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Tagged Atoms

SOV/2638

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AVAILABLE: Library of Congress 112

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"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

MAKSIMOV, S.P.; YEREMENKO, N.A.; ZHUKHOVITSKIY, A.A.; TURKEL'TAUB, N.M.; BOTNEVA, T.I.; PANKINA, R.G.

Relation between the changes in the composition of casing-head gas and the increase of stratigraphic depth. Geol.nefti i gaza 3 no.1:55-63 Ja '59. (MIRA 12:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologo-razvedochnyy neftyanoy institut.

(Gas, Natural--Analysis)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

AUTHOR: Bilimovich, G. N.

SOV/75-14-4-30/30

TITLE: Section of Analytical Chemistry of the VIII Mendeleyev Congress on General and Applied Chemistry

PERIODICAL: Zhurnal analiticheskoy khimii, 1959, Vol 14, Nr 4, pp 511-512 (USSR)

ABSTRACT: Approximately 300 persons participated in the work of the Department of Analytical Chemistry, among them representatives of various scientific research institutes, higher schools and industrial enterprises in Russia, scientists from China, Bulgaria, the CSR, Poland, Hungary, and Italy. Approximately 70 reports were heard. In his opening speech I. P. Alimarin reported on the achieved results and on modern problems of analytical chemistry. I. V. Tananayev reported on the application of physico-chemical analysis in heterogeneous systems for the solution of a series of problems of analytical chemistry. V. I. Kuznetsov reported on modern aims in the use of organic reagents; A. K. Babko showed at the example of halide and thiocyanate complexes the correlation between the stability of complexes and the position of the corresponding central atoms in the periodic system. V. M. Peshkova and I. M. Nechkina lectured on the stability of oximates of Cu, Co, and Ni as depending on the structure of the oxime molecule. N. P. Toropova lectured on the double character of reaction of some compounds in the formation of complexes. The problem of the application of heteropolyacids in analytical chemistry was dealt with in the lectures of Z. P. Shakhova and co-workers, and A. I. Kosgrin and N. A. Poloshkova. A large number of lectures dealt with the use of new organic reagents in analysis: A. I. Busev and K. I. Ivanyutin reported on the application of dialkyl and diaryl dithiophosphoric acid for the separation of elements, A. I. Poznar used aryl arsonic acid and aryl phosphinic acid. E. P. Lastovskiy and his co-workers treated some properties of new complexons. The lectures of V. A. Nazarenko, G. G. Shitareva and A. I. Kononenko dealt with the photometric determination of a series of elements using fluorine derivates. A. I. Cherkesov lectured on the use of halochromation in analytical chemistry. N. M. Nikina and T. N. Malyutina lectured on the determination of tantalum using differential spectrophotometry. Yu. I. Muraczhevskiy and I. A. Stolyarova reported on new highly sensitive analysis methods using an ultraviolet microscope. Several lectures dealt with methodical and theoretical problems of spectrum analysis (M. P. Zakharin and G. A. Sherpin; E. Ye. Yarzhetsya and co-workers). N. S. Polsaktov and M. N. Nikonova treated the perfection of flame photometry. Several lectures dealt with the determination of elements by polarography (G. I. Kiryakova; K. P. Kostdzatrenakam and I. A. Yaropov; Ya. P. Gokhshteyn). New results in using fixed electrodes were reported by I. D. Panchenko and Yu. S. Lyalikov and co-workers. The lecture of M. I. Gel'tsova and I. M. Kolthoff treated the use of amperometric titration with two electrodes in the chemistry of uranium and thorium. N. M. Sanyavin showed possibilities of predicting the conditions of chromatographic separation of elements based on their position in the periodic system. T. A. Belyavskaya reported on the use of ion exchange in the investigation of the state of substances in solutions. A. S. Veraldub and V. I. Petrachen' lectured on the chromatographic separation of a series of elements, E. G. Polyanskiy reported on adapting the properties of ion exchanger resins, F. M. Shemyakin and associates reported on the chromatographic proof of sulfanilamide preparations in liquids of the organism. S. L. Starobinets and associates treated the application of high polymers in chromatographic analysis. The lecture of A. A. Zhukhovitskiy and F. M. Turkel'taub, G. Shay dealt with gas chromatography. Several lectures treated the use of radioactive isotopes for the chromatographic investigation of complex formation (D. I. Ryabchikov and associates), for the investigation of the co-precipitation mechanism of ions of rare metals with sulfides (M. A. Kuiner) and for determining rare elements by means of isotope dilution (I. P. Alimarin, G. N. Bilimovich). In the field of elementary organic microanalysis the lectures of N. G. Karaban, F. M. Sul'tsev and V. A. Klimova with associates have to be mentioned, who treated the elaboration of rapid microsmethods for the simultaneous determination of several elements from one weighed portion of boron, fluorine and silicium-organic compounds.

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ZHUKHOVITSKIY, A.A.

GOLITSYN, A.G.; GRIGORYAN, V.A.; ZHUKHOVITSKIY, A.A.

Determination of the thermodynamic characteristics of the components in alloys of Fe-C and Fe-Mo.

report submitted for the 5th Physical Chemical Conference on Steel Production.

MOSCOW — 30 JUN 1958

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"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

ZHUKHOVITSKIY, A.A.

24(6) PHASE I BOOK EXPLOITATION SOV/2385

Akademiya nauk SSSR

Nekotoryye problemy prochnosti tverdogo tela; sbornik statey (Some Problems in the Strength of Solids; Collection of Articles) Moscow, Izd-vo AN SSSR, 1959. 386 p. Errata slip inserted. 2,000 copies printed.

Ed. of Publishing House: V. I. Aver'yanov; Tech. Ed.: R. S. Pevzner; Editorial Board: A.F. Ioffe, Academician; G. V. Kurdyumov, Academician; S. N. Zhurkov, Corresponding Member, USSR Academy of Sciences; B. P. Konstantinov, Corresponding Member, USSR Academy of Sciences; F. F. Vitman, Doctor of Physical and Mathematical Sciences, Professor (Resp. Ed.); L. A. Glikman, Doctor of Technical Sciences, Professor; N. A. Zlatin, Doctor of Physical and Mathematical Sciences; V. A. Stepanov, Doctor of Technical Sciences; Ya.B. Fridman, Doctor of Technical Sciences, Professor; B. S. Ioffe, Candidate of Technical Sciences (Deputy Resp. Ed.).

PURPOSE: This book is intended for construction engineers, technologists, physicists and other persons interested in the strength of materials.

COVERAGE: This collection of articles was compiled by the Otdeleniye fiziko-matematicheskikh nauk AN SSSR (Department of Physical and Mathematical Sciences) and the Fiziko-tekhnicheskiy institut AN SSSR (Institute of Applied Physics, Academy of Sciences, USSR) in commemoration of the 60th birthday of Nikolay Nikolayevich Davidenkov, Member of the Ukrainian Academy of Sciences, founder and head of the Otdel prochnosti materialov (Department of the Strength of Materials) at the Institute of Applied Physics, Academy of Sciences, USSR, founder of the Fakul'tet fizicheskogo metallovedeniya (Department of Physical Metallurgy) at the Leningradskiy politekhnicheskiy institut (Leningrad Polytechnic Institute), recipient of the Stalin Prize (1943), the Order of the Red Banner of Labor (1945) and the Order of Lenin (1953). The articles deal with the strength of materials, phenomena of imperfect elasticity, temper brittleness, hydrogen embrittlement, cold brittleness, influence of deformation speed on the mechanical properties of materials, fatigue of metals, and general problems of the strength, plasticity, and mechanical properties of nonmetals. Numerous personalities are mentioned in the introductory profile of Professor Davidenkov. References are given at the end of each article.

