article by O.A.Baikonurov and A.F.Kovrigo on "Ways of reducing labor consuming tasks in stopping at the Dzhezkazan Mine." Gor.zhur. no.3:77 Mr '60. MIRA 14:5)

1. Proizvodstvenno-eksperimental'noye upravleniye Soyuzvzryvproma, Moskva (for Paportotskiy, Davydov). 2. Nachal'nik buro-vzryvnykh rabot Dzhezkazganskogo rudoupravleniya (for Lisitsyn). 3. Nachal'nik shakhty no.51 Dzhezkazganskogo rudnika (for Urumov). 4. Nachal'nik burovzyvnykh rabot shakhty no.51 Dzhezkazganskogo rudnika (for Sapargaliyev). 5. Zamestitel' glav.inzh. shakhty no.51 Dzhezkazganskogo rudnika (for Suleymanov). 6. Starshiy inzh. Instituta gornogo dela AN KazSSR (for An).

(Dzhezkazgan—Stopping (Mining)
(Baikonurov, O.A.) (Kovrigo, A.F.)

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

LISITSYN, G.T.; KIM, D.

Boring and blasting operations in the chamber and pillar mining system in pits of the Dzhezkazgan Mine. Vzryv. delo no.55/12:245-253 '64. (MIRA 17:10)

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LISITSYN, I. (Kiyev)

Secretaries of party committees in courses. Voen. znan. 40 no.12:19 D '62 (MIRA 18:1)

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A161/A127

26.2120

AUTHOR: Lisitsyn, I. S., Engineer

TITLE: Balancing of rotors of operating turbogenerators in situ

PERIODICAL: Vestnik mashinostroyeniya, no. 11, 1960, 10-15

TEXT: Owing to the high rotation speed in modern turbo machines where the rate of rotating rotors exceeds thefirst critical velocity, the increased vibration rate requires the balancing of rotors in their own bearings. Hitherto existing balancing methods did not take into account the effect of the form of distribution of the longitudinal unbalance of the rotor, and frequently no positive results could be obtained. Damping forces have also been neglected in theoretical vibration studies of rotors, resulting in distorted concepts of the rotor's elastic line and its phase relations. Theoretical studies on this subject by Medahl, A. (Ref. 1: Auswuchten elastischer Rotoren/Balancing of Elastic Rotors/, "ZAMM", Vol. 34, no. 8/9, 1954), Gusarov, A. A., and Dimentberg, F. M. (Ref. 2: Vestnik mashinostroyeniya, no. 1, 1959) and Zenkevich, V.A. (Ref. 3: Vestnik elektropromyshlennosti, no. 8, 1959), the last two dealing with the balancing of flexible

Card 1/8

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A161/A127

rotors, do not offer any concrete method on how to balance turbine machine rotors in their own bearings. Therefore, the vibration laboratory of the TsKB MSES is studying at the present time vibrations of turbine machine rotors, and methods for balancing similar rotors in their bearings in situ are being developed. In this study, transverse vibrations of a rotor with a constant cross section and an evenly distributed mass are described. The problem is solved by taking into account the following two phenomena: 1) damping which is proportional to the displacement velocity of the rotor elements, and for the general case 2) distribution of the longitudinal unbalance in the rotor. Mathematical calculations have been made on the function which is characteristic of the law of distribution for the unbalance, the vibration of the rotor resting with its bearing ends on two stationary supports, the displacement, the projection of the dynamic flexure on the axle x, effects on the supports and flexural moments. Inspite of the existing assumption that the unbalance of the rotor corresponds to the vibration which increases as the ratio of the squares of the rotational speed, the author proves in equation 6 that this is not the case, thus refuting the opinion of Sverchkov, A. N. (Ref. 4: Remont i naladka parovykh turbin/Repair and Adjusting of Steam Turbines/ Gosenergoizdat 1950). Based on the formulas obtained it is possible to determine

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the elastic line of rotors for any value of ω (rotational speed of the rotor). Figure 1 shows the form of the elastic line of the rotor for various ω values. The elastic line is a space curve which considerably changes its form at different rpm rates. The six variants were established for the following rpm rates: 60^1/sec, 100^1/sec, 150^1/sec, 250^1/sec, 330^1/sec, and 440^1/sec. The twin amplitude A and the vibration phase depending on the rpm rate are given for the bearings no. 5 and 6 of a VK-35 generator rotor produced by the AEG firm. In practice, balancing of rotors in their own bearings is limited to the end planes of the rotor. Calculations are made for vibrations of a rotor provided with two eccentric balancing weights placed in a single longitudinal plane. Fourier series are applied in the calculus. Following typical features were found: symmetrical balancing weights create odd forms of the unbalance, while skew-symmetrical balancing weights produce even forms. Furthermore, in accordance with equation 6

$$A(s) = B_s \sqrt{\frac{\sin^2\frac{\pi s}{l}}{(\gamma_1^2-\omega^2)^2+q^2\omega^2} + \frac{k^2\sin^2\frac{2\pi s}{l}}{(\gamma_2^2-\omega^2)^2+q^2\omega^2} + \frac{2k\sin\frac{\pi s}{l}\sin\frac{2\pi s}{l}\cos(\alpha+\varphi_2-\varphi_1)}{\sqrt{(\gamma_1^2-\omega^2)^2+q^2\omega^2}\cdot\sqrt{(\gamma_1^2-\omega^2)^2+q^2\omega^2}}}; \quad (6)$$

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in the velocity range under consideration there is no dynamic flexure of the rotor; effects on the supports as well as bending moments, being excited by the first two forms of the unbalance were not observed when the Fourier function factors $B_1 = 0$ and $B_2 = 0$ were taken into consideration. Apparently, the factors B_1 and B_2 may be made equal to zero by placing symmetrical balancing weights into the unbalance plane of the first kind, and skew-symmetrical weights into the unbalance plane of the second kind. Thus the problem of balancing in the first two forms may be reduced to the determination of the planes of unbalance in the first two forms. The plane of unbalance may be approximately determined by measuring the phase curves; the plane of flexure may be determined by adequate instrumentation. As proved by calculations, the phase shift angle in the critical rpm range does not depend on the unbalance value, so that finally, the plane of unbalance may be determined by the plotting of a vector diagram. When determining the numerical values of the balancing weights, one may assume according to equation 6, that the value of flexure (and correspondingly the effects on the supports and the bending moments) may be determined by the term which corresponds to the vertical velocity. Actual balancing produced a relationship between the amplitude vibrations and the numerical

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weight of the balancing weights which is close to linear. Balancing is carried out separately for each of the two forms. The number of balancing weights is easily determined in accordance with the length of the rotor. For the calculation of the weight of the balancing weights the following two formulas for symmetrical and skew-symmetrical weights may be used, where the symbols indicate the following values:

r_1 = the radius for the arrangement of the balancing weights

r_2 = the radius of the rotor

P = the weight of the balancing weights as arranged in the balancing process

l_1 = the distance between the balancing weights and the supports

l_n = the cross-section of the rotor where the nth pair of the balancing weights is positioned

P_1 for symmetrical weights

$$P_1 = \frac{\frac{r_1}{r_2} P \sin \frac{\pi l_1}{l}}{\sum_{n=1}^{n} \sin \frac{\pi l_n}{l}};$$

P_1 for skew-symmetrical weights

$$P_1 = \frac{\frac{r_1}{r_2} P \sin \frac{2\pi l_1}{l}}{\sum_{n=1}^{n} \sin \frac{2\pi l_n}{l}},$$

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Balancing of rotors of operating...

