For very low temperatures ($s \gg 1$) and $\omega < \mu/\hbar$,

$$\alpha = \frac{4G(\infty)n_i e^6}{3c\varepsilon^{5/2}\hbar^2(b-1)kT\omega} + \frac{3\Phi(b)e^2 m_1^2 m_2 kT}{2\pi c\varepsilon^{1/2}\hbar^5 m\omega}; \text{ if } \omega > \mu/\hbar,$$

$$\alpha = \frac{4G(\infty)n_i\mu^2 e^6}{3c\varepsilon^{5/2}\hbar^4(b-1)kT\omega^3} + \frac{3\Phi(b)\mu e^2 m_1^2 m_2 kT}{2\pi c\varepsilon^{1/2}\hbar^6 m\omega}. \quad (14).$$

In the first case, $s \sim e^{4z}$, $f_o = 1$, in the second one, $s \sim e^{\mu/kT}$.

These relations show that, in contrary to the case of high temperatures, absorption will increase with decreasing temperature if the carriers are degenerate. This is observed for InSb and n-type Ge. The most important English-language references are: G. Gobeli, H. Fan. Phys. Rev. 119, 63, 1960; V. Yohuson, V. Lark-Horovitz. Phys. Rev. 71, 374, 1947.

ASSOCIATION: Volgogradskiy pedagogicheskiy institut (Volgograd Pedagogical Institute)

L 11255-63 EWG(k)/EWT(1)/BDS/EEC(b)-2--AFFTC/ASD/ESD-3--Pz-4--AT/IJP(C)
ACCESSION NR: AP3000603 S/0181/63/005/005/1293/1296

64
63

AUTHOR: Yakovlev, V. A.

TITLE: Anisotropic absorption of light by current carriers in semiconductors in a strong electrical field

SOURCE: Fizika tverdogo tela, v. 5, no. 5, 1963, 1293/1296

TOPIC TAGS: semiconductors, absorption of light, current carrier

ABSTRACT: The absorption of light by electrons is computed for a conduction band in a strong electric field at various directions of light incident on the field. Computations for incident light in the general case are very complex but are simplified by considering propagation directions along one of the crystal axes. It is interesting that the formulas for cross section absorption are independent of the initial energy states of the electrons. Thus, the corresponding coefficient of absorption may be obtained without statistical averaging, through a simple multiplication by the number of optically active electrons per unit volume. This operation is shown in Equation (1). The anisotropy may be determined by the ratio of absorption coefficients as shown in Equation (2), which reduces to Equation (3) when the absolute value of the wave vector of incident photon multiplied by the width of conduction band yields a product much larger then unity. Orig. art. has:
Card 1/3

L 11255-63
ACCESSION NR: AP3000603

12 formulas.

ASSOCIATION: Volgogradskiy pedagogicheskiy institut (Volgograd Pedagogical Institute)

SUBMITTED: 21Nov62 DATE ACQ: 11Jun63 ENCL: 01

SUB CODE: MS NO REF SOV: 004 OTHER: 001

Card 2/2

L 18422-63 EWT(l)/EWG(k)/BDS AFFTC/ASD/ESD-3/IJP(C) Pz-4 AT
ACCESSION NR: AP3005319 S/0181/63/005/008/2133/2137

63
62

AUTHOR: Yakovlev, V. A.

TITLE: Absorption of light by free carriers in semiconductors with short-range interacting field of impurity centers

SOURCE: Fizika tverdogo tela, v. 5, no. 8, 1963, 2133-2137

TOPIC TAGS: absorption, free carrier, semiconductor, impurity, short-range field, carrier current, optical transition, light wave, frequency

ABSTRACT: It is not now possible to give a detailed discussion of the conditions under which the potential of an impurity center becomes short range, but the author believes that this process is favored by a large concentration of current carriers shielding the impurity charges. He therefore investigates metals and semiconductors with high concentrations of carriers. He discards ionization of deep impurities and the Born approximation as explanations, and considers interaction with the field of a light wave. He thus uncovers the possibility of direct (first order) optical transitions within a single band, accompanied by the

Card 1/2

L 18422-63
ACCESSION NR: AP3005319

absorption of light. He determines the wave function of a band electron in this field of impurities having a short range of action. The coefficient of light absorption by the free carriers is then computed as a function of frequency, temperature, and concentration of impurities and carriers. Orig. art. has: 11 formulas.

ASSOCIATION: Volgogradskiy pedagogicheskiy institut (Volgograd Pedagogical Institute)

SUBMITTED: 01Mar63 DATE ACQ: 06Sep63 ENCL: 00

SUB CODE: PH NO REF SOV: 002 OTHER: 005

Card 2/2

L 3204-66 EWT(m)/EPF(c)/EWP(j)/T RM

ACCESSION NR: AP5016306 UR/0190/64/006/012/2202/2202

AUTHOR: Babitskiy, B. D.; Dogopolsk, B. A.; Korner, V. A.; Lobach, M. I.; Tinyakova, Ye. I.; Chesnokova, N. N.; Yakovlev, V. A.

TITLE: Stereospecific polymerization of butadiene in the presence of pi-allylic complexes

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 6, no. 12, 1964, 2202

TOPIC TAGS: polymerization, butadiene, catalysis, macromolecular chemistry

Abstract: It was shown that the polymerization of butadiene in benzene solutions under the influence of catalytic systems based on pi-allylic complexes of nickel and metal halides ($TiCl_4$, VCl_4, WCl_6, $AlBr_3$, and $NiCl_2$) leads to the formation of a polymer with predominantly (up to 94%) cis-1,4-units. The stereospecificity of these catalysts does not depend on the nature of the metal in the Lewis acid. The polymerization temperature was 20-50° and the time 5-15 hours.

ASSOCIATION: none

SUBMITTED: 13Jul64 ENCL: 00 SUB CODE: 00, 00

NO REF SOV: 000 OTHER: 000 JPRS

Card 1/1

BABITSKIY, B.D.; DOLGOPLOSK, B.A.; KORMER, V.A.; LOBACH, M.I.; TINYAKOVA, Ye.I.; YAKOVLEV, V.A.

Influence of the nature of halogen atom on the stereospecificity of π-allyl complexes of nickel in butadiene polymerization. Izv. AN SSSR. Ser. khim. no.8:1507 '65. (MIRA 18:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka im. S.V. Lebedeva i Institut neftekhimicheskogo sinteza im. A.V. Topchiyeva AN SSSR.

L 57011-65 EWT(m)/EWP(e)/EWP(j)/T Pc-4/Pr-4 RM

ACCESSION NR: AP5010579 UR/0020/65/161/003/0503/0505

AUTHORS: Babitskiy, B. D.; Dolgoplosk, B. A. (Academician); Kormer, V. A.; Lobach, M. I.; Tinyakova, Yo. I.; Yakovlev, V. A.

TITLE: Stereospecific polymerization of butadiene by catalytic systems based on the π-allyl nickel complexes

SOURCE: AN SSSR. Doklady, v. 161, no. 3, 1965, 503-505

TOPIC TAGS: polymerization, butadiene, stereospecificity, nickel organic compound, catalyst

ABSTRACT: The stereospecific catalytic effect of bis-(π-crotyl) complexes of nickel in the polymerization of butadiene was investigated and compared with the effect of π-allyl-Ni complexes. The catalyst was obtained by treating bis-(π-crotyl)-Ni with Ni-halides in a ratio of 1:2. It was found that the catalysts cause the formation of 1-4 polybutadiene, consisting mainly (up to 95%) of cis-1,4-rings, and that the more effective catalysts form in the presence of $TiCl_4$. The bis-(π-allyl)-nickel-bromide catalyst caused the formation of polymers in which the number of cis-rings is equal to that of trans-rings, with the formation of 1, 2-rings being negligible. Addition of metal halides to bis-(π-allyl)-nickel-bromide and to bis-(π-crotyl)-

Card 1/2

L 57011-65

ACCESSION NR: AP5010579

nickel-chloride increased the catalytic activity and altered the stereospecificity. All of the polybutadienes formed contained up to 92% cis-1, 4-rings. The structure of the polymer was practically independent of the nature of the metal halide. Orig. art. has: 3 tables and 1 formula.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka im. S. V. Lebedeva (All-Union Research Institute for Synthetic Rubber); Institut neftekhimicheskogo sinteza im. A. V. Topchiyeva, Akademii nauk SSSR (Institute for Petrochemical Synthesis, Academy of Sciences, SSSR)

SUBMITTED: 30Nov64 ENCL: 00 SUB CODE: 00

NO REF SOV: 001 OTHER: 003

dm

Card 2/2

YAKOVLEV, V.A.