Gindin, I.A., B.G. Lazarev, Ya.D. Starodubov, and V.I. Khotkevich (Fiziko-tekhnicheskiy institut AN USSR-Institute of Applied Physics, Academy of Sciences Ukr. SSR, Khar'kov). Low-temperature Polymorphism of Metals 61

Zhurkov, S.T., and E.Ye. Tomashevskiy (Institute of Applied Physics, Academy of Sciences, USSR, Leningrad). Time Dependency of Strength Under Different Load Conditions 68

Bokshteyn, S.Z., T.I. Gudkova, A.A. Zhukhovitskiy, and S.T. Kishkin. Influence of Stresses and Deformation on the Process of Diffusion 76

Pines, B.Ya., and A.F. Sirenko (Gosudarstvennyy universitet imeni Gor'kogo, g. Khar'kov State University imeni Gor'kiy, Khar'kov). Diffusion Creep of Cermet Specimens Pressed From Powdered Iron 87

Syutkina, V.I., and E.S. Yakovleva (Institut fiziki metallov UFAN SSSR, Sverdlovsk-Institute of Metal Physics, Ural Branch, Academy of Sciences, USSR, Sverdlovsk). Influence of Aluminum and Copper on the Deformation of Nickel 93

Kontorova, T.A. (Institut popuprovodnikov AN SSSR, Leningrad-Semiconductor Institute, Academy of Sciences, USSR, Leningrad). Relationship Between the Mechanical and Thermal Characteristics of Crystals

Garber, R.I., and I.I. Soloshenko (Gosudarstvennyy pedagogicheskiy institut imeni G.S. Skovorody, Khar'kov-State Pedagogical Institute imeni G.S. Skovorda, Khar'kov). Strengthening of Rock Salt Crystals by Repeated Reverse Bending 105

Gaydukov, M.G., and V.A. Pavlov (Institute for Metal Physics, Ural Branch, Academy of Sciences, USSR, Sverdlovsk). Some Aspects of Stress Relaxation in Bronze $KM_{ts}E-1$ 111

Tsobkallo, S.O., and Z.A. Vashchenko (Polytechnic Institute imeni M.I. Kalinin, Leningrad). Increasing the Elastic Limit and Decreasing the Elastic Aftereffect During Cold Hardening and Tempering of Spring Aluminum Bronze BrA7 113

Glikman, L.A., and N.N. Kolgatin (NI'i po pererabotke nefti i polucheniyu iskusstvennogo zhidkogo topliva, g. Leningrad-Scientific Research Institute for Petroleum Refining and Production of Synthetic Liquid Fuels, Leningrad). Nature of the Physical Yield Point of Steel 130

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"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

ZHUKHOVITSKIY, A. A.

The first prize of 10,000 roubles(imeni D. K. Chernov) was awarded to the following team: Professor S. Z. Bokshteyn, Engineer T. I. Gudkova, Doctor of Technical Sciences Professor A. A. Zhukhovitskiy, Doctor of Technical Sciences Professor S. T. Kishkin and Engineer L. M. Moroz for the paper "Investigation of the diffusion and the distribution of components in a real metal by means of radioactive tracers". The work described in this paper represents experimental and theoretical work of fundamental importance on diffusion in alloys as a function of the structure of the metal and the stress field caused by external action. A brief summary is given of this paper and it is stated that it is not only of major theoretical importance but also of practical interest, particularly from the point of view of the problem of high temperature strength.

Results of the 1958 Competition for Obtaining imeni D. K. Chernov and imeni N. A. Minkevich Prizes, Metallovedeniye i termicheskaya obrabotka metallov, 1959, No. 6, pp 62-64

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5(0)

SOV/63-4-2-11/39

AUTHORS: Zhukhovitskiy, A.A., Professor, Turkel'taub, N.M., Candidate of Chemical Sciences

TITLE: Chromatographic Methods and Devices for the Analysis of Gases

PERIODICAL: Khimicheskaya nauka i promyshlennost', 1959, Vol 4, Nr 2, pp 207-215 (USSR)

ABSTRACT: Chromatography is a simple and fast method for a continuous analysis of complex gas mixtures which are used as industrial raw materials. It has been developed by M.S. Tsvet in 1903 [Ref 5]. Mixtures with similar boiling points and azeotropic mixtures can be analyzed by this method. In adsorption chromatography a stream of carrier gas moves through a column with adsorbent which separates the components by their different rate of movement. The gas-liquid distribution chromatography uses the solubility of non-volatile liquids on a solid carrier for differentiation. These carriers may be silicagel, kieselguhr, etc. The thermodynamic method combines the frontal analysis with the action of the moving temperature field. The curvilinearity of adsorption isotherms may be eliminated by adding small quantities of water or various solvents to the adsorbent [Ref 20, 21]. The solvent film

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Chromatographic Methods and Devices for the Analysis of Gases

SOV/63-4-2-11/39

should be thin so that the sorption rate, which determines the rate of inner diffusion, will be high. Hydrogen, carbon dioxide, helium, argon, etc, are used as carrier gases. The composition of the mixture can be determined by measuring the area covered by the output curve or by measuring the height of the peaks. Several foreign chromatographic apparatuses are mentioned. In the USSR the chromatographs KhT-2 and KhT-3 [Ref 37] are produced. The first is used for the automatic analysis of multi-component gas mixtures. The second (Figure 6) combines gas-liquid, distribution and adsorption chromatography with chromathermography. Both devices operate periodically. For continuous operation a chromathermograph has been developed [Ref 36] (Figure 8). The relative error of the described apparatuses is 2-5%.

There are 4 graphs, 4 diagrams, and 37 references, 20 of which are Soviet, 15 English, 1 German and 1 Czechoslovak.

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"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 1, p 17 (USSR) SOV/137-59-1-114

AUTHORS: Zhuravlev, V. K., Zhukhovitskiy, A. A.

TITLE: On the Theory of Metalloid Solutions in Metals (K teorii rastvorov metalloidov v metallakh)

PERIODICAL: Sb. Mosk. in-t stali, 1958, Vol 38, pp 226-244

ABSTRACT: The authors studied the thermodynamic activity of S in the systems Fe-S, Fe-C-S, Fe-Si-S, and Fe-P-S by determining the passing of $S^{35}$ from the liquid melt into an adjoining refractory $ZrO_2$ cylinder. The dependence of $\gamma S$ on the S, C, Si, and P content of the melts and on the temperature in the 1550 - 1675°C range was established. On the basis of the experimental findings $\Delta\overline{H}$, $\Delta\overline{F}$, and $\Delta\overline{S}$ of sulfur were calculated in the above systems. The cause of the increase of $\Delta\overline{H}$ is explained by the fact that C, Si, and P change the interaction energy of S and Fe owing to a change in short-range order. A great increase in $\Delta\overline{S}$ is attributed to a change in the entropy of the oscillations. Assuming that in the case of a liquid solution the element dissolved forms both interstitial and substitution solutions the following formula was developed for the thermodynamic

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activity:

$$a_2' = \frac{N_2(Z+\omega)}{N_1(Z+\omega)-N_2}\left(1 - \frac{N_1 N_2 \omega}{[N_1(Z+\omega)-N_2]^2 + 2N_1N_2\omega}\right),$$

where $N_1$ is the molecular portion of the solvent, $N_2$ is the molecular portion of the solute, Z is the number of places in the interstitial solution per atom of solvent, $\omega = p/q$, p is the a-priori probability of the solute atom occupying a node in the lattice, q is the a-priori probability of it occupying an interstitial place. A similar equation was developed for a three-component system. The equations obtained agree well with experimental data of various authors.