The balancing method described is successfully used by the TsKB and the Rostov-energoremont Administration of the MSES. Similar results have been obtained at various heat and power plants, which might be referred to as examples. Figure 5 indicates the dependence of the twin amplitude of the rpm rate prior to balancing and after the balancing process. The amplitude value decreased throughout the whole rpm range. In addition to the practical application of this method the possible use of a single balancing weight is outlined at the end of the article. A single balancing weight clamped onto the rotor may produce for the general case all forms of unbalance, and as proved by calculations, the first two forms of unbalance may be eliminated by putting on a single weight under the two following conditions: a) at the coincidence of the planes of unbalance of the first and second form, i.e. when $\alpha = 0$, b) when following equality conditions are fulfilled:

$$\frac{B_2}{B_1} = \frac{\sin\frac{2\pi l_1}{l}}{\sin\frac{\pi l_1}{l}}.$$

The work written by S. I. Mikunis (Ref. 5: O balansirovke gibkikh rotorov deystvuyushchikh agregatov/Balancing of Flexible Rotors of Operating Power Generating Units/, Vestnik mashinostroyeniya, no. 12, 1959) dealing with this problem may be considered approximate and sometimes justified in practice. At one heat and power plant (GRES) balancing was carried out with two symmetrical weights, each

Card 6/8.

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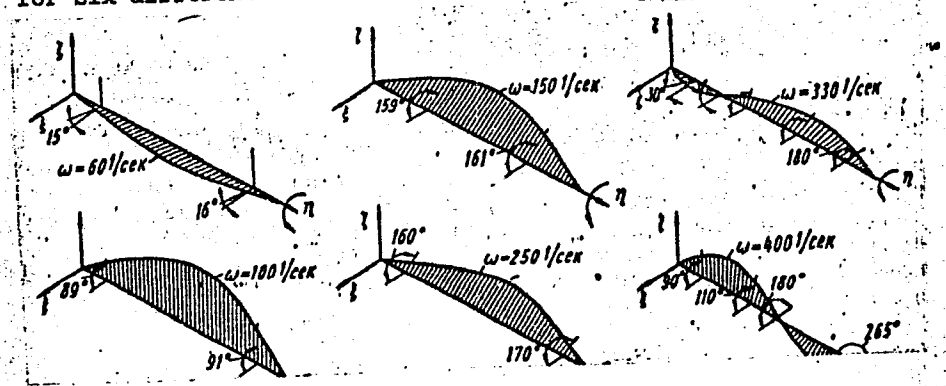
weighing 3,000 g and two asymmetrical weights, each weighing 210 g. During balancing procedures, however, the angle between the planes of unbalance of the first and second kind was disclosed as being close to zero so that the use of a single balancing weight would have been justified.

Figure 1: the six variants of the space curve for the elastic line of a rotor for six different values



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26.2120

AUTHOR: Lisitsyn, I. S., Engineer

TITLE: On transversal vibrations of revolving rotors with bearings of different elasticity and mass

PERIODICAL: Vestnik mashinostroyeniya, 41, no. 8, 1961, 23-30

TEXT: The author discusses transversal vibrations of a constant section rotor with a uniformly distributed mass and supported by two bearings with different elasticity and mass. It is assumed that an oil film of linear properties exists between rotor and bearings. For simplification, it is proposed that the coefficients of rigidity of bearings and oil film are equal in all directions. Vibrations of rotor and bearings in a fixed system of coordinates with consideration of damping, but neglecting the pseudo-gyroscopic effect are given by

Card 1/10

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D221/D301

On transversal vibrations...

$$\frac{EJ}{m} \cdot \frac{\partial^4 z(s,t)}{\partial s^4} + \frac{\partial^2 z(s,t)}{\partial t^2} + q\frac{\partial z(s,t)}{\partial t} = \omega^2 f(s)\, e^{i[\psi(s)+\omega t]}; \quad (1)$$

$$M_1 \ddot{Z}_1(t) = -c_1 Z_1(t) - \mu_1 \dot{Z}_1 + p_1[z(0,t) - Z_1(t)] + \beta_1[\dot{z}(0,t) - \dot{Z}_1(t)]; \quad (2)$$

$$M_2 \ddot{Z}_2(t) = -c_2 Z_2(t) - \mu_2 \dot{Z}_2(t) + p_2[z(l,t) - Z_2(t)] + \beta_2[\dot{z}(l,t) - \dot{Z}_2(t)]. \quad (3)$$

Where EJ is the rigidity of rotor to bending; m is mass of rotor per unit of length; z(s,t) are displacements of rotor; Z(t) are displacements of bearings; z(0,t) and z(l,t) are displacements of center at ends of rotors; ω is the angular speed of rotation; M_1 and M_2 are concentrated masses of of bearings; c_1 and c_2 are coefficients of rigidity of bearings; p_1 and p_2 are coefficients of rigidity of oil film; μ_1 and μ_2 are damping coeffi-

Card 2/10

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cients of bearings; β_1 and β_2 are damping coefficients of oil film; $f(s)\, e^{i\psi(s)}$ is a function that characterizes the law of unbalance distribution along the rotor; l is the length of rotor. After mathematical deliberations, the author obtains

$$\left[\left(\frac{\Omega}{\gamma_1}\right)^{\frac{3}{2}}(\operatorname{ctg}\Lambda l-\operatorname{cth}\Lambda l)+\frac{2\pi K_1^*}{ml\gamma_1^2}\right]\times\left[\left(\frac{\Omega}{\gamma_1}\right)^{\frac{3}{2}}(\operatorname{ctg}\Lambda l-\operatorname{cth}\Lambda l)+\frac{2\pi K_2^*}{ml\gamma_1^2}\right]-\left(\frac{\Omega}{\gamma_1}\right)^2\left(\frac{1}{\operatorname{sh}\Lambda l}-\frac{1}{\sin\Lambda l}\right)^2=0; \quad (13)$$

where $\gamma_1=\frac{\pi^2}{l^2}\sqrt{\frac{EJ}{m}}$.

which is transcendental equation of natural frequencies. Its roots can be calculated, for example, by graphical method. Table 1 indicates critical speeds calculated for:

$M_1 = 16$ kg sec^2/cm; $M_2 = 14.6$ kg sec^2/cm; $\gamma_1 = 100 \frac{1}{\text{sec}}$, and

$p = 2 \cdot 10^6$ kg/cm.