Studying the wear resistance of small-diameter bits. Neft. i gaz.prom. no.3:33-35 '64. (MIRA 18:8)

ACC NR: AP6030973 SOURCE CODE: UR/0181/66/008/009/2755/2761

SD
B

AUTHOR: Yakovlev, V. A.

ORG: Volgograd Pedagogical Institute im. A. S. Serafimovich (Volgogradskiy pedagogicheskiy institut)

TITLE: Temperature dependence of light-absorption coefficient of semiconductors in a quantized electric field

SOURCE: Fizika tverdogo tela, v. 8, no. 9, 1966, 2755-2761

TOPIC TAGS: temperature dependence, light absorption, absorption coefficient, semiconductor, electric field, p type semiconductor, extrinsic semiconductor

ABSTRACT: The author presents calculations of temperature and frequency dependences of the light-absorption coefficient of extrinsic p-type semiconductors in a quantized electrical field. Orig. art. has: 29 formulas. [Based on author's abstract]

SUB CODE: 20/ SUBM DATE: 13Nov65/ ORIG REF: 007/ OTH REF: 000/

Card 1/1 egk

KLYACHKIN, L.M.; KATRUSHENKO, R.N.; YAKOVLEV, V.A.; GRIB, V.P.

Changes in the hemodynamics in burn disease. Vest. AMN SSSR. 18 no.10:9-15 '63. (MIRA 17:6)

1. Voyenno-meditsinskaya ordena Lenina akademiya imeni Kirova.

YAKOVLEV, Valentin Aleksandrovich; MAYSHEVA, Nataliya Ivanovna; MALKIN, I.I., red.izd-va; ALADOVA, Ye.I., tekhn.red.

[Plain and reinforced concrete] Beton und Eisenbeton. Moskva, Ugletekhizdat. [In German] No.2. 1957. 61 p. (MIRA 12:5)
(Concrete)

YAKOVLEV, V.A., Cand Vet Sci --(diss) "Effect of paranephral novocaine blockade on the course of secondary disturbances of the motor function of the rumina in cattle." Kazan', 1959. 17 pp (Min of Agr USSR. Kazan' State Vet Inst im N.E. Bauman). 150 copies

(KL,38-59, 119)

69

BADAR'YAN, G.G.; TYUTIN, V.A.; CHEREMUSHKIN, S.D.; ZUZIK, D.T.; KHODASEVICH, B.G.; FRAYER, S.V.; GUSAROV, Ye.I.; KAZANSKIY, A.M.; KASSIROV, L.N.; KARAYEV, S.A.; ABRAMOV, V.A.; VASIL'YEV, N.V.; BUGAYEV, N.F.; SAPIL'NIKOV, N.G.; KASTORIN, A.A.; RUDNIKOV, V.N.; YAKOVLEV, V.A.; PEREMYKIN, V.I.; ISAYEV, A.P.; KUZ'MICHEV, N.N.; IL'IN, S.A.; PRONIN, V.A.; LUK'YANOV, A.D.; SHAKHOV, Ya.K.; IL'ICHEV, A.K., kand. sel'-khoz. nauk; KOGAN, A.Ya.; TSYNKOV, M.Yu.; BABIY, L.T.; GORBUNOV, I.I.; KOVALEV, A.M.; ROMANCHENKO, G.R.; BRODSKAYA, M.L., red.; IVANOVA, A.N., red.; GUREVICH, M.M., tekhn. red.; TRUKHINA, O.N., tekhn. red.

[Economics of agriculture]Ekonomika sotsialisticheskogo sel'-skogo khoziaistva; kurs lektsii. Moskva, Sel'khozizdat, 1962. 710 p. (MIRA 15:10)

(Agriculture—Economic aspects)

BIGLER, M.S.; SHARYGINA, L.I.; KASPAROVA, A.B.; YAKOVLEV, V.A.; GRINEVICH, N.N.; YUDINA, A.P.; SEMICHENKO, N.P.; STOLYAROV, A.I.; FURSOVA, T.A.; KOZLOV, I.D., red.; SERPOKRYL, S.M., red.

[Leningrad and Leningrad Province in figures; a statistical abstract] Leningrad i Leningradskaia oblast' v tsifrakh; statisticheskii sbornik. Leningrad, Lenizdat, 1964. 250 p. (MIRA 18:1)

1. Leningrad (Province) Statisticheskoye oblastnoye upravleniye. 2. Statisticheskoye upravleniye goroda Leningrada (for Bigler, Sharygina, Kasparova, Yakovlev, Grinevich, Yudina). 3. Statisticheskoye upravleniye Leningradskoy oblasti (for Semichenko, Stolyarov, Fursova). 4. Nachal'nik Statisticheskogo upravleniya goroda Leningrada (for Kozlov).

BIGLER, M.S.; SHARYGINA, L.I.; KASPAROVA, A.B.; YAKOVLEV, V.A.; GRINEVICH, N.N.; YUDINA, A.P.; SEMICHENKO, N.P.; STOLYAROV, A.I.; FURSOVA, T.A.; KOZLOV, I.D., red.; SERPOKRYL, S.M., red.

[Leningrad and Leningrad Province in figures; a statistical abstract] Leningrad i Leningradskaia oblast' v tsifrakh; statisticheskii sbornik. Leningrad, Lenizdat, 1964. 250 p. (MIRA 18:2)

1. Leningrad. Statisticheskoye upravleniye. 2. Statisticheskoye upravleniye Leningrada (for Kozlov, Sharygina, Kasparova, Yakovlev, Grinevich, Yudina). 3. Statisticheskoye upravleniye Leningradskoy oblasti (for Semichenko, Stolyarov, Fursova).

CA

11 B

method of investigating the oxidation processes in the tissues of the living organism. I. D. Entina and V. A. Yakovlev. *Biokhimiya* 16, 567-71(1951); cf. Roseman, Goodwin, and McCulloch, *C.A.* 40, 6617².—A diffusion current proportional to the O concn. in the cathode space is set up between 2 electrodes, having a difference of potential of 0.9 v., dipping into an aq. soln. of O. By measuring the diffusion current between the electrodes placed in the animal tissue, the amt. of O (extent of oxidative process) can be detd. A simplified method for increasing the diffusion current is given. The method was applied to the measurement of the O tension in a rabbit's brain under various conditions. H. Priestley

(BA - A111 My '53:675)

CA

11A

Localization of cholinesterase in striped muscle. V. V. Portugalov and V. A. Yakovlev. *Doklady Akad. Nauk S.S.S.R.* 78, 1021–4(1951).—In specimens of striped muscle treated with $Me_2N(O)CH_2CH_2SAc$ the colored Cu sulfide appears only in the region of motor disks; enzymically active locations are found only at the points of contact of the nerve with the muscle; the results are the same for rabbits and frogs. Since the reagent (above) shows poor penetration into the tissues, the tissues were then preliminarily treated with Me_2CO at −15° to improve permeability and after 3–12 hrs. treatment, the above test gave a different result. While most of the enzyme was still located at nerve-muscle junctions, it was also found in the muscle fibers, somewhat more being located in the nuclei than in the sarcoplasm. To check for artificial distribution that might have arisen, the tissues were treated with proserine for 0.5 hr. to inactivate the enzyme and were washed with Ringer soln.; then the Me_2CO treatment was performed and the color test run; the enzyme was now found only in the nuclei of the muscle fibers, to which proserine had no access owing to its poor penetrability. In weakly tonic muscle (frog tongue) cholinesterase is found within the fiber and in the nuclei, but most is located still at the nerve-muscle junction. In a tonic muscle (head retractor of turtle) the enzyme is found (without Me_2CO treatment) only in the zone of motor nerve endings, while after Me_2CO treatment it is found also in the nuclei of all regions of the muscle. In denervated muscle (rabbit leg muscle) 30 days after section the enzyme is found in the muscle fibers even remote from the nerve junction.

G. M. Kosolapoff

Inst-Biophysics, AS USSR

1. ALEKSAKHINA, N. V., YAKOVLEV, V. A.

2. USSR (600)

4. Demianovskii, S. IA.

7. "Course in organic and biological chemistry." S. IA. Demianovskii. Reviewed by N. V. Aleksakhina, V. A. Yakovlev. Biokhimiia 17, no. 6, 1952.

9. Monthly List of Russian Accessions, Library of Congress, March 1953. Unclassified.

YAKOVLEV, V. A.