N. V.



APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

ZHUKHOVITSKIY, A.A.; KAZANSKIY, B.A., akademik; STERLIGOV, O.D.; TURKEL'TAUB, N.M.

Chromatographic analysis of mixtures of $C_5$ hydrocarbons. Dokl. AN SSSR 123 no.6:1037-1040 D '58. (MIRA 12:1)

1. Institut organicheskoy khimii imeni N.D. Zelinskogo AN SSSR. i Vsesoyuznyy nauchno-issledovatel'skiy geologorazvedochnyy neftyanoy institut.
(Hydrocarbons)
(Chromatographic analysis)

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"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

ZHUKHOVITSKIY, Aleksandr Abramovich, prof., doktor khim.nauk; KIPNIS, S.Ye., red.; KADER, Ya.M., red.izd-va; MEDNIKOVA, A.N., tekhn.red.

[Tagged atoms] Mechenye atomy. Moskva, Voen.izd-vo M-va obor. SSSR, 1959. 111 p. (MIRA 12:5)

(Radioactive tracers)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

DATSKEVICH, A.A.; ZHUKHOVITSKIY, A.A.; TURKEL'TAUB, N.M.

Sorption and thermal apparatus for the analysis of gas mixtures. Zav. lab. 25 no.2:210-212 '59. (MIRA 12:3)
(Gases--Analysis)

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"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

ZHUKHOVITSKIY, A.A.; KRYUKOV, S.N.; SOLDATOV, Ye.A.

Nonisothermic method of determining the characteristics of diffusion. Zav. lab. 24 no.9:1071-1074 '58. (MIRA 11:10)

1.Moskovskiy institut stali imeni I.V. Stalina.
(Diffusion)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

KRYUKOV, S.N.; BOKSHTEYN, B.S.; DEGAL'TSEVA, T.I.; ZHUKHOVITSKIY, A.A.

Analysis of complex systems by the method of reflected $\beta$-radiation. Zav.lab. 24 no.11:1305-1308 '58. (MIRA 11:12)

1. Moskovskiy institut stali imeni I.V.Stalina.
(Metals--Analysis) (Beta rays)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

VAGIN, Ye.V.; ZHUKHOVITSKIY, A.A.

Theory of thermal-adsorptive separation [with summary in English]. Zhur.fiz.khim. 32 no.10:2362-2373 O '58. (MIRA 11:12)

1. Institut kislorodnogo mashinostroyeniya.
(Gases--Adsorption)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

5(3)

SOV/32-25-2-40/78

AUTHORS: Datskevich, A. A., Zhukhovitskiy, A. A., Turkel'taub, N. M.

TITLE: Apparatus and Technical Equipment for Laboratory Work (Pribory i tekhnika laboratornoy raboty). Sorption-Thermal Apparatus for the Analysis of Gas Mixtures(Sorbtsionno-termicheskiye pribory dlya analiza gazovykh smesey)

PERIODICAL: Zavodskaya Laboratoriya, 1959, Vol 25, Nr 2, pp 210 - 212 (USSR)

ABSTRACT: The use of stationary chromathermography (CTG) permits the thermal enrichment to take place simultaneously with a breadthwise enrichment, since the adsorption zones tend to gradually be compressed. These localized zones make it possible to carry out automatically both a quantitative and qualitative analysis. A thermodynamical apparatus KhT-2 has been designed which permits analyses by three methods: stationary (CTG) with continuous or intermittent gas supply, and non-stationary (CTG). It is possible to analyze multi-component gas mixtures of saturated and unsaturated hydrocarbons and their isomers through $C_6$ as well as low-boiling

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"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

Apparatus and Technical Equipment for Laboratory Work. SOV/32-25-2-40/78
Sorption-Thermal Apparatus for the Analysis of Gas Mixtures

gases. The taking of samples and pressure are automatically controlled by a timer and pressure regulator, and the component quantities contained in the mixture are recorded by an electron potentiometer EPP-09. The apparatus (Fig 1) consists of a separating column with a dosing unit, gas analyzer, and a stand for the recording instruments and control panels. Silica gel or aluminum oxide are used as sorbents, the gas carrier is purified air. A diagram of the analysis of an ethane-ethylene-propane-propylene-isobutane-butane mixture is given (Fig 2). The apparatus KhT-3 has been designed to afford more flexibility in the analyses. It is based on combined use of distribution and adsorption chromatography and (CTG). It was designed on the principle of the separation and analysis setup of the universal chromathermograph VNIGNI (Ref)(Fig 3). A model of this setup (without an automatic arrangement) was tested simultaneously with the KhT-2 apparatus in the gas-logging in the Saratov area and at the Moskovskiy neftyanoy pererabatyvayushchiy zavod (Moscow Petroleum Refining Plant). There are 3 figures and 4 Soviet references.

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APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

AUTHORS: Sotskov, A. D., Zhukhovitskiy, A. A. SOV/163-58-1-33/53

TITLE: On the Hydrodynamic Course in Phase Transformations (O gidrodinamicheskom techenii pri fazovykh prevrashcheniyakh)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Metallurgiya, 1958, Nr 1, pp 182-187 (USSR)

ABSTRACT: In special investigations the displacement rate between the boundary layer of saturated and unsaturated phases of the systems Ag-Cu, Fe-Cu and Fe-Sn could be determined. The results obtained show that the displacement of this boundary is a consequence of diffusion.

The dependence of the displacement between the phases at the time of solidification in the systems Cu-($\alpha+\beta$), Ag-($\alpha+\beta$), Fe-($\alpha+Fe_2Sn$) and Cu-($\varepsilon+\gamma$) was graphically represented.

In the heterogeneous transformation hydrodynamic processes occur in which the insoluble impurities move towards the boundary layer of the crystals. In the system Cu-Fe the rate of impurification increases according to the increase in the $\varepsilon$-phase. There are 4 figures, 1 table, and 4 references, 1 of which is Soviet.

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"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

On the Hydrodynamic Course in Phase Transformations SOV/163-58-1-33/53

ASSOCIATION: Moskovskiy institut stali (Moscow Steel Institute)

SUBMITTED: October 11, 1957

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"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

AUTHORS: Zhukhovitskiy, A. A., Sotskov, A. D. SOV/163-58-1-39/53

TITLE: On the Use of Radioactive Indicators in Investigating Reactive Diffusion (O primenenii radioaktivnykh indikatorov pri izuchenii reaktivnoy diffuzii)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Metallurgiya, 1958, Nr 1, pp 211-217 (USSR)

ABSTRACT: Investigating the reactive diffusion by means of radioactive indicators makes it possible to determine important characteristics in the process of reactive diffusion, especially the increase rate as well as the disappearance of a new phase in the alloys.

The diffusion coefficient was determined by the following equation:

$$D = \frac{ml^2}{\pi^2},$$

where l denotes the thickness of the metal platelet investigated, m the tangent of the angle of inclination in the coordinates $\ln \frac{J_1 - J_2}{J_1 + J_2} - \tau$, $J_1$ the radiation intensity of the one side

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SOV/163-58-1-39/53

On the Use of Radioactive Indicators in Investigating Reactive Diffusion

of the platelet, and $J_2$ the radiation intensity of the other side of the platelet; $\tau$ denotes the diffusion period.
The experiments were carried out in the system Ag-Cu at temperatures of 700, 725, 750, 800 and 850°, as well as in the system Fe-Cu at temperatures of 925, 1000 and 1050°. Iron and silver isotopes were used as radioactive indicators. The diffusion coefficient was calculated from the kinetic curves, and agrees with the data in publications.
The beginning of the diffusion process in the alloys themselves, especially the β-phase, was investigated in the system Fe-Cu. The diffusion coefficient was calculated in the system Ag-Cu at temperatures of 750 to 800°.
By this method the phase transformation rate can be determined conveniently and most accurately (to 0,01 $\mu$).
There are 4 figures, 3 tables, and 10 references, 9 of which are Soviet.