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

27726
S/122/61/000/008/002/005
D221/D301

On transversal vibrations...

Table 1: (1) c_1 in kg/cm; (2) c_2 in kg/cm; (3) critical speeds in $\frac{1}{sec}$.

Таблица 1

(1) c_1 в кг/см	(2) c_2 в кг/см	(3) Критические числа оборотов в $\frac{1}{сек}$				
		Ω_1	Ω_2	Ω_3	Ω_4	Ω_5
$1\cdot10^6$	$4\cdot10^6$	93,2	223	360	527	755
$1\cdot10^6$	$2\cdot10^6$	92	221	314	440	730
$1\cdot10^7$	$3,3\cdot10^6$	85	147	230	410	725
$2\cdot10^6$	$3\cdot10^6$	95	287	381	470	740
∞	∞	100	400	900	—	—

The first three natural vibrations of rotor are illustrated through graphs. Their comparison permits the conclusion that natural vibrations in the case when rotor is supported in bearings with various elasticity and mass differ from those in the case of rotor in rigid or equal elasticity and mass bearings. The author further deduces that resonant vibrations at critical

Card 4/10

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27726
S/122/61/000/008/002/005
D221/D301

On transversal vibrations...

speeds are excited by the corresponding member of expansion of the unbalance function. It is possible to establish that, in the case of unbalance distribution in odd harmonics in the region of second critical speed, the difference in phases of vibration of bearings amounts to 20-60°. When unbalance is distributed in even forms (harmonics), the difference in phases is about 180°. It follows from experimental data that the form of forced vibrations does not coincide with natural forms of vibrations; it depends, however, on the form of unbalance distribution. Coefficient of expansion, B_i, depends upon the kind of load on the rotor, namely, single, symmetrical and helicosymmetrical. In all cases, the forms of unbalance produced are distributed in natural forms of vibrations. Recently, the idea of rotor balancing in accordance with its natural forms of vibration has become widely used in the USSR. However, it is impossible to apply this method in practice at present. The author then uses the method of expanding the function of unbalance into Fourier series. After transformations,

$$z(s) = \frac{z(l)}{2}\left[\frac{\operatorname{sh}\lambda s}{\operatorname{sh}\lambda l} + \frac{\sin\lambda s}{\sin\lambda l}\right] + \frac{z(0)}{2}\left[\frac{\operatorname{sh}\lambda(l-s)}{\operatorname{sh}\lambda l} + \frac{\sin\lambda(l-s)}{\sin\lambda l}\right] + \omega^2 \sum_{n=1}^{\infty} \frac{B_n \sin\frac{n\pi s}{l}\, e^{i\alpha_n}}{\gamma_n^2 - \omega^2 + iq\omega} \qquad (19)$$

Card 5/10

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27726
S/122/61/000/008/002/005
D221/D301

On transversal vibrations...

is obtained, where λ, ξ, and η are given by

$$\lambda = \xi + i\eta = \sqrt[4]{\frac{m\omega}{EI}(\omega - iq)}; \quad (A)$$

$$\xi = \frac{\pi}{l}\sqrt[4]{\frac{\omega}{\gamma_1^2}} \times \quad (B)$$

$$\times \sqrt{\frac{1}{2}\left[\sqrt[4]{\omega^2+q^2} + \sqrt{\frac{1}{2}\left(\sqrt{\omega^2+q^2}+\omega\right)}\right]};$$

$$\eta = -\frac{\pi}{l}\sqrt[4]{\frac{\omega}{\gamma_1^2}} \times \quad (C)$$

$$\times \sqrt{\frac{1}{2}\left[\sqrt[4]{\omega^2+q^2} - \sqrt{\frac{1}{2}\left(\sqrt{\omega^2+q^2}+\omega\right)}\right]}.$$

Card 6/10

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27726
S/122/61/000/008/002/005
D221/D301

On transversal vibrations...

Eq. (19) indicates that the amount of dynamic sag of the rotor represents a sum whose last member defines the dynamic sag of the rotor supported by rigid bearings. The result is, therefore, identical to that previously obtained, namely, the form of forced vibrations of real systems (i.e., systems with damping) does not coincide with the forms of natural vibrations. In order to investigate the effect of various forms of unbalance on the magnitude of resonance vibrations in the region of one or another critical speed, the author expands each member into a Fourier series of natural forms. Numerical data for certain values of different coefficients are given which show that resonance vibrations at critical speed (initial) are mainly excited by unbalance of the first order and at second critical speed by the second harmonic. At third speed, resonance vibrations are equally excited by second and third harmonics. The author limits himself to the case of balancing rotors by placing loads in two preliminarily selected planes and assuming that balancing means elimination of vibrations of rotor ends as well as its bearings. He then quotes the case of symmetrical and helical symmetry disposition of loads, where the condition of zero equating for displacement of rotor ends and its bearings is given by

Card 7/10

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$$H_1 + H_1^* = 0; \quad P_1 + P_1^* = 0; \tag{23}$$

$$H_2 + H_2^* = 0; \quad P_2 + P_2^* = 0. \tag{24}$$

These transcendental equations allow the values of E_1, E_2, α_1, and α_2, i.e., magnitude and position of symmetrical and helico-symmetrical loads which nullify displacements of rotor ends, to be determined. In the case when $\alpha_1 = \alpha_2 = \ldots \alpha_n = 0$, (initial unbalance is in one plane), and $q = 0$ (external friction of rotor does not exist), then after mathematical elaborations, the solution is given by

$$E_1 = -\frac{l}{4} \cdot \frac{\sum\limits_{k=1}^{n} \frac{(2k-1)^2 B_{2k-1}}{\gamma_{2k-1}^2 - \omega^2}}{\sum\limits_{k=1}^{n} \frac{(2k-1)^2 \sin \frac{(2k-1)\pi l_1}{l}}{\gamma_{2k-1}^2 - \omega^2}}. \tag{25}$$

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D221/D301

On transversal vibrations...

Equating the latter's denominator to zero provides the means for determining the range of frequencies at which there are no vibrations of rotor ends and its bearings when symmetrical loads are placed in section l_1 and $l-l_1$.

Substituting Eq. (25) in Eq. (19), and assuming that there are no even harmonics, the equation for sag of rotor is

$$z(s) = \omega^2 \left[\frac{\left(B_1 \sin \frac{3\pi l_1}{l} - B_3 \sin \frac{\pi l_1}{l} \right) \left(27 \sin \frac{\pi s}{l} - \sin \frac{3\pi s}{l} \right)}{\left(\gamma_3^2 - \omega^2 \right) \sin \frac{\pi l_1}{l} + 27 \sin \frac{3\pi l_1}{l} \left(\gamma_1^2 - \omega^2 \right)} \right]$$

Its magnitude in the case of eliminated vibrations at the ends of the rotor depends upon the ratio of initial forms of unbalance and the closeness of insensitive frequency to the balancing speed of rotation. Consequently, when vibrations at rotor ends are eliminated at a frequency which is in the region of insensitive speed, then large stresses may be produced in the rotor. It is concluded that natural vibrations of rotor supported by bearings with different rigidity and mass do not coincide with natural vibrations of the rotor in rigid or two bearings of similar stiffness and mass.