USSR/Biology - Microbiology Sep/Oct 52

"Review of V. S. Gostev's Book, 'Biochemical Principles of Medical Bacteriology,'" V. A. Yakovlev

"Mikrobiologiya" Vol 21, No 5, pp 617-620

According to Yakovlev, this book is welcome mainly because 5 yrs have passed since the publication of any book in the biochemistry of bacteria. Yakovlev states that V. S. Gostev has attempted to base the biol and chem aspects of bacteriology on dialectic materialism and on the teachings of Michurin and Lysenko. According to Yakovlev, the scientific level of the book, however, as far as chemistry and biochemistry are concerned, is very low. Yakovlev states that Gostev, in his efforts to give up-to-date accounts of a number of biochem problems in a comparatively popular form, has made many grave errors. Particularly, he says, Gostev is wrong in regard to the significance of optically active compds for heterotropic organisms. Book was published by Acad Med Sci USSR, 1951, 163 pp, 10,000 copies, 11 rubles 10 kopecks.

229T4

229T4

Yakovlev, V.A.

Location of cholinesterase in animal tissue. V. V. Portugalov and V. A. Yakovlev. *Voprosy Med. Khim.* 5, 188-207(1953); *Referat. Zhur., Khim.* 1954, No. 12003.—The localization of specific (I) and nonspecific (II) cholinesterase in tissue was studied. The histochem. method is based on enzymic splitting of thiocholine from acetylthiocholine (III) by I and II, and from butyrylthiocholine (IV) which is done practically only with the II enzyme. The split-off substances were pptd. *in loco* as Cu mercaptides and were further turned into colored CuS. A comparison of the color of sections incubated separately and in the presence of III and IV enables differentiation of the localization of various cholinesterases. To improve the penetration of III and IV into the cells, the tissue was cooled to −15° in Me_2CO and the sections were prepd. on a freezing microtome; II was found in all tissues. It was absent from nerve fibers, arterio-venous anastomoses, cerebral cortex, skeletal muscles, and others. II was found in some cells of the tactile layer of finger tips, in carotid glomus, in some cells of sympathetic ganglion, in the center of the vagus, in flat muscles, and liver. In most of these cases II is distributed in the cells more or less evenly. In contrast to this enzyme, I is present in all the enumerated tissue as well as in some others, except the liver. In most cases, it is distributed locally in tissue and usually is found in nerve structure where upon nervous excitation acetylcholine is formed. In skeletal muscles I is localized predominantly in motor end plates and adjacent parts of muscle fiber (tonic muscles). When the nerve is cut (after degeneration), I spreads to a larger part of the fiber. M. Hosch

YAKOVLEV, V.A.

USSR/Biology - Biochemistry

Card 1/1 Pub. 22 - 33/51

Authors : Yakovlev, V. A., and Sokolovskiy, V. V.

Title : Histochemical investigation of the localization of thiol compounds having a functional value

Periodical : Dok. AN SSSR 101/2,321-324, Mar 11, 1955

Abstract : A new histochemical method for the discovery of SH-groups (serum hepatitis) in tissues of animal organisms is described. The participation of thiol compounds in many biochemical processes in animal organisms is explained. Twelve references: 6 USA, 4 USSR, 1 French and 1 Indian (1921-1952). Graph; illustrations.

Institution : .....

Presented by: Academician L. A. Orbeli, November 17, 1954

YAKOVLEV, V. A.

USSR/ Medicine - Histology

Card 1/1 Pub. 22 - 42/46

Authors : Portugalov, V. V., and Yakovlev, V. A.

Title : Distribution of succino-dehydrogenase in the sensory and motor nerve extremities

Periodical : Dok. AN SSSR 103/1, 157-160, Jul 1, 1955

Abstract : Experiments were conducted on the tissue of cats that were in a state of narcosis to determine the distribution of succino-dehydrogenase in the sensory and motor extremities of nerves. Results are described. Eleven references: 8 USA, 1 Eng., and 2 Germ. (1934-1953). Illustrations.

Institution : Acad. of Med. Sc., USSR, Inst. of the Brain

Presented by: Academician L. A. Orbeli, February 25, 1955

YAKOVLEV, V.A., kandidat khimicheskikh nauk

To the editor of "Arkhiv patologii", I.V.Davydovskii active member of the Academy of Medical Sicences of the U.S.S.R. Arkh.pat. 18 no.8:133 '56. (MLRA 10:2)

(CHOLINESTERASE)

YAKOVLEV, V. A.

SAVICH, K.V.; YAKOVLEV, V.A.

Content and localization of sulfhydryl groups in different regions of cat brain [with summary in English]. Vop.med.khim. 3 no.2: 121-128 Mr-Ap '57. (MLRA 10:7)

1. Institut mozga AMN SSSR, Moskva.
(SULFHYDRYL COMPOUNDS, determ.
in brain of cats, distribution & content (Rus))
(BRAIN, metab.
sulfhydryl cpds., distribution & content in cats (Rus))

YAKOVLEV, V.A., TORCHINSKIY, Yu.M.

Ultramicromethod for quantitative determination of thiol compounds in tissues [with summary in English]. Biokhimiia 23 no.5:755-759 S-O '58 (MIRA 11:11)

1. Laboratoriya gistokhimii Instituta mozga AMN SSSR, Moskva
(SULFHYDRYL COMPOUNDS, determ.
in micro- & ultramicro-lytic tissues (Rus))

PORTUGALOV, V.V.; TSVETKOVA, I.V.; YAKOVLEV, V.A.

Localization of protein metabolism in the microstructures of the central nervous system. TSitologiia 1 no.4:422-430 Jl-Ag '59. (MIRA 12:10)

1. Laboratoriya gistokhimii Instituta mozga AMN SSSR, Moskva.
(PROTEIN METABOLISM) (BRAIN)

17(3)

AUTHORS: Yakovlev, V. A., Volkova, R. I. SOV/20-128-4-58/65

TITLE: The Kinetics of Interaction Between Choline Esterase and Irreversible Inhibitors

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 128, Nr 4, pp 843-846 (USSR)

ABSTRACT: The interaction of organophosphorous compounds (OPC) with active centers of choline esterase (ChE) represents an irreversible bimolecular reaction (Refs 1, 2). For the computation of the velocity constant K_2 of the latter it is therefore necessary, to measure the absolute quantities of the concentrations of ferment and inhibitor in the course of the interaction. This measurement is difficult because of the insufficiency of the ferment in the individual stages. The OPC-concentration which completely stops the activity of the ferment under experimental conditions, is very low (10^{-6} - 10^{-8} M). Therefore it cannot be determined by means of the usual analytic methods. The authors are thus faced by two tasks: a) method of investigating the kinetics, based upon the activity reduction of ChE during the interaction

Card 1/4

with OPC, and b) methods of an experimental concentration determination of active ChE centers in preparations which do not represent individual ferments. The present paper is devoted to the solution of these two problems. The solution of problem a) seems possible by choosing conditions under which the concentration of one component, used in excess, may be considered as being constant. As is known, constant K_2 in this case may be determined on the basis of an equation of the reaction kinetics of the first order (1). This equation is transformed into (2) and (3). The experimental conditions may be chosen in such a way that the activity of ferment A is proportional to the concentration of the active centers. The method applied up to now by several investigators (e.g. Refs 3, 4), shows several shortcomings. In order to do away with them, the authors investigated the interaction kinetics of ChE and OPC by continually measuring the gradually decreasing ChE activity in the course of the ChE interaction with the inhibitor. Since in this case the inhibition processes of the ferment were combined with the measurement of the ac-

tivity, acetylcholine (AcCh) has to be added. The ferment used was a dry ChE preparation from the serum of horse blood, purified 40 times, and the inhibitor used was armine (ethyl-paranitrophenyl-ester of ethylphosphinic acid, Ref 5). Its concentration was 40 times stronger than necessary for a 100 per cent inhibition. pH was 7 $\pm$ 0.05, the temperature was 40 $\pm$ 0.05°. In the control experiments (without armine), AcCh decomposed according to the reaction type "zero" (Fig 1:1). It was possible to express the ChE activity by the tangent of α_1, the angle of the line-inclination. The interaction constants of armine and ChE were computed from the graphically determined values of the original activity A_o and the residual activity A_t by means of equation 3. With an inhibitor excess, K_2 remains satisfactorily constant during the entire reaction. It was proved that the value of K_2 depends on the AcCh concentration. This becomes clear due to the concept regarding the competition between the substrate and the ferment inhibitor for the active center. Figure 2 graphically

gives the results of more detailed experiments on the dependence $K_2 = f(C_{AcCh})$. Hence this dependence in comparatively low AcCh concentrations is rather approximated to a linear dependence. K_2 was therefore extrapolated to the zero concentration of AcCh, for the purpose of determining K_2 of the reaction between armine and ChE without a substrate (equation 5). K_2 was also determined by an independent method (equation 7). On the whole the results obtained by the two determination methods showed good agreement. This confirms the correctness of the concepts on which they are based, on the interaction mechanism between irreversible inhibitors and active centers of ChE. There are 3 figures and 8 references, 3 of which are Soviet.