Card 2/2

ASSOCIATION: Moskovskiy institut stali (Moscow Steel Institute)

SUBMITTED: October 11, 1957

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"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

18(7)

AUTHORS: Bokshteyn, S. Z., Zhukhovitskiy, A. A., SOV/163-58-4-26/47
Kishkin, S. T., Mal'tsev, E. R.

TITLE: Influence of the Phase Conversion on the Speed of Autodiffusion (Vliyaniye fazovykh prevrashcheniy na skorost' samodiffuzii)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Metallurgiya, 1958, Nr 4, pp 158-161 (USSR)

ABSTRACT: The influence of eutectoid conversion in steel on the speed of autodiffusion in iron is explained. Besides, some experiments were made to measure the effect of polymorphic conversion $\alpha \rightleftarrows \gamma$ on the speed of autodiffusion. The influence of eutectoid conversion (austenite-perlite) in steel U8 (0.78 % C) on the speed of autodiffusion in iron was investigated. For determining the diffusion parameters, the usual variant of the absorption method (Ref 2) was used. The diffusion factor was calculated according to the theory (Ref 3). It is shown that the eutectoid conversion increases considerably the average mobility of the atoms in the lattice. In examining the influence of the polymorphic $\alpha \rightleftarrows \gamma$-conversion on the autodiffusion of iron (0.059 % C), one of the variants

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of the absorption method, the so-called "method of the thin layer" (quotation marks in the Russian original) (Ref 2) was used for determining the factors of autodiffusion in iron. The data obtained show that the autodiffusion of iron in cyclic annealing, when the $\alpha \rightleftarrows \gamma$-conversion is imposed on the diffusion process, proceeds at about the same speed as the autodiffusion of $\alpha$-iron in isothermic annealing at 880°. Thus, the polymorphic conversion does not change the speed of autodiffusion, in contrast to the eutectoid conversion. The formation of the new phase and the corresponding lattice reconstruction may lead to an increase of mobility of the iron atoms on account of a number of causes mentioned here. The polymorphic $\alpha \rightleftarrows \gamma$-conversion has apparently no noticeable influence on the elementary act of autodiffusion of iron. Thus, the two processes may be regarded independent of each other. This result can be explained by supposing that - in the case of substituting a crystalline iron atom packing by another - the atoms do not shift by great distances but only by distances smaller than the interatomic distance. In contrast with the polymorphic conversion, the eutectoid conversion in



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Influence of the Phase Conversion on the Speed of Autodiffusion SOV/163-58-4-26/47

steel increases the speed of autodiffusion of the iron considerably (by one order of magnitude). There are 1 figure, 2 tables, and 5 references, 4 of which are Soviet.

ASSOCIATION: Moskovskiy institut stali i VIAM (Moscow Steel Institute and VIAM)

SUBMITTED: May 22, 1958

Card 3/3

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

GRIGORYAN, V.A. (Moskva); ZHUKHOVITSKIY, A.A. (Moskva); MINAYEV, Yu.A. (Moskva)

Oxidation of the sulfur contained in slag by gaseous phase oxygen. Izv. AN SSSR. Met. i gor. delo no.1:61-66 Ja-F '64. (MIRA 17:4)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

SOV/32-24-9-15/53

AUTHORS: Zhukhovitskiy, A. A., Kryukov, S. N., Soldatov, Ye. A.

TITLE: A Non-Isothermal Method for the Determination of Diffusion Properties (Neizotermicheskiy metod opredeleniya diffuzionnykh kharakteristik)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol 24, Nr 9, pp 1071-1074 (USSR)

ABSTRACT: If the determinations mentioned in the title are carried out by the isothermal method, a larger number of measurements is involved, and temperatures must be maintained strictly constant (by means of a thermostat). In non-isothermal measurements, these disadvantages can be avoided, and several processes can be observed. A description is given of the method mentioned in the title, as well as of a simple device (a line drawing of which is given) for non-isothermal annealing. After the solving of mathematical equations, it is stated that the method of thin layers had to be modified. From the description of the device and the technique employed it is apparent that the method was tested by the self-diffusion of silver, using the $Ag^{110}$ isotope. Amongst others, a graphic method is suggested in the derivation of the calculation equations. All the results obtained are

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A Non-Isothermal Method for the Determination of Diffusion Properties SOV/32-24-9-15/53

given close to those in the literature, as, for example, those obtained by Johnson (Dzhonson) (Ref 3). There are 3 figures and 3 references, 2 of which are Soviet.

ASSOCIATION: Moskovskiy institut stali im. I. V. Stalina (Moscow Steel Institute imeni I. V. Stalin)

Card 2/2

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

5(4)

AUTHORS: Vagin, Ye. V., Zhukhovitskiy, A. A. SOV/76-32-10-20/39

TITLE: The Theory of Thermo-Adsorption Separation (Teoriya adsorbtsionno-termicheskogo razdeleniya)

PERIODICAL: Zhurnal fizicheskoy khimii, 1958, Vol 32, Nr 10, pp 2362-2373 (USSR)

ABSTRACT: The investigations by Wirth (Virt) (Ref 1) and the proposal by Yanovskiy (Ref 2) in connection with the theory of the displacement analysis according to Tiselius (Tizelius)(Ref 3) are rather similar. In the present paper the main foundations of the general theory of the thermo-adsorption separation are given and the dynamics of the process are presented. The relation between the temperature area and the distribution of the substance is determined by the equation of the isobars. For a linear adsorption isotherm $a=Ae^{Q/RT}$. Under the assumption that the adsorption velocity is infinitely high and longitudinal diffusion is not present equations were obtained which characterize the asymptotic distribution. In an asymptotic

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distribution with linear adsorption isothermal lines the component will be distributed in the zone of the high temperature with the highest adsorption coefficient. The law of distribution of the adsorbed amount of substance is determined by the adsorption isobar as it is assumed that the pressure is constant at all points of the layer. A sufficiently long layer must effect an asymptotic distribution of the components in various temperature zones according to the adsorption capacity of the component. According to the Langmuir (Lengmyur) equation the components can not exist in an asymptotic distribution, but separate and are distributed over different temperature zones. An equation is given for the determination of each component. The authors conclude from the assumption that a longitudinal diffusion is not present that the pressure constancy in each cross section of the layer is secured by the pressure of one component. In real processes a temperature range characterizes the transition from one substance to the other, and not any definite temperature. The clear separation improves with an



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The Theory of Thermo-Adsorption Separation 307/76-32-10-20/39

increase in the difference of the adsorption properties of the gases to be separated, an increase in velocity of the temperature field, and a decrease of the general diffusion coefficient, as well as by an increase in the temperature gradient and a decrease in the temperature $T_x$. There are 5 figures and 6 references, 3 of which are Soviet.

ASSOCIATION: Institut kislorodnogo mashinostroyeniya (Institute for the Building of Oxygen Machinery)

SUBMITTED: May 5, 1957

Card 3/3

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

5(3) SOV/20-123-6-22/50

AUTHORS: Zhukhovitskiy, A. A., Kazanskiy, B. A., Academician, Sterligov, O. D. Turkel'taub, N. M.

