"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

GUREVICH, I.Ya., KEL'MISHKEYT, S.G.

Some complications in the treatment with psychotropic substances. Zhur. nevr. i psikh. 64 no.10:1564-1571 '64.

(MIRA 17:11)

1. Klinika vozrastnykh psikhozov (zaveduyushchiy S.G. Zhislin) Instituta psikhiatrii (direktor D.D. Fedotov) Ministerstva zdravookhraneniya RSFSR, Moskva.

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

PEREL'MUTR, A.S.; GUREVICH, I.Ya.; KOTRAS, R.L.

NA-3M anesthetic apparatus. Nov. med. tekh. no.3:3-9 '65.
(MIRA 19:1)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

VOL'PERT, Ye.I.; GUREVICH, I.Ya.; KOTRAS, R.L.

Volumetric anesthesisc respirator RON-1. Nov. med. tekh. no.3: 65-71 '65. (MIRA 19:1)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

MAMESTVALOVA, A.I.; GUREVICH, I.Ye., red.; MUSAYEVA, E.B., red.; TOROSYAN, R., tekhn. red.

[Manual for the specialists in the production and use of protective anticorrosive lubricants] V pomoshch' operatoram po proizvodstvu i primeneniiu zashchitnykh antikorroziinykh smazok. Baku, Azerneshr, 1963. 65 p.
(MIRA 17:3)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

COMMON ELEMENTS

MATERIALS INDEX

CA

18

The intensification of the preparation of carbon dioxide from flue gas. V. M. Kantor, I. E. Gurevich and V. S. Mikhailovskii. *J. Chem. Ind.* (Moscow) 12, 401-4(1935).—$NaHCO_3$ soln. is better than $KHCO_3$ soln. for absorbing CO_2 in not too large absorption towers. Increased temp. and pressure of decarbonization hasten the evolution of CO_2 from these solns. H. M. I.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

3RD AND 4TH CODES

2ND LETTER

1ST AND 2ND LETTER

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

CA

22

Experimental use of a propane-propylene fraction in the Duosol process. I. R. Gurevich and A. I. Stolov. *Neftyanoe Khoz.* 24, No. 8, 60-5(1946). The throughput capacity of a com. Duosol extn. plant was adversely affected when a corresponding amt. of the propane-propylene fraction of cracked gases was used in place of propane. The propylene (12-35%) enhances the mutual solv. of the raffinate and ext. phases. The S content of the fraction (0.099-0.84% by wt. of H_2S and 0.012-0.045% residual S) causes extensive corrosion of app. To remove the propylene, a combination of the Duosol process with a preliminary alkylation or absorption step, with H_2SO_4, is suggested. In either case, H_2S must be removed beforehand.

Bruno C. Metzner

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

Gurevich, I. E.

6

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Intensification of electrolytic processes by cathodic plating of metals. I. Mechanism of action of high-molecular organic additions on cathodic processes. A. I. Levin, [illegible] Pomosov, V. S. Kolomyova, I. R. Gurevich, [illegible] Rogatkin. [illegible] 1953

[illegible] II, neutral [illegible] III, and [illegible] effect on E. E of Zn in M $ZnSO_4$ was [illegible] direction by I, NBu_4^+, and III, [illegible] camphor, while I had no influence. These [illegible] agreement with the positions of E with respect [illegible] charge potentials of these metals. On Cu [illegible] absorption films was accompanied by a retarding [illegible]. The [illegible] changes in E were temp[illegible] [illegible] indicating that the adds merely retarded [illegible] of the normal corrosion potential. In [illegible] E was unstable, cations made E more neg[illegible] shift in neg direction with time. Cathodic [illegible] curves of Cu in 0.2M $CuSO_4$ + 0.5M Na_2[illegible] were influenced strongly by II but not by I and III [illegible] $C_6H_5O_7^{3-}$ and $C_6H_4O_7^{2-}$ similarly had no influence. With NBu_4^+ the concn of E curve indicated [illegible] was the main cause of the increase of cathodic [illegible] by II. In agreement with the above observations in plating Zn from SO_4 soln, II and III slowed down the plating process if the desorption potentials were not exceeded. Increase in temp also accelerated plating by decreasing absorption. Analysis of overvoltage cathodic curves in electrodeposition of Cu from SO_4 + $P_2O_5^{4-}$ soln, and of Zn from acid SO_4 soln indicated that II and

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

Lavin, A.I., Pomasov, A.V., Kolyvatova, V.S., Gurevich, I.E., ...