ASSOCIATION: Institut evolyutsionnoy fiziologii im. I.M. Sechenova Akademii nauk SSSR (Institute of Evolution Physiology imeni I.M. Sechenov of the Academy of Sciences, USSR)

PRESENTED: April 2, 1959, by M. I. Kabachnik, Academician
SUBMITTED: April 2, 1959

YAKOVLEV, V. A., TITOVA, L. K., BRONSHTEYN, A. A., VINNIKOV, YA. A.

"The Localization and Distribution of the 'Total' Protein and its Funcational (SH, -SS-, COOH) Groups in Corti's Organ Under Conditions of Relative Rest and in a State of Excitation."

report submitted for the First Conference on the problems of Cyto and Histochemistry, Moscow, 19-21 Dec 1960.

Institute of Evolutionary Physiology Imeni I. M. Sechenov, Academy of Sciences USSR, Leningrad.

YAKOVLEV, V. A., VOLKOVA, R. I., GODOVIKOV, N. N., MAGAZANIK, L. G., MASTRYUKOVA, T. A., ROZHKOVA, M. K., FRUYENTOV, N. K., MIKHELSON, M. YA., KABACHNIK, M. I. (USSR)

"The Significance of Onic Group and of its Position in an Anti-Cholinesterase Substance Molecule for its Inter-action with Cholinesterases and for Pharmacologic Effects."

Report presented at the 5th International Biochemistry Congress, Moscow, 10-16 August 1961

SO: Preprints of Soviet Papers Read at V Int'l Biochem Cong, 10-16 Aug 61, Moscow, Uncl.

"The Investigation of the Active Site of Cholinesterases by Means of Organo-phosphorus Compounds," by V.A.YAKOVLEV, I.L. BRICK, R.I. VOLKOVA, Inst Evolutionary Physiology im I.M. Sechenov, AS USSR.

YAKOVLEV, V.A.; SLEPTSOVA, L.A.

Hyaluronic structures in nerve tissue. TSitologiia 3 no.5:605-607 S-O '61. (MIRA 14:10)

1. Laboratoriya biokhimii biologicheski aktivnykh veshchestv Instituta evolyutsionnoy fiziologii AN SSSR i Kafedra biokhimii Leningradskogo universiteta.
(HYALURONIC ACID) (NERVES--ANATOMY)

YAKOVLEV, V.A., mayor med.sluzhby

Clinical value of phenylin. Voen.-med. zhur. no. 2:72-73 F '61. (MIRA 14:2)

(ANTICOAGULANTS) (INDANDIONE)

VOLKOVA, R.I.; GODOVIKOV, N.N.; KABACHNIK, M.I.; MAGAZANIK, L.G.; MASTRYUKOVA, T.A.; MIKHEL'SON, M.Ya.; ROZHKOVA, Ye.K.; FRUYENTOV, N.K.; YAKOVLEV, V.A.

Chemical structure and biological activity of phosphorus organic cholinesterase inhibitors. Vop. med. khim. 7 no.3: 250-259 My-Je '61. (MIRA 15:3)

1. Laboratory for the Pharmacology and Biochemistry of Biologically Active Compounds, "I.M. Sechenov" Institute of Evolutionary Physiology, Academy of Sciences of the U.S.S.R., and Laboratory of Organophosphorus, Institute of Elementoorganic Compounds, Academy of Sciences of the U.S.S.R., Leningrad.
(CHOLINESTERASES)
(PHOSPHORUS ORGANIC COMPOUNDS)

YAKOVLEV, V.A.; TITOVA, L.K.; BRONSHTEYN, A.A.; VINNIKOV, Ya.A.

Localization and cytochemical characteristics of proteins of the hair cells of Corti's organ during a state of relative rest and during acoustic stimulation. Dokl. AN SSSR 136 no.2:456-459 '61. (MIRA 14:1)

1. Institut evolyutsionnoy fiziologii imeni I.M. Sechenova Akademii nauk SSSR. Predstavleno akademikom I.I. Shmal'gauzenom.
(PROTEINS IN THE BODY)
(SOUND—PHYSIOLOGICAL EFFECT)
(LABYRINTH (EAR))

YAKOVLEV, V.A.; ROZENGART, Ye.V.

Model studies on the action of esterases. Dokl.AN SSSR 137 no.6: 1467-1469 Ap '61. (MIRA 14:4)

1. Institut evolyutsionnoy fiziologii imeni I.M.Sechenova AN SSSR. Predstavleno akademikom M.I.Kabachnikom.
(Esterase)

YAKOVLEV, V.A.

Khimiya i Primeneniye Fosfororganicheskikh Soyedinenii (Chemistry and Application of Organophosphorus Compounds) A. Ye. Arbuzov, Ed. publ. by Kazan' Affil, Acad. Sci. USSR, Moscow, 1962 632pp.

Collection of complete papers presented at the 1959 Kazan Conference on Chemistry of Organophosphorus Compounds.

BRIK, I.L.; YAKOVLEV, V.A.

Anticholinesterase activity of the oxidation products of dithiophosphoric acid (M-74) esters. Biokhimiia 27 no.3:481-486 My-Je '62. (MIRA 15:8)

1. Institute of Evolutionary Physiology, Academy of Sciences of the U.S.S.R., Leningrad.
(CHOLINESTERASES) (PHOSPHORODITHIOIC ACID)

BRIK, I.L.; YAKOVLEV, V.A.

Comparative study of the properties of cholinesterases of the nervous system in vertebrates and insects. Biokhimiia 27 no.6:993-1003 N-D '62. (MIRA 17:5)

1. Institut evolyutsionnoy fiziologii imeni Sechenova AN SSSR, Leningrad.

YAKOVLEV, V.A.; VOLKOVA, R.I.

Study of the active centers of cholinesterases with the aid of organophosphorus inhibitors. Dokl. AN SSSR 146 no.1:217-220 S '62. (MIRA 15:9)

1. Institut evolyutsionnoy fiziologii im. I.M. Sechenova AN SSSR. Predstavleno akademikom M.I. Kabachnikom.
(CHOLINESTERASE) (INHIBITION (CHEMISTRY))
(PHOSPHORUS ORGANIC COMPOUNDS)

YAKOVLEV, V.A., doktor khim. nauk

General problems of chemistry and biology; a conference on the mechanism and kinetics of enzymatic catalysis. Vest. AN SSSR 33 no.5:112-114 My '63. (MIRA 16:6)

(Catalysis) (Enzymes)

GODOVIKOV, N.N.; GODYNA, Ye.I.; KABACHNIK, M.I., akademik; MIKHEL'SON, M.Ye.; ROZENGART, Ye.V.; YAKOVLEV, V.A.

Anticholinesterase properties of some O-ethyl-S-alkylmethyl thiophosphinates. Dokl. AN SSSR 151 no.5:1104-1107 Ag '63. (MIRA 16:9)

1. Institut elementoorganicheskikh soyedineniy AN SSSR i Institut evolyutsionnoy fiziologii im. I.M.Sechenova AN SSSR.
(Cholinesterases) (Phosphinic acid)

YAKOVLEV, V.A.; ENGEL'GARDT, V.A., akademik, glav. red.; DEBORIN, G.A., zam. glav. red.; BRAUNSHTEYN, A.Ye., akademik, red. POZNANSKAYA, A.A., red.

[Enzymes] Fermenty. Moskva, Nauka, 1964. 310 p. (MIRA 17:9)

BRAUNSHTEYN, A.Ye., red.; YAKOVLEV, V.A., red.

[Mechanism and kinetics of enzymic catalysis] Mekhanizm i kinetika fermentativnogo kataliza. Pod red. A.E. Braunshteina i V.A.IAkovleva. Moskva, Nauka, 1964. 294 p. (MIRA 17:9)

1. Nauchnaya konferentsiya posvyashchennaya problemam mekhanizma deystviya i kinetiki fermentativnogo kataliza, Moscow, 1963. 2. Institut khimicheskoy fiziki AN SSSR i Institut radiatsionnoy i fiziko-khimicheskoy biologii AN SSSR (for Yakovlev).

L 1706-66 EWT(1)/EWA(j)/EWA(b)-2 BW/RO

ACCESSION NR: AP5021652 UR/0218/65/030/004/0875/0879

577.153.4

AUTHOR: Grigor'yeva, G. M.; Yakovlev, V. A.