TITLE: Chromatographic Analysis of $C_5$ Hydrocarbon Mixtures (Khromatograficheskiy analiz smesey uglevodorodov sostava $C_5$)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 6, pp 1037 - 1040 (USSR)

ABSTRACT: The purpose of the present paper is the elaboration of a quick and sufficiently simple method of the quantitative analysis of isopentane-isoprene-isoamylene mixtures. Such mixtures are formed on dehydrogenation of isopentane into isoamylenes and isoprene. Their analysis was complicated and required much time (Refs 1-4). The authors successfully used a combination of two chromatographic methods: the partition chromatography (Ref 5) and the "chromathermography" (Ref 6). The methods were worked out on pure individual hydrocarbons and on their artificial mixtures. The universal "chromathermograph" was used for the analysis (Ref 7). Aluminum oxide and diatomite impregnated with dibutyl-phthalate

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"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

Chromatographic Analysis of $C_5$ Hydrocarbon Mixtures SOV/20-123-6-22/50

(25% by weight) served as sorbents. The readings on the apparatus were automatically recorded by the potentiometer EPP-09 . The results of the experiments with the cooperation of A. I. Karymova and P. S. Pavlova) are given in tables 1 and 2. Figure 1a shows the separation of a complex artificial mixture Nr 18 of $C_5$-hydrocarbons. The chromatogram shows a distinct separation of all hydrocarbons except isopentane and 3-methylbutene-1. This binary mixture was separated with respect to aluminum oxide using "chromathermography" (Fig 2). The results were of satisfactory accuracy. The deciphering of the initial curve is of considerable importance in analyses of this type. Various methods are used for this purpose (Refs 8,9). There are cases of an incomplete separation of the components of the mixture. A method of calculation for the solution of this question (Ref 11) is suggested. Figures 1a and 1b show the application of "chromatography" to the investigation of the dehydrogenation products of isopentane. The mentioned universal apparatus can also be used for the determination of the purity of hydrocarbons.

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"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

Chromatographic Analysis of $C_5$ Hydrocarbon Mixtures SOV/20-123-6-22/50

There are 2 figures, 2 tables, and 11 references, 10 of which are Soviet.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR ( Institute of Organic Chemistry imeni N. D. Zelinskiy, Academy of Sciences USSR) Vsesoyuznyy nauchno-issledovatel'skiy geologorazvedochnyy neftyanoy institut (All-Union Scientific Research Institute for Geological Prospecting of Petroleum)

SUBMITTED: October 20, 1958

Card 3/3

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

ZHUKHOVITSKIY, A.A.; TURKEL'TAUB, N.M.; SHLYAKHOV, A.F.

Preparing dilute gas mixtures for chromatographic investigations. Neftekhimia 4 no.4:645-649 Jl-Ag '64. (MIRA 17:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut yadernoy geofiziki i geokhimii.

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

REBINDER, P.A.; ZHUKHOVITSKIY, A.A.; CHMUTOV, K.V.

N.M.Turkel'taub, 1915-1965; an obituary. Zhur.fiz.khim. 39 no.7:1804 Jl '65. (MIRA 18:8)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

L 7006-66 EWT(m)/T/EWA(h) IJP(c)

ACC NR: AP5026805 SOURCE CODE: UR/0286/65/000/017/0088/0088

INVENTOR: Zhukhovitskiy, A. A.; Turkel'taub, N. M.; Fesenko, Ye. P.; Shevchenko, N. P.

ORG: none

23
B

TITLE: An ionization detector. Class 42, No. 174427

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 17, 1965, 88

TOPIC TAGS: ionization counter, radiation instrument

ABSTRACT: This Inventor's Certificate introduces an ionization counter which contains a housing, an ion source, e.g. a hydrogen torch, electrodes and pipes for the gas. The measurement circuit is simplified by making the electrodes from different materials, e.g. zinc and copper, to form a galvanic cell.

SUB CODE: NP/ SUBM DATE: 30Jun64/ ORIG REF: 000/ OTH REF: 000

Card 1/2 UDC: 539.074.2

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L 7006-66

ACC NR: AP5026805

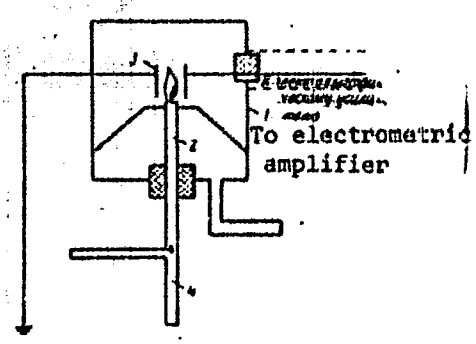


Fig. 1. 1 - housing; 2 - ionization source (hydrogen flame); 3 - electrodes; 4 - gas pipes.

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"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

BRONFIN, M.B.; ZHUKHOVITSKIY, A.A.; MARICHEV, V.A.

Effect of oxide films on sublimation kinetics. Fiz. tver. tela 7 no.9:2603-2606 S '65. (MIRA 18:10)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

ZHUKHOVITSKIY, A.A.; SAZONOV, M.L.; SHLYAKHOV, A.F.; KARYMOVA, A.I.

Development chromatography without a gas carrier. Zav. lab. 31 no.9:1048-1052 '65. (MIRA 18:10)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

BAYKOV, S.P., kand. tekhn. nauk; BELENKO, I.S., kand. tekhn. nauk; BELKOV, S.F., inzh.; BELYANCHIKOV, M.P., inzh.; BERNSHTEYN, I.L., inzh.; BOGORODITSKIY, D.D., inzh.; BOLONOVA, Ye.V., kand. tekhn. nauk; BROZGOL', I.M., kand. tekhn.nauk; VLADIMIROV, V.B., inzh.; VOLKOV, P.D., kand. tekhn. nauk; GERASIMOVA, N.N., inzh.; ZHUKHOVITSKIY, A.F., inzh.; KABANOV, M.F., inzh.; KAMEVTSOV, V.M., kand. tekhn. nauk; KOLOTENKOV, I.V., inzh.; KONDRAT'YEV, I.M., inzh.; KUZNETSOV, I.P., kand. tekhn. nauk; L'VOV, D.S., kand. tekhn. nauk; LYSENKO, I.Ya., kand. tekhn. nauk; MAKAROV, L.M., inzh.; OLEYNIK, N.D., inzh.; RABINER, Ye.G., inzh.; ROZHDESTVENSKIY, Yu.L., kand. tekhn. nauk; SAKHON'KO, I.M., kand. tekhn. nauk; SIDOROV, P.N., inzh.; SPITSYN, N.A., prof., doktor tekhn. nauk; SPRISHEVSKIY, A.I., kand. tekhn. nauk; CHIRIKOV, V.T., kand. tekhn.nauk; SHEYN, A.S., kand. tekhn. nauk; NIBERG, N.Ya., nauchnyy red.; BLAGOSKLONOVA, N.Yu., inzh., red. izd-va; SOKOLOVA, T.F., tekhn. red.

[Antifriction bearings; manual] Podshipniki kacheniia; spravochnoe posobie. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1961. 828 p. (MIRA 15:2)
(Bearings (Machinery))

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

MURAVKINA, F.O., ekonomist; ZHUKHOVITSKIY, A.F., inzh.

Role of the main economic adviser in a machinery plant. Vest.mashinostr. 43 no.11:86-87 N '63. (MIRA 17:2)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

ZHUKHOVITSKIY, A. F.

USSR/ Miscellaneous

Card 1/1 : Pub. 128 - 12/31

Authors : Pabogin, A. A.

Title : Speeding-up the adaptation of automatic equipment

Periodical : Vest. mash. 10, 55 - 56, Oct 54

Abstract : The editorial gives some information concerning the evaluation of A. F. Zhukhovitskiy's article, "Speeding-up the Adaptation of Automatic Equipment", by the Technical Board of the Scientific-Investigational Institute [illegible] [illegible].

Institution : ....

Submitted : ....

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

ZHUKHOVITSKIY, [illegible]

USSR/Miscellaneous - Production equipment

Card 1/1 Pub. 128 - 8/25

Authors : Koshkin, L. N.