Card 9/10

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On transversal vibrations...

Forced vibrations of a real system at critical speeds do not coincide with natural vibrations, due to damping. Balancing of rotors in operational conditions is expedient when the function of unbalance is expanded in Fourier series. There are 8 figures, 2 tables and 3 Soviet-bloc references.

Card 10/10

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LISITSYN, I.S., inzh.

Balancing of turbogenerator rotors. Vest. elektroprom. 33 no.11:67-70 N '62. (MIRA 15:11)

(Turbogenerators)

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

LISITSYN, K.M., kand.med.nauk (Leningrad, ul. Frunze, d.15, kv.85)

Transplantation of the bone tissue of cattle embryos. Ortop., travm.i protez. 22 no.4:25-28 Ap '61. (MIRA 14:11)

1. Iz kafedry voyenno-morskoy khirurgii (nach. - prof. A.A. Bocharov) Voyenno-meditsinskoy ordena Lenina akademii im. S.M. Kirova.

(BONE GRAFTING)

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

LISITSYN, K.M., kand.med.nauk (Leningrad, ul. Frunze, d.15, kv. 85.)

Clinical use of embryonic bone heterografts preserved in paraffin. Vest.khir. 89 no.8:24-26 Ag '62. (MIRA 15:10)

1. Iz kliniki voyenno-morskoy khirurgii (nach. - prof. A.A. Bocharov) Voyenno-meditsinskoy ordena Lenina akademii im. S.M. Kirova na baze gorodskoy bol'nitsy "V pamyat' 25 Oktyabrya" (gl. vrach - I.P.Yushmanov).
(BONE GRAFTING)

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

Lisitsyn, L.M.

AID Nr. 971-27 20 May

EXCITATION OF RECOMBINATION EMISSION BY MEANS OF A LASER (USSR)

Basov, N. G., L. M. Lisitsyn, and B. D. Osipov. IN: Akademiya nauk SSSR. Doklady, v. 149, no. 3, 21 Mar 1963, 561-562. S/020/63/149/003/009/028

An experimental study of recombination emission in germanium, silicon, and gallium arsenide at various temperatures employs a ruby laser (6934 Å) to obtain high excitation levels. Samples of n-type germanium with a resistivity of 40 ohm·cm and a diffusion length of 1.5 mm in the shape of a "Weierstrass sphere" 8 mm in diameter were excited by light pulses with a duration of 200 μ sec and a density of 10^6 w/cm^2. A spectrometer with a lead sulfide indicator (100 μ sec time constant) was used to analyze the recombination emission pulses. The signal was amplified by a broadband amplifier and registered by a dual-beam oscillograph. Laser output was monitored by a photomultiplier.

Card 1/2

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AID Nr. 971-27 20 May

EXCITATION OF RECOMBINATION [Cont'd] S/020/63/149/003/009/028

The results show that the intensity of recombination emission at the temperature of liquid nitrogen is "two orders" greater than at room temperature, and at the temperature of liquid helium 2 to 3 times greater than at the temperature of liquid nitrogen. Analogous results were obtained for silicon and gallium arsenide. It is proposed that laser pulses of 10^{-7} sec be used for further investigations of recombination processes. [BB]

Card 2/2

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

BASOV, N.G.; LISITSYN, L.M.; OSIPOV, B.D.

Use of an optical quantum generator for the excitation of recombination luminescence in semiconductors. Dokl.AN SSSR 149 no.3:561-562 Mr '63. (MIRA 16:4)

1. Fizicheskiy institut im. P.N.Lebedeva AN SSSR. 2. Chlen-korrespondent AN SSSR (for Basov).
(Masers) (Semiconductors) (Luminescnece)

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LISITSYN, L. N.

~~LISITSYN~~, L. N., MARKIN, E. P., OSIPOV, B. D., BASOV, N. G., KROKHIN, O. N.

"On Negative Photoconductivity and the Induced Electron Transitions"

Paper presented at the IUPAP International Conference on Photoconductivity, Ithaca, New York, 21 - 24 Aug. 1961.

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B113/B102

9.4177 (1138)

AUTHORS: Basov, N. G., Krokhin, O. N., Lisitsyn, L. M., Markin, Ye.P., Osipov, B. D.

TITLE: Negative conductivity in induced transitions

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 41, no. 3(9), 1961, 988-989

TEXT: In indirect transitions the carrier concentration at which a negative temperature occurs relative to the band-to-band transition, is comparatively small. It is by some orders of magnitude lower than the concentration at which a negative absorption coefficient exists for photons with an energy that is comparable with the width of the forbidden band. For the existence of a negative absorption coefficient it is necessary that the probability of induced photon emission in the band-to-band transition considerably exceeds the photon absorption probability in the inverse process in order to compensate also absorption in inner transitions. The processes, however, that are connected with internal absorption practically do not influence conductivity since they do not change the

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28767
S/056/61/041/003/020/020
B113/B102

Negative conductivity in induced...

total number of free carriers. The band-to-band transitions which are in a state with negative temperature and which were induced by photon irradiation, reduce the number of free carriers and lead to a decrease in conductivity. Hence, the semiconductor which is in a state with negative temperature relative to the band-to-band transition is bound to have negative photoconductivity when irradiated with photons, whose energy is almost equal to the width of the forbidden band. The measurement of the spectral dependence of the semiconductor photoconductivity permits the determination of the states with negative temperatures also with lacking negative absorption coefficient. The authors made experiments for the production and observation of states with negative temperature in silicon. The specimen was irradiated at 4°K with light of a wavelength smaller than 0.7 μ which considerably increased its conductivity. Upon additional irradiation with weak monochromatic light a conductivity reduction (negative photoconductivity) was observed for a series of specimens in a narrow band of wavelengths near 1.1 μ. It can be assumed that the conductivity decrease observed is due to the existence of a state with negative temperature. However, also other explanations, such as impurity photoconductivity, are possible. [Abstracter's note: Essentially

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28767
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B113/B102

Negative conductivity in induced...

complete translation.] There are 3 Soviet references.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva Akademii nauk SSSR (Physics Institute imeni P. N. Lebedev of the Academy of Sciences USSR)

SUBMITTED: July 13, 1961

Card 3/3

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

LISITSYN, L.V.

New developments in the repairing of electric locomotives in the plant. Zhel.dor.transp. 45 no.7:68-71 Jl '63. (MIRA 16:9)

1. Nachal'nik Chelyabinskogo Elektrovozoremontnogo zavoda.
(Electric locomotives—Maintenance and repair.)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

FRENKEL', Yefim Borisovich; KOMOLOV, Vladimir Georgiyevich; FAYB, Semen Isakovich; SAVCHENKO, Vsevolod Viktorovich; GORBENKO, S.S., inzh., retsenzent; LISITSYN, L.V., inzh., retsenzent; RYZHOV, B.V., inzh., retsenzent; TSOKANOV, A.V., inzh., retsenzent; KLIMOV, V.F., kand.tekhn.nauk, red.; BOBROVA, Ye.N., tekhn.red.