TITLE: Thermodynamic characteristics of the interaction of choline esterases and tetrallkyl ammonium ions

SOURCE: Biokhimiya, v. 30, no. 4, 1965, 875-879

TOPIC TAGS: enzyme, entropy, enthalphy, thermodynamics, ammonia compound, biochemistry

ABSTRACT: A study was made of the temperature dependence of the inhibition constant of tetraethyl ammonium and tetramethyl ammonium with choline esterase from horse serum and acetyl choline esterase from erythrocytes. It was found that the interaction of the ions of tetrallkyl ammonium with the anionic center of the active surface of a choline esterase is accompaned by a significant change in enthalphy and entropy. In the cases investigated, change in the enthalphy ΔH varied from 8.2 to 12.8 kcal/mole and change in the entropy ΔS varied from 14 to 29 cal/mole/degree. This permits the assumption that formation of the structure of the enzyme inhibitor is accompanied by structural changes in the

Card 1/2

L 1706-66

ACCESSION NR: AP5021652

enzyme active surface. The anionic center evidently has not only a basic value but also depends on the reaction with the substrate of the active center of the choline esterase. Orig. art. has: 2 formulas, 1 figure and 2 tables

ASSOCIATION: Institut evolyutsionnoi fiziologii i biokhimii im. I. Sechenova Akademii nauk SSSR, Leningrad (Institute of Evolutionary Physiology and Biochemistry, AN SSSR, Leningrad).

SUBMITTED: 12Jan65 ENCL: 00 SUB CODE: LS

NR REF SOV: 001 OTHER: 009

Card 2/2

YAKOVLEV, Viktor Andreyevich; LOSHADKIN, N.A., red.

[Kinetics of enzymatic catalysis] Kinetika fermentativnogo kataliza. Moskva, Nauka, 1965. 247 p. (MIRA 19:1)

YAKOVLEV, V.B.

A conference on the history of metallurgy. Vop. ist.est. i tekh. no.1:311-312 '56. (MLRA 9:10)

(Metallurgy--History)

YAKOVLEV, V.B.

Development of the production of weldable iron. Metallurg 2 no.8: 45-47 Ag '57. (MIRA 10:9)
(Iron--Metallurgy) (Metallurgy--History)

Yakovlev, V.B.

YAKOVLEV, V.B.

History of the use of Bessemer converters in smelting copper matte. (MIRA 11:1)
Vop. ist. est. i tekh. no.3:216-217 '57.
(Bessemer process) (Copper metallurgy--History)

SOV/137-58-7-13980

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 7, p 2 (USSR)

AUTHOR: Yakovlev, V. B.

TITLE: The Origin of the Puddling Conversion of Pig Iron (K voprosu o vozniknovenii krichnogo peredela chuguna)

PERIODICAL: V sb.: Vopr. istorii yestestvozn. i tekhn. Nr 5. Moscow, AN SSSR, 1957, pp 150-155

ABSTRACT: The history of the development of conversion methods of Fe is examined.

P. N.

1. Iron--History 2. Iron--Processing

Card 1/1

Yakovlev, V.B.

YAKOVLEV, V.B.

Origin of knobbled pig iron. Vop.ist.est. i tekh. no.5:150-155 '57. (MIRA 11:2)
(Cast iron--Metallography)

YAKOVLEV, V.B.

130-7-22/24

AUTHOR: Yakovlev, V.B.

TITLE: The Emergence of Iron-Making (Vozniknoveniye proizvodstva zheleza)

PERIODICAL: Metallurg, 1957, Nr 7, pp. 41-43 (USSR)

ABSTRACT: Account of iron making from the earliest times to the beginning of predominance of the blast furnace. Illustrations of primitive methods and some constructional details are given. There are 6 figures.

AVAILABLE: Library of Congress.

Card 1/1

YAKOVLEV, V.B

130-8-20/20

AUTHOR: Yakovlev, V.B.

TITLE: Development of the Production of Ball Iron (Razvitiye proizvodstva svarochnogo zheleza)

PERIODICAL: Metallurg, 1957, No.8, pp. 45 - 47 (USSR)

ABSTRACT: The author traces the development of iron-making methods giving a non-liquid product and of ways for further treatment of such products. He gives illustrations of some of the plant used.
There are 4 figures.

AVAILABLE: Library of Congress.

Card 1/1

YAKOVLEV, V.B.

Bessemer process and its use in Russia. Trudy Inst.ist.est.i tekh. 9:62-72 '57. (MLRA 10:5)

(Bessemer process--History)

YAKOVLEV, V.B

130-3-20/21

AUTHOR: Yakovlev, V. B.

TITLE: From wrought iron to cast steel. (Ot svarochnogo zheleza k litoy stali).

PERIODICAL: Metallurg, 1958, No.3, pp. 36-38 (USSR)

ABSTRACT: This is a historical article on iron- and steel-making from ancient times to the adoption of the Bessemer and open-hearth processes. The emphasis is on developments in the Russian empire.
There are 5 figures.

AVAILABLE: Library of Congress.

Card 1/1

130-58-4-18/20

AUTHOR: Yakovlev, V.B.

TITLE: P.M. Obukhov

PERIODICAL: Metallurg, 1958, Nr 4, pp 33 - 34 (USSR)

ABSTRACT: This is a historical sketch of the life and work of the well-known Russian metallurgist, Pavel Matveyevich Obukhov (1820 - 1869). He specialised in steel-castings production and the article gives compositions of charges recommended by Obukhov for various types of cast steels.

Card 1/1

YAKOVLEV, V. B. Cand Tech Sci -- (diss) "Development of methods of production of wrought iron in the USSR." Mos, 1959. 15 pp (Acad Sci USSR. Inst of History of Natural Science and Technology), 150 copies (KL, 43-59, 126)

YAKOVLEV, V.B.

Development of the pig iron finery process in Russia. Trudy Inst.ist.est.i tekh. 25:215-248 '59. (MIRA 13:4)
(Ironwork) (Puddling furnaces)

YAKOVLEV, Vladlen Borisovich; POGODIN, S.A., prof., zasluzhennyy deyatel' nauki i tekhniki RSFSR, otv.red.; BEKASOVA, L.M., red.izd-va; GUS'KOVA, O.M., tekhn.red.

[Development of methods of producing wrought iron] Razvitie sposobov proizvodstva svarochnogo zheleza v Rossii. Moskva, Izd-vo Akad.nauk SSSR, 1960. 217 p. (MIRA 14:2)
(Wrought iron)

YEREMEYEVA, S.I.; YAKOVLEV, V.B.; CHESNOVA, L.V.; SHLYKOVA, S.A.; KOZLOV, S.G.; KHRENOV, K.K. (Kiyev); TIGRANYAN, S.T. (Yerevan); KROTIKOV, V.A. (Leningrad)

In the Soviet National Association of Historians of Science and Technology. Vop.ist.est.i tekh. no.10:180-187 '60. (MIRA 14:3)
(Scientific societies)

YAKOVLEV, V.B.

M.V. Lomonosov and ferrous metallurgy; on the 250th anniversary of his birth. Metallurg 6 no.11:38-39 N '61. (MIRA 14:11)
(Lomonosov, Mikhail Vasil'evich, 1711-1765)

YAKOVLEV, V.B.

The first open-hearth furnace in Russia. Vop. ist. est. i tekh. no.13:118-119 '62. (MIRA 16:5)

(Open-hearth process)

YAKOVLEV, V.B.

Stages in the development of world converter practices.
Metallurg 8 no.10:38-39 O '63. (MIRA 16:12)

1. Institut istorii yestestvoznaniya i tekhniki AN SSSR.

BUTUSOV, Ivan Vasil'yevich; YAKOVLEV, V.B., nauchn. red.; RUZ:KOVA, L.Ya., ved. red.

[Digital systems for automatic control, measurements and regulation] TSifrovye ustroistva dlia avtomaticheskogo kontrolia, izmereniia i upravleniia. Leningrad, Nedra, 1964. 374 p. (MIRA 17:9)

VAVILOV, A.A.; VERKHOLAT, M.Ye.; RUBASHKIN, I.B.; Prinimali uchastiye: YAKOVLEV, V.B.; DEMIDOV, S.V.; VOROSHILOV, M.S., kand. tekhn. nauk, retsenzent.

[Actuating electromechanical servosystems for copying milling machines] Silovye elektromekhanicheskie sledíashchie sistemy kopiroval'no-frezernykh stankov. Moskva, Mashinostroenie, 1964. 406 p. (MIRA 18:2)

L 3280-66

ACCESSION NR: AR5014342 UR/0271/65/000/005/A003/A003
62-5:519.25(002)

SOURCE: Ref. zh. Avtomatika, telemekhanika i vychislitel'naya tekhnika. Svodnyy tom, Abs. 5A19

AUTHOR: Vavilov, A. V.; Yakovlev, V. B.