Title : Comments on A. F. Zhukhovitskiy's article

Periodical : Vest. mash. 1, 49-51, Jan 1955

Abstract : A review is presented of A. F. Zhukhovitskiy's article entitled "Problems of Increasing the Introduction of Automatic Equipment", published in "Vest. mash." N[illegible], 1954, concerning [illegible] the automation and mechanization of industrial [illegible] construction plants and the [illegible] processes on labor productivity and [illegible].

Institution : .....

Submitted : .....

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

ZHUKHOVITSKIY, A. F.

USSR/Engineering - Machine tools

Card : 1/1 Pub. 128 - 8/32

Authors : Zhukhovitskiy, A. F.

Title : Increasing the introduction of automatic equipment

Periodical : Vest. mash. 34/7, 23 - 30, July 1954

Abstract : General information is given on studies conducted by the automotive and machine construction factories, pertaining to the automatization and mechanization of industrial production. The article reveals that, various automotive and machine plants, namely, SKS-..., IGR..., GAZ, and ZIS, have mechanized their production lines. As a result of this mechanization, the number of employees was cut by 30 - 50% machinery by 5..%, and the productivity per worker was increased by 3... - 5..%. Illustrations.

Institution : ...

Submitted : ...

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

ZHUKHOVITSKIY, A.F., inzhener.

Problem of speeding-up the introduction of automatic equipment. Vest.mash. 34 no.7:23-30 Jl '54. (MLRA 7:8)
(Machine tools)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

BAYBUROV, B.S. [author]; KERCHIKER, V.I.; ZHUKHOVITSKIY, A.F. [reviewers].

"Instruments and automatic machines for statistical analysis and control of production in machine building." B.S.Baiburov. Reviewed by V.I. Kerchiker, A.F.Zhukhovitskii. Avt.trakt.prom. no.9:32-3 of cover. S '53. (MLRA 6:9)

1. Ministerstvo mashinostroyenii (for Kerchiker and Zhukhovitskiy). (Machinery industry) (Baiburov, B.S.)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

ZHUKOV, A.M. (Moskva)

Relationship between the elastic modulus and the coefficient of linear expansion, and the temperature of some metals. Izv. AN SSSR.Otd.tekh.nauk.Mekh. i mashinostr. no.4:173-175 Jl-Ag '59. (MIRA 12:8)

1. Institut mekhaniki AN SSSR.
(Metals--Testing)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

ZHUKHOVITSKIY, A.P.

[The organization of dispatching service in machine-building plants] Organizatsiia dispetcherskoi sluzhby mashinostroitel'nogo zavoda. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroitel'noi lit-ry, 1948. 87 p. (MLRA 6:7)
(Machinery industry)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

ZHUKOVITSKIY, B. YA.

USSR/Electricity - Measurements
Transmission Lines

Jul 51

"The Electromagnetic Effect of a Multiconductor Line With Consideration for Twisting of the Conductors," Prof K. M. Polivanov, Dr Tech Sci, Docent A. V. Netushil, Cand Tech Sci, B. Ya. Zhukovitskiy, Engr, Moscow Power Eng Institeni Molotov

"Elektrichestvo" No 7, pp 28-33

Determines the amt by which the electromagnetic effect of high-current conductors upon surrounding elec circuits is decreased when the conductors are twisted. Found that twisting the conductors of a 3-phase line reduced considerably the interference caused but had little effect upon interference due to zero-sequence currents. Submitted 9 Mar 51.

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APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

GUSEV, S.A., inzh.; ZHUKHOVITSKIY, B.Ya., kand.tekhn.nauk; ZARIN, D.D., kand.tekhn.nauk; IVANOV-SMOLENSKIY, A.V., kand.tekhn.nauk; KNYAZEVSKIY, B.A., kand.tekhn.nauk; KUZNETSOV, A.I., inzh.; KOZIS, V.L., kand.tekhn.nauk; KORYTIN, A.A., inzh.; LASHKOV, F.P., inzh.; L'VOV, Ye.L., kand.tekhn.nauk; MELESHKINA, L.P., kand.tekhn.nauk; NEKRASOVA, N.M., kand.tekhn.nauk; NIKULIN, N.V., kand.tekhn.nauk; POLEVOY, V.A., kand.tekhnicheskikh nauk; RAZEVIG, D.V., kand.tekhn.nauk; ROZANOV, G.M., kand.tekhn. nauk; RUMSHINSKIY, L.Z., kand.fiz.-matem.nauk; SVISTOV, N.K., kand.tekhn.nauk; SIROTINSKIY, Ye.L., kand.tekhn.nauk; SOKOLOV, M.M., kand.tekhn.nauk; TALITSKIY, A.V., prof.; TREMBACH, V.V., inzh.; FEDOROV, A.A., kand.tekhn.nauk; GRUDINSKIY, P.G., prof.; PRYTKOV, V.T., kand.tekhn.nauk; CHILIKIN, M.G., prof., glavnyy red.; GOLOVAN, A.T., prof., red.; PETROV, G.N., prof., red.; FEDOSEYEV, A.M., prof., red.; ANTIK, I.V., red.; SKVORTSOV, I.M., tekhn.red.

[Handbook for electric engineering] Elektrotekhnicheskii spravochnik. Moskva, Gos.energ.izd-vo, 1952. 640 p. (MIRA 13:2)

1. Prepodavateli Moskovskogo energeticheskogo instituta imeni V.M. Molotova (for all except Antik, Skvortsov).
(Electric engineering)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

KONSTANTINOV, V.I.; MANSUROV, N.N.; SIMONOV, A.F.; FEDOROV-KOROLEV, A.A.; ZHUKHOVITSKIY, B.Ya., redaktor; LARIONOV, G.Ye., tekhnicheskiy redaktor

[Collected problems in theoretical electrical engineering] Sbornik zadach po teoreticheskoi elektrotekhnike. Pod obshchei red. N.N. Mansurova. Moskva, Gos. energ. izd-vo, 1953. 176 p. [Microfilm] (MLRA 7:10)

(Electric engineering--Problems, exercises, etc.)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

ZHUKHOVITSKIY, B.Ya., kandidat tekhnicheskikh nauk.

New designs of high-frequency generators for industrial heating. Elektrichestvo no.2:89-91 F '54. (MLRA 7:2)
(Electron tubes)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

ZHUKHOVITSKIY, B. Ya.

KULIKOVSKIY, A.A.; BERG, A.I., redaktor; DZHIGIT, I.S., redaktor; YELIN, O.G., redaktor; MOSHZHEVELOV, G.N., redaktor; SMIRNOV, A.D., redaktor; TARASOV, A.D., redaktor; TRAMM, B.F., redaktor, CHECHIK, P.O., redaktor; SHAMSHUR, V.I., redaktor; ZHUKHOVITSKIY, B. Ya., redaktor; FRIDKIN, A.M., tekhnicheskiy redaktor

[Manual for the amateur radio operator] Spravochnik radioliubitelia. Moskva, Gos.energ.izd-vo, 1955. 256 p. (Massovaia radiobiblioteka, no.222) (MLRA 8:9)

(Radio-Amateur's manuals)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5"

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ZEVEKE, Georgiy Vasil'yevich; IOHKIN, Petr Afanas'yevich; ZHUKHOVITSKIY B.Ya, redaktor; FEIDKIN, A.M., tekhnicheskiy redaktor

[Principles of electrical engineering] Osnovy elektrotekhniki, Moskva, Gos. energ. izd-vo, 1955. Part 1. [Principles of the circuit theory] Osnovy teorii tsepei. 1955. 215 p. (MLRA 8:8)
(Electric circuits)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

ZHUKHOVITSKIY, B.YA.