[Factory repair of electric railway motors and auxiliary machinery] Zavodskii remont tiagovykh dvigatelei i vspomogatel'nykh mashin. Moskva, Vses.izdatel'sko-poligr.ob"edinenie M-va putei sooobshcheniia, 1961. 366 p. (MIRA 14:12)

(Electric machinery--Maintenance and repair)
(Railroads--Electric equipment)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

LISITSYN, M. A.

DECEASED

Biochemistry

see ILC

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

LISITSYN, I.S., inzh.

Balancing rotors of operating turbogenerators. Vest.mash. 40 no.11: 10-15 N '60. (MIRA 13:10)
(Balancing of machinery) (Turbogenerators)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

LISITSYN, M. S. of the
USSR/Medicine - Intra-Ossal Puncture Nov/Dec 53

"The History of the Method of Intra-Ossal Introduction of Drugs," V. G. Mitrofanov, Cand of Med Sci, Chair of Gen. Surg, Naval Med Acad

Vest Khirurg im I. I. Grekov, Vol 73, No 6, pp 60-62

Attributes origination of this method to USSR workers. Names M. S. Lisitsyn of the Military-Med Acad im S. M. Kirov as having introduced the sternal puncture method in 1927. States that administration of penicillin, analgesics, blood substitutes, etc by this method is gaining popularity in the USSR.

274T33

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

Lisitsyn, M.S.

LISITSYN, M.S., professor, zasluzhennyy deyatel' nauki; ZOLOTUKHIN, N.A. kandidat meditsinskikh nauk.

Hemostatic action of resorptive gauze (oxidized cellulose) Vest.khir.76 no.9:69-74 O '55. (MLRA 9:1)

1. Iz kliniki obshchey khirurgii (nach-prof. M.S.Lisitsyn) Voyenno-morskoy meditsinskoy akademii.

(CELLULOSE,
oxidized cellulose gauze, hemostatic action)
(HEMOSTASIS,
hemostatic action of oxidized cellulose gauze)

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

LISITSYN, M.S., professor, zasluzh. deyatel' nauki (Leningrad, pr. im. I.V. Stalina, d. 106, kv. 84)

Physiological methods for the prevention and treatment of postoperative complications [with summary in English, p.157] Vest. khir. 77 no.2:14-24 F '56 (MLRA 9:6)

1. Iz kafedry obshchey khirurgii (nach. prof. M.S. Lisitsyn) Voyenno-morskoy meditsinskoy akademii.
(SURGERY, OPERATIVE, compl.
prev. & ther., physiol. method)

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

LISITSYN, M.S., prof., zaslyzhennyy deyatel' nauki. (Leningrad, M-6, Moskovskiy pr., d.106, kv.84)

New data on theories of surgical shock [with summary in English]. (MIRA 11:11)
Vest.khir. 81 no.9:70-77 S'58

1. Iz kliniki obshchey khirurgii No.2 (nach. - prof. M.S. Lisitsyn) Voyenno-meditsinskoy ordena Lenina akademii imeni S.M. Kirova.

(SHOCK,
surg., theory (Rus))
(SURGERY, OPERATIVE, complications
shock, theory on mechanism (Rus))

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

LISITSYN, M.S., zasluzhennyy deyatel' nauki, prof.; SHEMYAKIN, I.S., kand. med.nauk

Potentiated local anesthesia. Nov. khir. arkh. no.4:116-117 Jl-Ag '60. (MIRA 15:2)

1. Kafedra fakul'tetskoy khirurgii II Voyenno-meditsinskoy ordena Lenina akademii imeni S.M.Kirova (nachal'nik - prof. M.S.Lisitsyn). Adres avtorov: Leningrad, Zagorodnyy per., d.47, 2-ya fakul'tetskaya khirurgicheskaya klinika. (LOCAL ANESTHESIA)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

LISITSYN, Nikolay Andreyevich; SEMKIN, I., red.; DOMOVSKAYA, G., tekhn. red.

[State plan is the law of developing production] Gosudarstvennyi plan - zakon razvitiia proizvodstva. Minsk, Gos. izd-vo BSSR. Red. sotsial'no-ekon. lit-ry, 1961. 30 p. (MIRA 15:1)
(Russia--Economic policy)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

LISITSYN, N. I.

FA 41/49T89

USSR/Mining Methods Apr 49
Explosive Design

"Partial Insulation of Charges During Mass Explosions in Wet Rocks," N. I. Lisitsyn, V. F. Shishkin, 2 pp

"Gor Zhur" No 4

In mass explosions where the charge in the room has a volume of several tons of cubic meters, ammonite charge that has become wet will explode if there is dry ammonite in the primer and parts of the charge bordering on it. Several examples of mines in which partially insulated charges

LC 41/49T89

USSR/Mining Methods (Contd) Apr 49

or uninsulated charges have been used successfully.

LC 41/49T89

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

SHKOLA, V. A.; LISITSYN, N. I.

Excavation - Tables, Calculations

Determination of the coefficient of rock excavation. Gor. zhur. no. 4, 1952.

Monthly List of Russian Accessions, Library of Congress, April 1952. UNCLASSIFIED.

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

LISITSYN, N. M., Cand. Tech. Sci. (diss) "Investigation of Stability of Movement in Lathes under Mixed Friction," Moscow, 1961, 17 pp. (All-Union Corresp. Inst. Dept of Metal-cutting Lathes of Moscow Lathe-Instrum. Inst.) 200 copies (KL Supp 12-61, 270).

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

LISITSYN, N.M., inzh.

Amplitude and frequencies of natural vibrations caused by combined friction. Vest.mash. 41 no.10:24-29 O '61. (MIRA 14:10)
(Vibration)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

LISITSYN, N.M., prepodavatel'

Effect of the parameters of a mechanical system on the steadiness of motion in the presence of a combined friction. Issl.v obl. metallorezh.stan. no.4:121-147 '61. (MIRA 14:12)

(Friction)
(Mechanical movements)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

LISITSYN, N.M., prepodavatel'

Investigating the steadiness of motion in case of a combined friction. Issl.v obl.metallorezh.stan. no.4:49-65 '61. (MIRA 14:12)

(Mechanical movements)
(Friction)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

TARZIMANOV, G.A. Prinimali uchastiye KOROLI, A.M., inzh.; PAKHOMOV, V.V., inzh.; TYUSHEV, A.P., inzh.; ZHED', Ya.M., inzh., retsenzent; LISITSYN, N.M., kand. tekhn. nauk, red.