TITLE: Log-frequency diagrams of discrete systems

CITED SOURCE: Izv. Leningr. elektrotekhn. in-ta, vyp. 53, 1964, 319-335

TOPIC TAGS: discrete system

TRANSLATION: Methods are considered of approximate plotting of log-frequency diagrams (LFD) for purposes of calculating discrete systems; the diagrams are constructed either from a sum of two LFD's (LF and HF) or by substituting an equivalent delay for a short time constant. The above methods ensure good agreement of these diagrams with the exact LFD's of discrete systems constructed on the basis of the total sum of all terms of the expansion. Formulas and characteristics are obtained which permit plotting PAM discrete-system

Card 1/2

L 3280-66

ACCESSION NR: AR5014342

LFD's with a duty factor of $\gamma < 1$ on the basis of an exact or approximate LFD with $\gamma = 1$. It is demonstrated that the construction of a PDM discrete-system LFD, when the principle of equivalent areas is observed, does not differ from the construction of a PAM-system LFD with a duty factor $\gamma < 1$. Application of the above methods is illustrated by examples. Bibl. 7, figs. 6.

SUB CODE: IE ENCL: 00

Card 2/2

L 58556-65 EEO-2/EWT(d)/FSS-2/EPF(n)-2/EWP(v)/EWP(k)/EWP(h)/EED-2/EWP(l)
Po-4/Pq-4/Pf-4/Pg-4/Pae-2/Pu-4/Pk-4/Pl-4 IJP(c) WW/BC

ACCESSION NR: AP5013839 UR/0103/65/026/005/0823/0831
62-504.1.001.24

68
B

AUTHOR: Vavilov, A. A. (Leningrad); Yakovlev, V. B. (Leningrad)

TITLE: Approximate methods of constructing logarithmic frequency characteristics of delay-type sampled-data systems

SOURCE: Avtomatika i telemekhanika, v. 26, no. 5, 1965, 823-831

TOPIC TAGS: automatic control, automatic control design, automatic control system, automatic control theory, sampled data system

ABSTRACT: A method is proposed for constructing log frequency characteristics which is based on two (h-f and l-f) characteristics or on replacement of small time constants by equivalent delays. The transfer function of a sampled-data system is found by a modified z-transform method. Formulas for the complex transfer factors are developed. Formulas for calculating the approximate log frequency characteristics, with an allowance for the duty factor of the sampling unit, are derived. The method basically developed for PAM systems is also applicable to PDM systems whose duty factor $\gamma > 1$. Orig. art. has: 4 figures and 41 formulas.

Card 1/2

L 58556-65

ACCESSION NR: AP5013839

0

ASSOCIATION: none

SUBMITTED: 09Apr64 ENCL: 00 SUB CODE: DP, IE

NO REF SOV: 005 OTHER: 002

Card 2/2 AOP

YAKOVLEV, V.E., vitse-admiral

Defense of dissertations, an important element in the training of scientific cadres of the navy. Mor. sbor. 48 no.7:35-41 Jl '65. (MIRA 18:8)

1. YAKOVLEV, V. D.

2. USSR (600)

4. Seed Industry

7. Accounting, control and registration of high-grade seeds. Sel. i sem. 20, No. 4, 1953.

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

YAKOVLEV, V. D.,

"Conference of the East European Region Countries on Problems of the Determination of Time, Longitude and Latitude," Mezhdunarodnyy Geofizicheskiy God - Informatsionnyy Byulleten' /IGY - Information Bulletin/ No. 4, Moscow, 1958; pp. 105-107.

(Translation - 9030844) (JPRS/NY-L-236, 30 June1958)

YAKOVLEV, V.F.

YAKOVLEV, V.F.; DUMOV, P.D., inzh., retsenzent; KRASKOVSKIY, Ye.Ya., kand. tekhn. nauk, red.; DENINA, I.A., red. izd-va; BARDINA, A.A., tekhn. red.

[Measurement of strains and stresses in machine parts] Izmereniia deformatsii i napriazhenii detalei mashin. Izd.2., ispr. i perer. Moskva, Mashgiz, 1963. 191 p. (MIRA 16:11)

(Strains and stresses)

AMELIN, S.V., prof., doktor tekhn.nauk (Leningrad); YAKOVLEV, V.F., doktor tekhn.nauk (Leningrad); SEMENOV, I.I., kand.tekhn.nauk (Leningrad); FROLOV, L.N., inzh. (Leningrad)

Frogs with movable parts. Zhel.dor.transp. 47 no.12:51-55 D '65.
(MIRA 18:12)

YAKOVLEV, V. F.

USSR/Physics

Card 1/1

Authors : Yakovlev, V. F; Koshkin, N. I., and Nozdrev, V. F.

Title : Use of the impulse method in the study of ultra-sound adsorption in benzene and some of its halogen derivatives close to their solidification point.

Periodical : Dokl. AN SSSR 96, Ed. 2., 273 - 276, May 1954

Abstract : Report describes an impulse ultrasonic arrangement and the method of measuring the absorption in benzene and some of its halogen derivatives. This installation was successfully used for measuring the absorption close to solidification point. Results obtained through measuring the absorption of ultra sound in benzene, chlorobenzene and bromobenzene close to their solidification point are included. Six references; 4 USSR since 1949. Table, Graphs.

Institution : The Moscow Regional Pedagogical Institute

Presented by : Academician V. V. Shuleykin, March 22, 1954

YAKOVLEV, V. F.

"The Theory of Investigation Into the Absorption and Velocity of Propagation of Ultrasonic Waves by the Impulse Method", a report presented at a conference of professors and teachers of the institutes of the Ministry of Education RSFSR and published in the "Application of Ultrasonics to the Investigation of Substances", Moscow, 1955.

YAKOVLEV, V. F., SOBOLEV, V. D., NOZDREV, V. F., KOSHKIN, N. I. and SHIRKEVICH, M. G.

"Impulse Method of Fixed Distances, Its Phusical Basis and Practical Application." Abstracted for inclusion in the Second international Congress on Acoustics, Cambridge, Mass., 17-24, Jun 1956

Moscow State University

Yakovlev, V. F.

USSR/Acoustics - Ultrasonics, J-4

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 35575

Author: Koshkin, N. I., Nozdrev, V. F., Sobolev, V. D., Shirkevich, M. G., Yakovlev, V. F.

Institution: None

Title: The Fixed-Distance Pulse Procedure, Its Physical Foundations, and Practical Application

Original Periodical: Akust. zh., 1956, 2, No 2, 161-166

Abstract: A substantiation is given for a newly developed procedure for pulse measurements of absorption of ultrasonic waves. Unlike the present widely-used procedure, in which it is necessary to move the radiator and the reflector relative to each other, the radiator and reflector remain stationary in this method. This circumstance not only simplifies to a considerable extent the construction of the measuring chamber and accelerates the measurement process, but leads also to a more successful utilization of the pulse method in the

Card 1/2

USSR/Acoustics - Ultrasonics, J-4

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 35575

Abstract: measurement of absorption at high temperatures and at high pressures, and also at various types of phase transitions.

Results are given on the measurement of the coefficient of absorption of ultrasonic waves, performed with the fixed-distance method; the experimental data are compared with the results obtained by other methods; it is indicated that it is possible to employ the fixed-distance pulse method for control and in industry.

Card 2/2

YAKOVLEV, V. F.

ZIPIR, A. V. and YAKOVLEV, V. F.

"Investigation of Phenomena Accompanying the Propagation of Ultrasound and Methods to be used in Work in this Field: Application of Multiple Reflection in the Investigation of Liquids"

report presented at the 6th Sci. Conference on the Application of Ultrasound in the investigation of Matter, 3-7 Feb 1958, organized by Min. of Education RSFSR andd Mosvow Oblast Pedagogic Inst. im. N. K. Krupskaya.

PHASE I BOOK EXPLOITATION SOV/5207

Vserossiyskaya konferentsiya professorov i prepodavateley pedagogicheskikh institutov.

Primeneniye ul'traakustiki k issledovaniyu veshchestva (Utilization of Ultrasonics for the Investigation of Matter) Moscow, Izd. MOPI, 1960. 267 p. 1,000 copies printed. (Series: Its Trudy, vyp. 11)

Ed. (Title page): V.F. Nozdrev, Professor and B.B. Kudryavtsev, Professor.

PURPOSE: This collection of articles is intended for physicists specializing in the physics of ultrasound.