NETUSHIL, Anatoliy Vladimirovich; STRAKHOV, Sergey Vladimirovich; ZHUKHOVITSKIY, B.Ya., redaktor; SKVORTSOV, I.M., tekhnicheskiy redaktor.

[Principles of electrical engineering] Osnovy elektrotekhniki. v trekh chastiakh. Moskva, Gos.energ.izd-vo Pt.2 [Circuits with lumped and distributed parameters] Tsepi s sosredotochennymi i raspredelennymi parametrami. 1955. 213 p. (MLRA 8:11)
(Electric circuits)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

ZHUKHOVITSKIY, B. Ya.

GUMELYA, Anton Nikolayevich; KIRILLOV, Yevgeniy Vladimirovich; LUSKINOVICH, Nikolay Vasil'yevich; ZHUKHOVITSKIY, B.Ya., redaktor; DOBRYNINA, A.Ya., redaktor; SOKOLOVA, R.Ya., tekhnicheskiy redaktor

[Supervisor of interurban telegraph and telephone communication lines] Nadsmotrshchik mezhdugorodnykh telegrafno-telefonnykh linii sviazi. Moskva, Gos.izd-vo lit-ry po voprosam sviazi i radio, 1955. 263 p. (MLRA 9:1)
(Telephone lines) (Telegraph lines)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

KASATKIN, Aleksandr Sergeyevich; PEREKALIN, Mikhail Aleksandrovich; ZHUKHOVITSKIY, B.Ya., redaktor; SOKHRANSKIY, S.T., redaktor; VORONIN, K.T., tekhnicheskiy redaktor

[Electric engineering] Elektrotekhnika. Izd. 6-e, zanovo perer. Moskva, Gos.energ. izd-vo, 1955. 376 p. (MLRA 9:2)
(Electric engineering)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5"

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ZHUKHOVITSKIY, B.Ya., kandidat tekhnicheskikh nauk.

Constant of quadripole transmission. Trudy MEI no.18:22-26 '56. (MLRA 10:1)

1. Kafedra teoreticheskikh osnov elektrotekhniki.
(Radio circuits)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

NETUSHIL, Anatoliy Vladimirovich; POLIVANOV, Konstantin Mikhaylovich; ZHUKHOVITSKIY, B.Ye., redaktor; VOROHIN, K.P., tekhnicheskiy redaktor

[Principles of electric engineering] Osnovy elektrotekhniki; v trekh chastiakh. Moskva, Gos. ener. izd-vo. Pt.3. [The theory of the electromagnetic field] Teoriia elektromagnitnogo polia. 1956. 190 p. (Electromagnetic theory) (MIRA 10:2)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

MANSUROV, Nikolay Nikolayevich; POPOV, Viktor Stepanovich; ZHUKHOVITSKIY, B.Ya., redaktor; VORONIN, K.P., tekhnicheskiy redaktor

[Theoretical electric engineering] Teoreticheskaia elektrotekhnika. Izd. 6-oe. Moskva, Gos. energ. izd-vo, 1956. 592 p. (MLRA 9:10)
(Electric engineering)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

112-57-7-15872

Translation from: Referativnyy zhurnal, Elektrotekhnika, 1957, Nr 7, p 290 (USSR)

AUTHOR: Zhukhovitskiy, B. Ya.

TITLE: Transfer Constant of a Fourpole
(Postoyannaya peredach chetyrekhpolyusnika)

PERIODICAL: Tr. Mosk. energ. in-ta, 1956, Nr 18, pp 22-27

ABSTRACT: Bibliographic entry.

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"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

TELESHEV, Boris Arkad'yevich; ZHUKHOVITSKIY, B.Ya., redaktor; IVANOV-SMOLENSKIY, A.V., redaktor; VOROBYEV, K.P., tekhnicheskiy redaktor

[Electric engineering] Elektrotekhnika. Moskva, Gos.energ. izd-vo, 1956. 496 p. (MIRA 9:12)
(Electric engineering)

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"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

ZHUKHOVITSKIY, B.Ya.; PTUSHKIN, A.T.

Using high-frequency currents for the heat treatment of cocoa beans. Khleb. i kond. prom. 1 no.4:14-20 Ap '57. (MLRA 10:5)

1. Moskovskiy energeticheskiy institut imeni V.M. Molotova (for Zhukhovitskiy). 2. Moskovskiy tekhnologicheskiy institut pishchevoy promyshlennosti. (for Ptushkin).
(Cocoa) (Induction heating)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

ZHUKHOVITSKIY, B.Ya.

Analizing the performance of chokes in modulator circuits. Izv.vys. ucheb.zav.; radiotekh. no.4:474-479 Jl-Ag '58. (MIRA 11:11)

1. Rekomendovana kafedroy teoreticheskikh osnov elektrotekhniki Moskovskogo ordena Lenina energeticheskogo instituta.
(Modulation (Electronics))

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

SOV/142-58-4-13/30

AUTHOR: Zhukhovitskiy, B.Ya.

TITLE: Analysis of Choke Operation in Modulator Circuit (Analiz raboty drosselya v skheme modulyatora)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy - Radiotekhnika, 1958, Nr 4, pp 474-479 (USSR)

ABSTRACT: The paper deals with the development of a current pulse in the transmission circuit of a series-type modulator, taking into account the hysteresis loop of the saturation chokes. It is shown that a second current pulse could possibly arise. Saturation chokes must so function that when the first condenser is being charged to peak voltage, there is no charging of the second condenser; when the first condenser is being discharged, the third condenser is not being charged and so on. The paper analyzes the work of a modulator, taking into account the hysteresis loop of the saturation choke. Two series of cases are examined: e.g. for current $i(t_2) < I_0$ and for current $i(t_2) > I_0$. Formulae

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Analysis of Choke Operation in Modulator Circuits SOV/142-58-4-13/30

are given to compute the work of the modulator, both taking into account and disregarding the hysteresis loop of the saturation choke. There are 4 circuit diagrams, 5 graphs and 1 non-Soviet reference.

ASSOCIATION: Kafedra teoreticheskikh osnov elektrotekhniki Moskovskogo ordena Lenina energeticheskogo instituta (Chair for the Theoretical Bases of Electrical Engineering, Moscow Order of Lenin Power Institute)

SUBMITTED: March 3, 1958

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"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

ZHUKHOVITSKIY, B.Ya., kand.tekhn.nauk

Peculiarities of generators for dielectric heating. Trudy MEI no.27:148-153 '58. (MIRA 13:4)
(Electric generators) (Dielectric heating)

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"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

MANSUROV, Nikolay Nikolayevich; POPOV, Viktor Stepanovich; ZHUKHOVITSKIY, B.Ya., kand. tekhn. nauk, dots., red.; FRIDKIN, A.M., tekhn. red.

[Theoretical electrical engineering] Teoreticheskaia elektrotekhnika. Izd. 7. Moskva, Gos. energ. izd-vo, 1958. 608 p. (MIRA 11:10)
(Electric engineering)

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ZHUKHOVITSKIY, B. Ya.

8(4); 9(4) PHASE I BOOK EXPLOITATION SOV/1995

Netushil, Anatoliy Vladimirovich, Boris Yakovlevich Zhukhovitskiy, Vsevolod Nikolayevich Kudin, and Yevgeniy Pavlovich Parini

Vysokochastotnyy nagrev dielektrikov i poluprovodnikov (High-frequency Heating of Dielectrics and Semiconductors) 2d ed., rev. Moscow, Gosenergoizdat, 1959. 479 p. Errata slip inserted. 11,000 copies printed.

Ed. (inside book): S. A. Avayev; Tech Ed.: G. I. Matveyev; Ed. (Title page): Anatoliy Vladimirovich Netushil.