[Design of machine tools; handbook for technical designers] Proektirovanie metallorezhushchikh stankov; v pomoshch' tekhniku-konstruktoru. Moskva, Mashinostroenie, 1965. 235 p. (MIRA 18:12)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

ACHERKAN, Naum Samoylovich, zasl. deyatel' nauki i tekhniki RSFSR, doktor tekhn. nauk, prof.; GAVRYUSHIN, A.A.; YERMAKOV, V.V.; IGNAT'YEV, N.V.; KAKOYLO, A.A.; KUDINOV, V.A.; KUDRYASHOV, A.A.; LISITSYN, N.M.; MIKHEYEV, Yu.Ye.; PUSH[illegible]; TROF[illegible], O.N.; FEDOTENOK, A.A.; KHOMYAKOV, V.S.; ABANKIN, V.I., inzh., retsenzent

[Metal-cutting machines in two volumes] Metallorezhushchie stanki. [v dvukh tomakh]. Pod red. N.S.Acherkana. Moskva, Mashinostroenie. Vol.2. 2. perer. izd. 1965. 628 p. (MIRA 18:12)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

ACHERKAN, N.S., doktor tekhn. nauk, prof., zasl. deyatel' nauki i tekhniki RSFSR; GAVRYUSHIN, A.A., kand. tekhn. nauk; YERMAKOV, V.V., kand. tekhn. nauk, dots.; IGNAT'YEV, N.V., kand. tekhn. nauk, dots.; KAKOYLO, A.A., inzh.; KUDINOV, V.A., kand. tekhn. nauk; KUDRYASHOV, A.A., kand. tekhn.nauk, dots.; LISITSYN, N.M., kand. tekhn. nauk, dots.; MIKHEYEV, Yu.Ye., dots.; PUSH, V.E., doktor tekhn. nauk, prof.; TRIFONOV, O.N., kand. tekhn. nauk, dots.; FEDOTENOK, A.A., doktor tekhn. nauk, prof.; KHOMYAKOV, V.S., kand. tekhn. nauk; ABANKIN, V.I., inzh., retsenzent

[Metal cutting machines] Metallorezhushchie stanki. Moskva, Mashinostroenie. Vol.1. 1965. 764 p. (MIRA 18:10)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

KUDINOV, V.A.; LISITSYN, N.M.

Basic factors affecting the regularity of displacements of machine-tool beds and carriages at combined friction. Stan. i instr. 33 no.2:1-5 F '62. (MIRA 15:1)
(Machine tools)
(Friction)

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

S/121/63/000/002/002/010
D040/D112

AUTHORS: Dmitriyev, L.B., and Lisitsyn, N.M.

TITLE: Investigation of a magnetostrictive microfeed drive

PERIODICAL: Stanki i instrument, no.2, 1963, 5-9

TEXT: The magnetostrictive behavior of K65 (K65) alloy rod, 35 mm in diameter, has been studied in an experimental unit especially designed by the Moskovskiy stanko-instrumental'nyy institut (Moscow Institute of Machine Tools and Instruments) and built at the "Krasnyy proletariy" Plant. It is fitted with an optical head with 0.0001 mm divisions. The purpose of the studies was to provide data for designers of magnetostrictive drives for precision machine tools, such as used in the British "Cincinnati No.2" centerless grinder and some other machines. The observations of the rod behavior are described in detail and practical recommendations are given. K65 alloy has a relative elongation of 86.10^{-6} even without special heat treatment, and has been found a suitable material for the drive rods. It is recommended (1) to use a magnetic circuit permitting almost total magnetic saturation at low currents in the magnetizing coils; (2) to use current of not more than 0.5 amp/mm^2 density in order to prevent elongation through heating; (3) to use heat-removing

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S/121/63/000/002/002/010
D040/D112

Investigation of a magnetostrictive microfeed drive

arrangements if stronger current is used; and (4) to fix the rod ends extremely rigidly. The screening effect of eddy currents in the rod prevents high drive speeds during operation in the zone corresponding to the linear sections of the static characteristics. Additional studies are needed to establish the proper design of cooling arrangements. Development of standard drive designs for different types of precision machine tools is recommended. There are 8 figures.

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LISITSYAN, N. S.

Lisitsian, N. S.

"Influence of credit on hastening the turnover of working capital of industrial enterprises." Reviewed by N. Barkovskiy. Den. i kred. 11 no. 5, 1952.

9. Monthly List of Russian Accessions, Library of Congress, August 1953, Uncl.

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

LISITSYN, N. S.

For wider dissemination of the experience of leading inspectors.
Fin. SSSR 20 no.6:44-50 Je '59. (MIRA 12:10)

1. Nachal'nik Upravleniya gosdokhodov i nalogov Ministerstva finansov RSFSR.

(Finance)

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

LISITSYN, N.V., inzh.

Locating a damaged insulator in shielded bus lines. Elek. sta. 36 no.9:79-80 S '65. (MIRA 18:9)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

LISITSYN, N.V., inzh.

Standardization of the magnitude of rectified voltage during the measurement of conduction currents of valve dischargers. Elek. sta. 35 no.6:85 Je '64. (MIRA 18:1)

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

LISITSYN, N.V., inzh.

Determination of short-circuits in the windings of electrical machines using the MS-08 device. Elek. sta. 35 no.7:80 Jl '64. (MIRA 17:11)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

MISITSYN, N.V., inzh.

Error in locating insulation damage in the excitation windings of salient pole electrical machines. Elek. sta. 35 no.3:84 Mr '64. (MIRA 17:6)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

MALYGIN, V.I.; FEFERMAN, Ye.I.; LISITSYN, P.I.

Experiment in intensive fattening of growing pigs. Svinovodstvo 13 no.11:22-24 N '59. (MIRA 13:2)

1. Filial po TSentral'no-chernozemnoy zone Vsesoyuznogo nauchno-issledovatel'skogo instituta ekonomiki sel'skogo khozyaystva.
(Swine--Feeding and feeds)

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

PARKHOMOVSKIY, I.D.; GRIBANOV, P.F.; LISITSYN, P.P.; KRYLOV, B.G., starshiy nauchnyy sotrudnik

Research Institute of Containers and Packaging starts talking about containers. Izobr. i rats. no.8:8-10 Ag '61. (MIRA 14:9)

1. Zaveduyushchiy laboratoriyey standartizatsii i normalizatsii TSentral'nogo nauchno-issledovatel'skogo instituta tary i upakovki (for Parkhomovskiy). 2. Zaveduyushchiy laboratoriyey tary i upakovki iz polimernykh i kombinirovannykh materialov TSentral'nogo nauchno-issledovatel'skogo instituta tary i upakovki (for Gribanov). 3. Vedushchiy konstruktor Spetsial'nogo konstruktorskogo byuro TSentral'nogo nauchno-issledovatel'skogo instituta tary i upakovki (for Gribanov). 4. Laboratoriya ekonomiki TSentral'nogo nauchno-issledovatel'skogo instituta tary i upakovki (for Krylov).