COVERAGE: The collection of articles constitutes the transactions of the VII Conference on the Applications of Ultrasonics to the Study of Materials, which was held at the Moscow Oblast Pedagogical Institute imeni N.K. Krupskaya. Individual articles of the collection discuss various problems in the wave mechanics of ultrasound, the absorption and the propagation mechanics of ultrasonic waves in various media, the operating principle and design of generators and receivers of ultrasonic waves, the speed of sound and methods for its determination. Other articles deal with the applications of ultrasonics to investigations of the properties of materials. No personalities are mentioned. References accompany

Card 4/7

(17)

YAKOVLEV, V. P.

PHASE I BOOK EXPLOITATION SOV/5207

Vsesoyuznaya konferentsiya professorov i prepodavateley pedagogicheskikh institutov.

Primeneniye ul'trakustiki k issledovaniyu veshchestva (Utilization of Ultrasonics for the Investigation of Matter) Moscow, Izd. MOPI, 1960. 267 p. 1,000 copies printed. (Series: Its Trudy, vyp. 11)

Ed. (Title page): V.P. Nozirov, Professor and B.B. Kudryavtsev, Professor.

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COVERAGE: The collection of articles constitutes the transactions of the VII Conference on the Applications of Ultrasonics to the Study of Materials, which was held at the Moscow Oblast Pedagogical Institute imeni N.K. Krupskaya. Individual articles of the collection discuss various problems in the wave mechanics of ultrasound, the absorption and the propagation mechanics of ultrasonic waves in various media, the operating principle and design of generators and receivers of ultrasonic waves, the speed of sound and methods for its determination. Other articles deal with the application of ultrasonics to investigations of the properties of materials. No personalities are mentioned. References accompany

Utilization of Ultrasonics (Cont.) SOV/5207

Fal'kovskaya, E.F., and B.B. Kudryavtsev [Moscow Oblast Pedagogical Institute imeni N.K. Krupskaya]. Propagation of Sound in Disperse Media 163

Kal'yanov, B.L. [Zenov Pedagogical Institute]. Determination of the Speed of Ultrasound From the Periodic Variations of the Phase Relations of Two Acoustic Pulses 173

Kanarev, F.F., and B.B. Kudryavtsev. [Moscow Oblast Pedagogical Institute imeni N.K. Krupskaya]. Speed of Sound in Aqueous Solutions of $Ca(NO_3)_2$ 181

Shilyayev, A.S., and B.B. Kudryavtsev [Khovrin Medical Institute, and Moscow Oblast Pedagogical Institute imeni N.K. Krupskaya]. Investigation of the Propagation of Ultrasonic Waves in Three-Liquid Mixtures Whose Components Have Different Interaction Patterns 191

Kosura, E.P., and B.B. Kudryavtsev [Moscow Oblast Pedagogical Institute imeni N.K. Krupskaya]. Application of Acoustic Measurements in the Study of Density Fluctuations in Liquids 201

Olinskiy, A.A. [Moscow Oblast Pedagogical Institute imeni N.K. Krupskaya]. Diffraction of Light on Damped Ultrasonic Waves 205

Perepelko, I.I., and V.P. Yakovlev [Moscow Oblast Pedagogical Institute imeni N.K. Krupskaya]. ~~New Method~~ Using Interferometer to Measure Absorption of Ultrasound 213

Shirkevich, M.G. [Moscow Oblast Pedagogical Institute imeni N.K. Krupskaya]. Investigation of the Speed of Propagation and Absorption of Ultrasound in Liquid Phase Methyl Alcohol Near the Critical Region 219

Malyarin, I.G. [Moscow Oblast Pedagogical Institute imeni N.K. Krupskaya]. Investigation of Temperature Dependence of Sliding and Volumetric Viscosity of Certain Organic Liquids in the Critical Region 225

Rozin, Ya.B., and V.S. Tikhonova [Obninsk politekhnicheskiy institut—Obninsk Polytechnic]. Device for Measuring the Intensity of an Ultrasonic Field in Conducting Liquids 233

Perepelko, I.I., and V.P. Yakovlev [Moscow Oblast Pedagogical Institute imeni N.K. Krupskaya]. Relaxation Processes in Van Der Waals Gases 239

Markulev, L.G. [IRE im. V.I. Ul'yanova (Lenina)—Leningrad Electrotechnical Institute imeni V.I. Ul'yanov (Lenin)]. Absorption of Ultrasonic and Hypersonic Waves in Certain Crystals 247

Troyder, V.P. Lecture Room Demonstrations With Ferrite Ultrasound Radiators 255

Bulletin 265

AVAILABLE: Library of Congress (QC244.V82)

YAKOVLEV, V. F.

24(1) PHASE I BOOK EXPLOITATION SOV/3150

Vsesoyuznaya konferentsiya professorov i prepodavateley pedagogicheskikh institutov

Primeneniye ul'trakustiki k issledovaniyu veshchestva; trudy konferentsii, Vyp. 7 (Application of Ultrasonics for Analysis of Substances; Transactions of the All-Russian Conference of Professors and Teachers of Pedagogical Institutes, No 7) Moscow, Izd. MOPI, 1958. 283 p. 1,500 copies printed.

Tech. Ed.: S. F. Zhitov; Eds.: V. F. Nozdrev, Professor, and E. B. Kudryavtsev.

PURPOSE: This book is intended for physicists, technicians, aeronautical engineers and other persons concerned with ultrasonics.

COVERAGE: The book contains twenty eight articles which treat ultrasonic phenomena in five general categories: 1) historical data on the development of ultrasonics in the Soviet Union over the past forty years; 2) the speed of sound in suspensions of varying concentration and number and type of components and the relationship between sound velocity and the compressibility of electrolytes; 3) ultrasonic investigations of physical and chemical properties of materials and the determination of physical and chemical constants, e. g. density of aqueous solutions, adiabatic compressibility, molarity of solutions (with given temperatures), viscosity, surface tension, saturation pressure and also ultrasonic investigation of the carbon content and petrographic state of coal; 4) industrial applications of ultrasonics, e. g. emulsification of reagents, cleansing of textile fibers and enhancing the susceptibility of some synthetic fibers to dyeing, etc.; and 5) apparatus which produce ultrasonic waves. No personalities are mentioned. References accompany each article.

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NOZDREV, V.F.; YAKOVLEV, V.F.; KOSHKIN, N.I.; GORBUNOV, M.A.

Certain new possibilities for using ultrasonic pulses for investigating substances. Izv. vys. ucheb. zav.; radiotekh. no.1:35-42 '58. (MIRA 11:4)

1. Rekomendovana kafedroy obshchey fiziki Moskovskogo oblastnogo pedagogicheskogo instituta.
(Ultrasonics) (Liquids)

Yakovlev, V.F.

1. Following are titles and authors of some of the papers to be presented at subject Congress: 1-8 Sep 59

USSR (cont'd)

KUDRYAVTSEV, B. B., and BALYAN, S. A., Laboratory for Molecular Acoustics, Moscow Oblast Institute for Pedagogics - "The relationship between viscosity and velocity of sound in a liquid"

MAKAROV, V. I., and RZHEVKIN, S. N., State University of Moscow - "Study of sound dispersion in solid bodies, plates, and shells by means of an optical process in a dark field"

MALYUZHINETS, G. D., Acoustics Institute, USSR Academy of Sciences, Moscow - (1) "The Sommerfeld integrals and curve tasks in cuneate areas"; (2) "Development of curve phenomena presentations"

MIKHAYLOV, L. G., Leningrad Electrical Engineering Institute im. V. I. Ulyanov-Lenin - "Absorption of ultra-short waves with frequencies of up to 1000 MHz in crystals"

NAUGOL'NYKH, K. K., and ROMANENKO, E. V., Acoustics Institute, USSR Academy of Sciences, Moscow - "The propagation of spherical and cylindrical waves of finite amplitude"

NOZDREV, V. F., Laboratory for Molecular Acoustics, Moscow Oblast Institute for Pedagogics - "Physical bases for the technical application of molecular acoustics of small amplitudes"

NOZDREV, V. F., BELINSKAYA, L. G., and BELINSKIY, B. A. - "Study of supersonic wave absorption in the esters of acetic acid at high frequencies"

NOZDREV, V. F., KAL'YANOV, B. K., and SHIRKEVICH, M. G. - "Studies of supersonic wave absorption in liquids at high temperatures and pressures"

NOZDREV, V. F., KUDRKIN, E. I., and GORBUNOV, M. A. - "Study of the system of liquid-proof bodies by means of ultra-acoustical methods"

NOZDREV, V. F., YAKOVLEV, V. F., PEREPECHKO, Yu. G., and SENKEVICH, A. A. - "Dispersion of ultrasonic sound in thin gases"

POLYAKOVA, A. L., Acoustics Institute, USSR Academy of Sciences, Moscow - "Absorption of ultimate amplitude sound waves in relaxing media"