PURPOSE: The book is intended for engineers and scientific workers dealing with electrothermics. It may also be used by senior students of vtuzes.

COVERAGE: The authors discuss problems of heating of various industrial materials in a high-frequency electric field. They describe the fields of application of dielectric heating and present fundamental physical laws which serve as the basis of calculation and design of equipment for heating materials in the electric field of a capacitor. Attention is given to measuring the parameters of

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materials in a high-frequency electric field. Some aspects of shielding industrial equipment to decrease interferences are discussed. Chapters 1,2, 3, 5, 6, 7 were written by A. V. Netushil; Chapters, 8, 9, 10 by B. Ya. Zhukhovitskiy; Chapters 11, 12, and the Appendix by Ye. P. Parini; and Chapter 4 by V. N. Kudin. The discussion on checking the LGD-30 oscillator in Chapter 12 was written by Engineer A. A. Frumkin. The material for Chapter 1 was provided the authors by the following persons: G. T. Chesnokov, Chief Engineer of LZVU; Director of NII TVCh imeni V. P. Vologdin, M. A. Spitsyn, Candidate of Technical Sciences; Kh. E. Malkina of NIIShP, Candidate of Technical Sciences; K. A. Didebulidze of VIESKh, Candidate of Technical Sciences; and Engineers V. M. Degtev of VEI, V. V. Ustinov of GPI, I. P. Sakharov of VNIIB, L. M. Koval'chuk of TsNIISK. The authors thank Professor A. V. Donskoy and Professor G. I. Skanavi for reviewing the manuscript. There are 256 references: 201 Soviet, 32 English, 17 German, 3 French, 2 Czech and 1 Italian.

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"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002064920003-5

MALOV, Vladimir Sergeyevich; ZHUKHOVITSKIY, B.Ya., red.; ANTIK, I.V., red.; VESHNEVSKIY, S.N., red.; KULEBAKIN, V.S., red.; SMIRNOV, A.D., red.; SOTSKOV, B.S., red.; STEFANI, Ye.P., red.; SHUMILOVSKIY, N.N., red.; VORONICH, K.P., tekhn.red.

[Remote control] Telemekhanika. Moskva, Gos.energ.izd-vo, 1960. 93 p. (Biblioteka po avtomatike, no.13)

(MIRA 14:3)

(Remote control)

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PHASE I BOOK EXPLOITATION SOV/4628

Zvenigorodskiy, Iosif Solomonovich

Kanaly svyazi dlya telemekhaniki (Remote Control Communication Channels) Moscow, Gosenergoizdat, 1960. 151 p. 10,000 copies printed.

Ed.: B.Ya. Zhukhovitskiy, Candidate of Technical Sciences; Tech. Ed.: K.P. Voronin.

PURPOSE: The book is intended for engineers and technicians who are concerned with problems of remote control and who design or operate remote-control devices and channels. It can also be used by students working with these problems.

COVERAGE: The author states that this book represents the first attempt to present in a systematic way the existing data on the properties of remote-control communication channels and the equipment used to form them. The apparatus are designed by the VNIIE (All-Union Scientific Research Institute of Electric Power Engineering), the ORGRES (State Trust for the Organization and Efficiency of Electric Power Plants) of the Soyuzglavenergo (All-Union Main Power Administration), and by the TsLEM (Central Laboratory and Experimental Workshop of Electrical and Measuring Instruments) of the Mosenergo (Moscow Regional

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Power System Administration). The book presents the theoretical fundamentals of remote-control signal transmission along communication channels and contains essential information on communication circuits and channels and on the multiplexing equipment used for forming remote-control frequency channels along communication and electric transmission lines. The author acknowledges the assistance of Ya. L. Bykhovskiy, Candidate of Technical Sciences, and expresses his thanks to B.Ya. Zhukhovitskiy, Candidate of Technical Sciences, who edited the book. There are 20 references, all Soviet.

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E192/E382

AUTHORS: Netushil, A.V., Burdak, N.M., Zhukhovitskiy, B.Ya. and Kudin, V.N.

TITLE: Design of Saturated Chokes for Modulator Circuits

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiotekhnika, 1960, Vol. 3, No. 2, pp 191-201

TEXT: The analysis of the modulator circuits based on saturated cores is usually based on an idealized magnetization curve (Refs. 1 and 2), which does not take into account the magnetizing current. A different approach is thereforeadopted. It is assumed that the modulator considered is in the form shown in Fig. 2. The characteristic of the first saturated core in this system is represented by the curve shown in Fig. 1б, while that of the second core is approximated by the curve shown in Fig. 1b. The difference in the two characteristics is due to the fact that the characteristic of the first core is shifted towards the righthand side by an amount $I_n(W_n/W_1)$ due to the current $I_n$ in the secondary winding $W_n$. In investigating the operation of the modulator of Fig. 2, it can be assumed that all the capacitances of the

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Design of Saturated Chokes for Modulator Circuits

system are fully discharged before the commencement of a new charging cycle. The voltage applied to the modulator is sinusoidal, i.e. $e = E \sin \omega_n t$. Expressions for the voltage across $C_1$ and the current and m flux of the first core are derived. Similar expressions are found for the voltage across the second condenser and the current and flux of the second core. The shape of these parameters as a function of time is illustrated in Fig. 3. The current for the k-th core can be represented in the form shown in Fig. 4, where $T_k$ represents the duration of a current pulse. The operation of the system can be regarded as linear during each of the intervals illustrated in Fig. 4. It is, however, necessary to determine the frequency dependence of the equivalent complex permeability of the cores for a given constant value of the magnetic permeability. It is assumed for this purpose that the core consists of a set of steel laminations having a width $2a$, a thickness $2b_1$, a permeability $\mu$ and a conductivity $\sigma$; the laminations are insulated from each other by a layer of dielectric having a permittivity $\varepsilon$ and a thickness $2b_2$ (Fig. 5). The evaluation of the complex

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Design of Saturated Chokes for Modulator Circuits

permeability of this system can be done on the basis of the results obtained by N.G. Katkov and K.M. Polivanov (Ref. 4); however, it is possible to simplify the formulae given by those authors. It is shown that the complex permeability is expressed by:

$$\mu_3 = \mu_{cp} \frac{\mathrm{th}\left[jK_f \sqrt{\mu_{cp}(1 + K_3)}\right]}{jK_f \sqrt{\mu_{cp}(1 + K_3)}} \qquad (8)$$

where $\mu_{cp}$ is the average value of the permeability $K_3 = b_1/b_2$, $K_f = \omega a \sqrt{\varepsilon\varepsilon_o\mu_o}$ and $K_M = \frac{b_1}{2a}\sqrt{\frac{\mu_o}{\varepsilon\varepsilon_o}}$.

By means of Eq. (8), it is possible to determine $\mu_3$ for various values of $\mu$, $K_3$, $K_M$ and $K_f$. Examples of such characteristics are given in Figs. 6, 7. If the shape of the

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Design of Saturated Chokes for Modulator Circuits

current waveform in the winding of a core (Fig. 4) is known and if the frequency dependence of $\mu_э$ is determined, it is possible to calculate the losses due to eddy currents. The energy lost in eddy currents during an aperiodic change due to a pulse is expressed by Eq. (10), where $H(\omega)$ is the spectral density of the pulse. Eq. (10) is used to determine the eddy-current losses for the pulses of Fig. 4, which can be regarded as consisting of a combination of a sinusoidal and trapezoidal pulses. There are 10 figures and 10 references: 1 English and 9 Soviet.

ASSOCIATION: Kafedra teoreticheskikh osnov elektrotekhniki Moskovskogo energeticheskogo instituta (Chair of Electrical Engineering Theory of Moscow Power Institute)

SUBMITTED: June 9, 1959

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