III retard the discharge of cations, which may be explained by the post-charge of the adsorbed ions and colloids. Combined addn. of sulfite cellulose liquor and gelatin retarded [illegible] deposition of Cu, with an improvement in the du[illegible] more than additively. This effect was repre[illegible] than additive increase in the [illegible] II. Influence of impurities and additions on elec[illegible] extraction of zinc. Ibid. 24, 55. Impurities of Sb, Cu [illegible] and F in a [illegible] $ZnSO_4$ electrolyte [illegible] ated the corrosion of the Zn deposit under bath condition. Mn at a concn. above 3 g./l. also was harmful. Pb and Hg slightly retarded corrosion. Improvements in the efficiency of electrocatn. could be effected by elimination of the harmful impurities and by better bath circulation. Deposits were improved and the efficiency increased by use of NBu_4^+ [illegible] of 10 mg./l. or by combination of 10 mg. glue and 20 mg. β-naphthol/l., or by glue, naphthol, and 0.02 mg. Sb/l. Formation of waffled surface was promoted by camphor and octanol. Contact-angle measurements indicated that camphor and octanol made the surface of Zn hydrophobic. This caused H bubbles to adhere to Zn several times longer than in the normal electrolyte and resulted in nonuniform c.d. and waffling. In the absence of applied cathodic current, glue and naphthol accelerated corrosion of Zn in the electrolyte. However, under cathodic current these substances decreased the corrosion rate under the influence of Ni or Co impurity (50 mg./l.) from 0.064 to 0.0116 cm./min. The polarization curves indicated that these substances retarded both anodic and cathodic processes. H overvoltage of Ni in the electrolyte was decreased by glue especially strongly (38 mv. at 50 ma./sq.cm.), explaining the inhibition effect exhibited by glue on corrosion of Zn in the presence of Ni in the electrolyte. III. Peculiarities in refining of nickel-bearing copper anodes. Ibid.

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[illegible] Al [illegible] 012 Al [illegible] 001. [illegible] was electrorefined at [illegible] 300 amp [illegible] sq.m. From anodes, Ni was removed preferentially. This resulted in an intercryst. corrosion of anodes and accumulation of Ni salts in the electrolyte. The soly. of $CuSO_4$ was decreased by Ni^{++}, but the viscosity of soln. increased. Because of an accumulation of Ni^{++} in the vicinity of the [illegible] the electrodeposition of Cu de- [illegible] irregular and dendritic. Ni promoted formation of sludge and of passivating scales on the anode. To improve the process, circulation and continuous filtration of the electrolyte was provided. The acidity should be maintained at 170-190 g. H_2SO_4, Ni in the electrolyte < [illegible] and c.d. <170 amp./sq.m. IV. Sulfate [illegible] as an electrolyte additive in electro- [illegible] Cu was electrorefined at [illegible] and [illegible] was [illegible] V. Corro- [illegible] for electrodeposition [illegible] soln. [illegible] proceeded at a rate of [illegible] The corrosion rate was increased by [illegible] As, Bi, Co, or Pb (by a factor [illegible] strongly by [illegible] and Cl^- [illegible] influence, but it decreased slightly the influence [illegible] change of acid concn. between 100 and 140 g./l. had little influence on corrosion. Preoxidation of Al at 98° in CaO-$CaSO_4$ soln. did not increase the corrosion resistance of Al. To increase the corrosion resist-

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

the oxide pores should be sealed by treating with K_2CrO_4.

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

LEVIN, A.I., professor, doktor tekhnicheskikh nauk; POMOSOV, A.V.; KOLEVATOVA, V.S.; GUREVICH, I.Ye.; UKSHE, Ye.A.; ROGATKINA, E.T.; MOKRUSHIN, S.G., professor, doktor tekhnicheskikh nauk, retsenzent.

Corrosion and metal cladding. Sbor.st.Ural. politekh.inst. no.43:3-174 '53. (MIRA 8:1)
(Corrosion and anticorrosives) (Metal cladding)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

AID P - 2282

Subject : USSR/Chemistry

Card 1/1 Pub. 152 - 8/21

Author : Gurevich, I. Ye.

Title : Cathodic polarization in electroplating with tin from chloride-containing electrolytes

Periodical: Zhur. prikl. khim., 28, no.3, 285-290, 1955

Abstract : Addition of surface-active substances to the electrolyte results in a higher cathodic polarization. The highest polarization is achieved by adding 0.065 g./l. of tetrabutylammonium iodide to the electrolyte; a fine-grained, light-colored tin deposit is obtained. Five tables, 2 diagrams, 7 references (all Russian: 1947-1953).

Institution: Chair of the Technology of the Electrochemical Industries of the Ural Polytechnic Institute (im. S. M. Kirov)

Submitted : Ag 18, 1955

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

137-58-4-7877

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 4, p 216 (USSR)

AUTHORS: Gurevich, I. Ye., Kalitova, V. I.