RIMSKIY-KORSAKOV, A. V., Acoustics Institute, USSR Academy of Sciences, Moscow - "Statistical properties of broad-casting signals"

ROY, N. A., and FROLOV, D. P., Acoustics Institute, USSR Academy of Sciences, Moscow - *

ROZENBERG, L. D., Acoustics Institute, USSR Academy of Sciences, Moscow - "Studies of the physical processes in industrial applications of supersonic sound"

SAMOYLOVA, I. K., Sechenov Institute of Evolutionary Physiology, USSR Academy of Sciences, Leningrad - "Preceding masking of short tone signals"

SLAVIN, I. I., and ILYASHUK, Yu. M., Laboratory for Combating Noise, Institute for Labor Protection, Leningrad - "The Soviet system of standards for industrial noise and the Soviet Union's experiences with the system"

Hungary

[illegible], D., Szekesfehervar - "Contribution to the theory of sound radiation"

SZILARD, J., Budapest - "Ultrasound intensity measurement by compensated calorimeter"

Poland

KUCZERA, F., OPILSKI, A., and SZIMA, S., Chair of Physics, Higher School of Agriculture, Olsztyn - "Concerning a new acoustic method of determining intermediate molecular forces in liquids and liquid mixtures"

Germany (Democratic Republic)

JACOB, H. P., Institute for Theoretical Physics, University of Rostock - "The significance of sound velocity measurements for the physics of ternary solutions"

* "Generation of sound by spark discharges in water"

Excerpts from the Program and Information Circular, reports to be submitted for the Third Intl. Congress on Acoustics, IUPAP, Stuttgart, GFR, 1-8 ...

YAKOVLEV, V.F.

PHASE I BOOK EXPLOITATION SOV/3352

Vserossiyskaya konferentsiya professorov i prepodavateley pedagogicheskikh institutov.

Primeneniya ul'trakustiki k issledovaniyu veshchestva; trudy konferentsii, vyp. 8 (Application of Ultrasonics in the Study of Matter; Transactions of a Conference, Nr. 8) Moscow, Izd. MOPI, 1959. 170 p. 1,000 copies printed.

Tech. Ed.: S. P. Zhitov.

PURPOSE: The book is intended for physicists, particularly those specializing in the field of ultrasonics.

COVERAGE: This is a collection of 12 articles dealing with problems of acoustics, ultrasonics, and molecular physics. References are given at the end of each article.

PHASE I BOOK EXPLOITATION SOV/3729

Yakovlev, Vsevolod Fedorovich, and Ivan Sergeyevich Inyutin

Izmereniya napryazheniy detaley mashin (Measuring Stresses of Machine Components) Moscow, Mashgiz 1960. 114 p. Errata slip inserted. 3,500 copies printed.

Reviewer: P.D. Dumov, Engineer; Ed.: A.M. Turichin, Candidate of Technical Sciences; Ed. of Publishing House: M.A. Chfas; Tech. Ed.: O.V. Speranskaya; Managing Ed. for Literature on Machinery Manufacturing (Leningrad Division, Mashgiz): Ye. P. Naumov, Engineer.

PURPOSE: This book is intended for engineers, technicians, and scientific workers engaged in the analysis of mechanical deformations and stresses.

COVERAGE: This is a study of methods for the experimental measuring of stresses within machine components. The bases of measuring stresses in the interior of components by means of a wire strain gauge without paper backing are given. There are examples of the experimental solution of a number of problems involving conditions of linear, plane and volume stress states and static and dynamic loads.

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Measuring Stresses of Machine Components SOV/3729

No personalities are mentioned. There are 43 references, all Soviet.

TABLE OF CONTENTS:

Card 2/4

TELESNIN, Roman Vladimirovich; YAKOVLEV, Vitaliy Fedorovich; SADIKOV, B.A., red.; KREYS, I.G., tekhn. red.

[Course in physics; electricity] Kurs fiziki; elektrichestvo. Moskva, Gos. uchebno-pedagog. izd-vo M-va prosv. RSFSR, 1960. 455 p. (MIRA 14:5)
(Electricity) (Magnetism)

24 1800 1482 2607

27642
S/194/61/000/002/031/039
D216/D305

AUTHORS: Zipir, A.D. and Yakovlev, V.F.

TITLE: Experimental basis of the method of multiple echo-pulses for the low-frequency analysis of liquids

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 2, 1961, 12, abstract 2 E97 (V sb. Primeneniye ul'traakust. k issled. veshchestva, no. 11, M., 1960, 107-122)

TEXT: In measurements of the absorption coefficient of ultra sound at frequencies 1 - 6 Mc/s, the following are the factors limiting the measurement accuracy: owing to weak absorption at these frequencies, long acoustic paths are required; the measurements have to be made inside the ultrasonic beam at a point where its divergence is not yet noticeable; diffraction losses have to be taken into account. A pulse method of measuring the absorption coefficient in poorly absorbing liquids has been evolved which utilizes

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Experimental basis...

multiple echo-pulses. A pulse circuitry which utilizes the existing pulse instruments is described. The duration of the transmitted acoustic pulse - 10 - 15μ sec, repetition frequency 150 c/s. The display at the CRO screen consists of several peaks with decreasing amplitudes. Since the pulses are reflected many times both from the reflector and from the crystal (radiator), it was necessary to establish whether the reflector repeats the pulse in the same way as the crystal. The experiment showed that the quartz is not a simple reflector, but rather a transducer of acoustical energy and this fact has been taken into account in actual measurements. Two methods of measuring the absorption coefficient by means of echo pulses are described: the measurement from the n-th pulse with varying distance and the measurement with fixed spacing between the quartz and reflector. The method has been proved using well-known liquids (toluene, benzene etc.). The experimental spread of results did not exceed 4 - 6%. 7 figures. 39 references.

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27644
S/194/61/000/002/033/039
D216/D302

24.1800 1482, 2607

AUTHORS: Perepechko, I.I. and Yakovlev, V.F.

TITLE: New interferometric method of measuring absorption of ultra sound

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 2, 1961, 12, abstract 2 E99 (V sb. Primeneniye ul'traakust, k issled. veshchestva, no. 11, M., 1960, 213-218)

TEXT: The determination of ultra sound absorption in gases is somewhat difficult (especially when it is small). It can be determined in a comparatively easy manner by observing the changes of voltage at the quartz transmitter. The description is given of the respective methods of measuring the absorption coefficient from the changes of voltage with varying distance between the radiator and reflector. Using the suggested method the absorption coefficient can be determined having only 2 points on the resulting curve. 5 references.

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MALYAVIN, I.G.; YAKOVLEV, V.F.; NOZDREV, V.F.

Investigation of the temperature dependence of the kinematic viscosity of certain organic liquids and their saturated vapors in the critical region. Uch. zap. MOPI 92:3-21 '60. (MIRA 14:9)
(Organic compounds) (Viscosity)

S/081/61/000/023/019/061
B117/B147

AUTHORS: Seregina, V. I., Yakovlev, V. F.

TITLE: Thermal conditions of plane laminar flow of a viscous fluid

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 23, 1961, 263, abstract 23J37 (Uch. zap. Mosk. obl. ped. in-ta, v. 92, 1960, 161-169)

TEXT: In the study of temperature conditions of a plane laminar flow caused by the motion of a plate in fluid, which is thermodynamically stabilized, the authors started from the conceptions on the flows of energy which are the reason of its dissipation. They found that this method allows a more complete description of the stabilized motion than the common hydrodynamic explanation of this process. [Abstracter's note: Complete translation.]

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30503
S/194/61/000/008/052/092
D201/D304

24,1800 (1144, 1147, 1482)

AUTHORS: Perepechko, I.I. and Yakovlev, V.F.

TITLE: An optical method of measuring absorption of ultrasound

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 8, 1961, 7, abstract 8 E52 (Uch. zap. Mosk. obl. ped. in-ta, 1960, 92, 249-253)

TEXT: It is stated that the optical diffraction method may be used for measuring not only the velocity, but also the absorption coefficient, without introducing any basic rearrangement of the installation. The Bommel method has been experimentally checked for determining the absorption coefficient from the half-width of the diffraction line of the first order. The absorption coefficients obtained by this were 50 - 100 times greater for argon and nitrogen, and 10 times greater for acetic acid. An optical method is proposed of a constant distance which would permit evaluation of the change

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30503
S/194/61/000/008/052/092
D201/D304

An optical method...

in the absorption coefficient with changing pressure, temperature of frequency (working with harmonics). The voltage at the quartz is kept constant. The variations in the intensity of the first order diffraction line together with the dependence of piezoelectric constant and of the acoustic resistance of the medium on temperature and pressure permit evaluation of the change of the respective formulae. 4 references. [Abstracter's note: Complete translation]

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