(Containers)

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22

Crude oil from well No. 8 from the Molgabekskii district and the heavy crude oil from the Terskii district. N. Butorin, P. S. Lisitsyn and A. Voronov. *Groznenskii Neftyanik* 3, No. 3-4, 31-7(1933).—The Molgabekskii crude oil is of the mixed-base type. Its properties are: sp. gr. 0.927, asphaltenes 3%, "silica gel resins" 12.6%, paraffin 1.67%, S 0.46%, pour point below —18°, E_{20} viscosity 5.12 and excise resins 36%. It contains 3.77% b. 150-200°, 11.18% b. 200-70°, 9.31% b. 270-300°, 8.02% b. 300-15° and 65.9% of bottoms. The kerosene is high in naphthenes and aromatics and is unsuitable for illuminating purposes. The properties of the Voznesenskii (Terskii district) crude are: sp. gr. 0.920-0.935, asphaltenes 1.15%, "silica gel resins" 0.6%, excise resins 35%, paraffin 1.2%, S below 0.5%, E_{20} viscosity 5-8. The fractions are: gasoline fraction absent; kerosene 7; gas oil and spindle oil 30; machine oil 15; cylinder oil 15; and bottoms 33%.

A. A. Boehtlingk

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000930110017-9

22

Antiknock properties of gasolines from principal Russian crude oils. III. P. S. Lisitzuin and V. P. Govanov. *Grozmenskii Neftyanik* 3, No. 3-4, 50-3(1933).—Tests were carried out with a Series 30 motor. Grozny heavy mixed-base straight-run gasoline (98.5% over at 218°), benzene-heptane equiv. (*a*) 3-97, octane no. (*b*) 41; Grozny light gasoline from mixed-base crude oil (98% over at 154°), (*a*) 20-80, (*b*) 50; Grozny mixed-base crude aviation gasoline (98.8% over at 130°), (*a*) 27-73 and (*b*) 56; Grozny light mixed-base crude gasoline from the Foster-Wheeler unit (97% over at 149°), (*a*) 30-70 and (*b*) 58; Grozny casing-head gasoline (90.5% over at 149°), (*a*) 42.58 and (*b*) 70; Grozny gasoline (94% over at 134°), (*a*) 41-59 and (*b*) 69; heavy gasoline from Maikop crude oil (98% over at 205°), (*a*) 17-83 and (*b*) 48; light gasoline from Maikop crude (by lab. distn. of heavy Maikop crude oil; 98% over at 158°), (*a*) 27-73 and (*b*) 56; aviation gasoline from Surakhanui crude (lab. distn.; 98% over at 130°), (*a*) 53-47 and (*b*) 80; gasoline (naphtha) from Surakhanui crude (distd. in a semi-com. unit; 99.2% over at 202°), (*a*) 32-68 and (*b*) 60; Ethyl gasoline from Tulsa (97.5% over at 214°), (*a*) 39-61 and (*b*) 67. A. A. Boehtlingk

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

Cr

22

Crude oils from the Kaya-Kent deposit. A. I. Voronov, P. S. Lisitsuin and L. Kutzenok. *Neft* 6, No. 19, 15-17(1935).—The crude oils produced in Kaya-Kent (Caspian Sea) are characterized by the presence of 20% of fractions b. below 200° and 25% of kerosene (b. 200-315°). They contain 1.5% of asphaltenes and are classified as naphthene-aromatic crude oils. The fraction b. below 160° contains 5.8% aromatic hydrocarbons, 43.5% naphthenes and 50.7% satd. hydrocarbons, the higher-boiling fraction having an increased content of aromatic hydrocarbons and a lower content in satd. compds. The cylinder-oil fractions are free from paraffin and have a pour point below −17°. They may yield in a vacuum distn. 35% of lubricating oil fractions and 15% of grade-II asphalt.

A. A. Boehtlingk

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

Ca

22

Malgobek heavy crude oil. P. S. Lisitsyn and V. A. Rastunova. *Grozneniskii Neftyanik* 6, No. 1-2, 69-71 (1936).—Malgobek crude oil produced in the eastern part of the district has d. 0.925. It is a mixed-base oil and belongs to the class of methane-naphthene-aromatic crude oils. It contains about 1% aviation gasoline, 8.4% heavy tractor naphtha and 23.7% tractor kerosene. Octane no. of the heavy naphtha is 64; of the kerosene, 42. The kerosene has low illuminating power.

A. A. Boehtlingk

COMMON ELEMENTS

OPEN

MATERIALS INDEX

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AUTHOR INDEX

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

Ca

The corrosion of metals in the Foster-type bubble tower. P. S. Lisitsyn and A. B. Kocharyan. *Grozneskii Neftyanik* 6, No. 1-2, 72-3(1936).—Plates covered with Cr, Cr-V, Al, cast Fe and Fe were left in various sections of the Foster-Wheeler atmospheric and vacuum towers for 13 months. The effects of corrosion are tabulated. The extra expense of using specially alloyed metals is not justified if the crude oil receives a preliminary caustic treatment. A. A. Boehtlingk

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

Ca

22

Crude oil from the Achi-Su deposit. P. S. Lisitsyn and V. A. Rostunova. *Groznenskii Neftyanik* 6, No. 3, 30-3(1936).—The crude oil has d. 0.874, contains 10% of water (emulsion), has flash point 4°, E_{50} viscosity 1.66, Ostwald kinematic viscosity of 0.031 (at 50°), S 0.18%, silica gel resins 3%, asphaltenes 2.2%, paraffin 4.3% (m. 53°), acidity 32 (mg. KOH per 100 g.), ash 0.05% and excise resins 38%. It is of the type of heavy paraffin-asphalt base and is a mixed methane-naphthene-aromatic oil. It contains 23% gasoline (end point 202°) and 23% kerosene. Other properties are tabulated. A. A. B.

COMMON ELEMENTS

COMMON VARIABLES INDEX

MATERIALS INDEX

OPEN

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MATERIALS INDEX

AUTHOR INDEX

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1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

ca

22

Crude oil from the Kayakent deposit. P. S. Lisitsyn and V. A. Rostunova. *Grosnenskii Neftyanik* 6, No. 4, 52-5(1936).—This crude oil has d. 0.895, water content 0.2%, pour point below −21°, flash point −1°, E_{20} viscosity 4.26, Ostwald kinematic viscosity at 20° 0.22, S 0.28%, silica gel resins 3.85%, asphaltenes 1.1%, paraffin 2.2% (m. 52°), acidity 59 mg. KOH, ash 0.012% and excise resins 30%. This is a mixed-base oil of naphthene-methane-aromatic type. It contains about 18.77% gasoline and 26% kerosene. Octane no. of the gasoline is 57.5; of the kerosene, 40. A. A. Boehtlingk

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PROCESSES AND PROPERTIES INDEX

ca

22

Chemical methods of combating corrosion of the distillation equipment in the treatment of Kala crude oil. P. S. Lisitsyn and A. B. Kocharyan. *Grosnenskii Neftyanik* 6, No. 5, 39-45(1936).—The corrosion caused by Kala crude oil is due mainly to Mg and Ca chlorides. To a smaller extent corrosion is caused by S compds. and naphthenic acids. Corrosion can be decreased by 90-5% by dehydrating the crude oil and by caustic treatment (0.01-0.02% NaOH). Corrosive influence of S compds. is decreased by introducing lead oxide (0.04% of the crude oil) during the distn. The introduction of NH_3 into the tower lowers the corrosion of the cooling system. The dehydration and caustic treatment should be centralized, because this permits a proper sepn. of crude oil from water and caustic. The burning out of tubes and boiler plates because of the sediments must be explained by a corrosion-like process, since it depends on the amt. of salt in the water. It can be eliminated by dehydration. Thirteen references.

A. A. Boehtlingk

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CA

22

The light Malgobek crude oil. P. S. Livityn and V. A. Kostunova. *Groznenskii Neftyanik* 9, No. 7, 49-53 (1930); cf. *C. A.* 31, 2794[1].—The Malgobek crude oil belongs to the type of light crude oils (d. 0.850) with paraffin-asphalt base (paraffin 0.5-3.5%). By its chem. group compn. the light products can be classified as methane-naphthene-aromatic hydrocarbons characterized by low detonation properties. It is low in S (0.25%) and yields 47-9% of light products. A. A. Boehtlingk

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PROCESSES AND PROPERTIES INDEX

Ca

Crude oil from the Izberdash deposit. P. S. [illegible] and V. A. Rostunova. *Groznenskii Neftyanik* 7, No. 1, 32-6(1937). Izberdash crude oil contains 29% gasoline (b. below 200°) of octane no. 63. The lubricating oil fractions are high in paraffin wax, although the content of paraffin is less than in the lubricating fractions of Grozny mixed-base crude oil. The kerosene fractions yield a good illuminating kerosene; it is not suitable as tractor fuel because of the low octane no. (17). The gas oil is a suitable cracking stock, while the stripped crude oil can be used for the recovery of paraffin wax. The bottoms can be used for the prepn. of high-grade coke. A. A. B.

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Heavy crude oils from the Torek ridge. P. S. Lisitsyn and V. A. Rostunova. *Groznenskii Neftyanik* 7, No. 2, 36-41(1937). Voznesenskii crude oil contains gasoline of low octane no., consisting mainly of methane hydrocarbons of isostructure. The kerosene fractions are of the naphthene-aromatic type; they are suitable for tractor fuel. The lubricating-oil fractions are high in asphaltenes, low in paraffin and have a low viscosity index. Light Voznesenskii crude oil contains up to 33% gasoline and kerosene fractions. Only 1.5-2.0% is high-quality gasoline. The crude oil contains up to 25% of lubricating-oil fractions. Various data on the properties of the products from these crude oils are tabulated. A. A. B.

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

ca

22

The gasoline content of the crude oil from the No. 11 well in the Isberbash oil field. P. S. Lisitsyn, V. A. Rostunova and T. N. Cherenkova. *Groznenskii Neftyanik* 7, No. 3, 54-7(1937); cf. *C. A.* 31, 4480[6]. This crude oil contains 50% of fractions b. below 200°, 23.2% kerosene fraction, is high in aromatic hydrocarbons and the stripped oil can be used in the manner characteristic for Grozny mixed-base bottoms. The properties are tabulated.

A. A. Boehtlingk

P.S. LISITSYN

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22

Cu

Crude oil from the Achi-Su deposit. P. S. Lisitsyn and V. A. Rostunova. *Groznenskii Neftyanik* 7, No. 5, 45-8 (1937); cf. C. A. 31, 2794[1]. The crude oil has d_{20}^{4} 0.829, 0.4% H_2O, 0.01% ash, pour point −12°, m. p. below 17°, Conradson C 1.5%, S (bomb) 0.12%, acidity 6 mg. KOH, excise resins 14%, 4.2% paraffin (m. p. 53.5°), asphaltenes and carboids 0.1%, HCl in the water of condensation in the distn. of 100 cc. of crude oil with steam 0.005%, octane no. of gasoline with 100 end point 65. This crude oil contains up to 50% of light products which are a low-value motor fuel. The kerosene fractions can be utilized for illumination, although they contain more aromatic hydrocarbons than the Grozny kerosene. The fuel oils can be utilized either in cracking or for the prepn. of paraffin distillate. Because of its low wash content, it may be used for the manuf. of coke (from the cracked residues). A. A. Boehtlingk

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LISITSYN, P. S. Cand. Tech. Sci.

Dissertation: "Characteristic of Petroleums of the USSR in Graphical Interpretation." Central Inst of Aviation Fuels and Oils - "TsIATIM", 9 Apr 47.

SO: Vechernyaya Moskva, Apr, 1947 (Project #17836)

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LISITSYN, S.

Loose housing of cattle. Nauka i pered. op. v sel'khoz. 9 no.4:24-28 Ap '59. (MIRA 12:6)

1. Zaveduyushchiy sel'skokhoz. otdelom Luganskogo obkoma Kommunisticheskoy partii Ukrainy.
(Dairy barns)

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L 58947-65 EWP(e)/EWT(m)/EWP(t)/EWP(k)/EWP(z)/EWP(b) Pf-4 JD
ACCESSION NR: AP5013245 UR/0226/65/000/005/0004/0008

AUTHOR: Grodshteyn, A. Ye.; Kriger, E. M.; Lisitsyn, S. M.

TITLE: Producing ferrite powders by thermal decomposition of sulfates

SOURCE: Poroshkovaya metallurgiya, no. 5, 1965, 4-8

TOPIC TAGS: ferrite powder, sulfate, thermochemistry

ABSTRACT: In order to obtain ferrite powders with more homogeneous composition and better electromagnetic properties, the authors recommend the method of thermal decomposition of salt solutions of ferrite systems. Magnesium ferrite-chromite powders were produced having a Curie temperature above 80°C, a ferromagnetic resonance bandwidth not greater than 150 oersteds, resistivity above 10^8 ohm/cm and a $4\pi I_s$ value below 650 gauss (I_s = saturation flux density). Analytically pure sulfates were used to obtain the ferrite powder. Particular attention was given to heat treatment of the salts because of its effect on the density of sintered samples and, consequently, on the ferromagnetic bandwidth. Completeness of decomposition was tested by roasting various samples at temperatures from 1000 to 1300°C for two to eight hours. Lowest sulfur contents (0.7%) were recorded for powders heat-treat-

Card 1/2

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ed at 1300°C. The effect of composition on powder characteristics was studied in products containing 32-35% (mol.) iron oxide, 13.7-16.4% chromium oxide and 49.8--51.4% magnesium oxide. The best over-all parameters were found in a composition containing 34.5, 15.5 and 50% of these components respectively. The values for ferromagnetic resonance bandwidth are found to be considerably lower than those given elsewhere for comparable compositions. This is attributed to greater homogeneity in powders derived from solution than that in powders derived by the oxide mixing method. Orig. art. has: 2 figures, 2 tables.

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SUBMITTED: 18Apr64 ENCL: 00 SUB CODE: MM

NO REF SOV: 006 OTHER: 002

Card 2/2

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