TITLE: Electroplating Thick Coatings of Platinum (Gal'vanicheskoye platinirovaniye s polucheniyem tolstykh osadkov)

PERIODICAL: Tr. Ural'skogo politekhn. in-ta, 1957, Nr 69, pp 87-100

ABSTRACT: Thick coatings of Pt (100-200 microns) may be deposited from phosphate electrolytes under 3 sets of conditions: (1) A bath of the following composition (g/liter): Na_2PtCl_6 24, Na_2HPO_4 120, and $(NH_4)_2HPO_4$ 20 at 20°C and D_k 0.2 amps/dm^2. Electrolysis is interrupted for 1-2 min after every 20 min. Bright coatings up to 20 microns thick are produced. (2) Bath composition as follows (in g/liter): $(NH_4)_2PtCl_6$ 24, Na_2HPO_4 120 at 20° and D_k 0.3-0.4 amps/dm^2. A spongy precipitate forms atop the constantly growing Pt precipitate on the cathode; this precipitate must be removed after 8 to 10 hours of the electrolysis. A coating of 100-200 microns thickness, or more, may be produced. (3) Same bath as in (2). The process is run with continuous electrolysis, stirring by air and constant circulation with saturation of of the circulating electrolyte and a D_k of 0.4-0.5 amps/dm^2 at

Card 1/2

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

137-58-4-7877

Electroplating Thick Coatings of Platinum

600. This method makes it possible to obtain Pt deposits 100-200 microns and more in thickness. Development of this method of producing heavy Pt coatings makes it possible to conserve expensive and scarce Pt by making parts of various other metals and then platinum-plating them.

1. Platinum plating

Ye. L.

Card 2/2

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

RUDAKOV, A.I., kand.sel'skokhoz.nauk; GUREVICH, I.Ya., red.; FRIDMAN, Z.L., tekhn.red.

[Fattening swine in the non-Chernozem zone] Opyt otkorma svinei v nechernozemnoi polose. Leningrad, Gos.izd-vo sel'khoz.lit-ry, 1960. 173 p. (MIRA 13:12)
(Swine--Feeding and feeds)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

GUREVICH, I.Ya.; PEREL'MAN, Ya.M.

Method for determining the codeine in medicinal mixtures. Apt. delo 9 no.2:14-19 Mr-Ap '60. (MIRA 13:6)

1. Iz kafedry farmatsevticheskoy khimii (zav. - prof. A.M. Khaletskiy) Leningradskogo khimiko-farmatsevticheskogo instituta.
(CODEINE)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

5.2200,5.1310

7624
SOV/80-33-3-25/47

AUTHOR: Gurevich, I. Ye.

TITLE: Electrolytic Extraction of Metallic Chromium From Chromium Sulfate Solutions

PERIODICAL: Zhurnal prikladnoy khimii, 1960, Vol 33, Nr 3, pp 652-657 (USSR)

ABSTRACT: Chromium extraction from ammonium chrome alum was investigated in an electrolytic bath equipped with stainless steel cathode, lead anode, and polyvinyl chloride diaphragm. The cathode was carefully degreased, as otherwise the active chromium deposit did not adhere to the cathode surface and was dissolved by the catholyte between the surfaces of the two metals. Optimal conditions were as follows: current density, 13-15 a/dm^2; current density per volume unit, 5-7 a/liter of catholyte; temperature, 46-47° C; pH = 2.2-2.4. The obtained chromium deposits were solid, compact plates, 1 to 3 mm thick, 100 mm long, 50 mm wide. The yield based on current was 42 to 45%. The process could be applied

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Electrolytic Extraction of Metallic Chromium From Chromium Sulfate Solutions

78224
SOV/80-33-3-25/47

industrially after rechecking the laboratory data in a pilot plant. There are: 2 tables; 6 figures; and 13 references, 5 U.S., 1 U.K., 2 German, 5 Soviet. The 5 most recent U.S. and U.K. references are: M. C. Caracella, J. D. Metler, Met. Progr., 69, 6, 51 (1956); R. R. Lloyd, J. B. Rosenbaum, V. E. Homme, L. P. Davis, Trans. Am. Electrochem. Soc., 94, 3, 122 (1948); I. W. Cuthbertson, Chem. Ind., 48, 1169 (1952); Recorder, Met. Ind., 78, 14, 269 (1951); R. R. Lloyd, W. T. Rawles, R. G. Feeney, Trans. Electroch. Soc., 89, 443 (1946).

SUBMITTED: May 14, 1959

Card 2/2

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

GUREVICH, I.Ye.; KALITOVA, V.I.; PETROPAVLOVSKIY, V.G.

Role played by the bivalent ions of chromium during its cathodic deposition from sulfate solutions. Zhur.prikl.khim. 34 no.10: 2245-2248 O '61. (MIRA 14:11)

1. Kafedra elektrokhimii Ural'skogo politekhnicheskogo instituta imeni Kirova.

(Chromium—Plating)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

L 57876-65 EWT(m)/EWP(i)/EWG(m)/EWP(j)/T/EWP(t)/EWP(b) Pc-4 RWH/JD/RM

ACCESSION NR: AR5012743 UR/0276/65/000/001/B070/B070

621.357.7:669.3'58

SOURCE: Ref. zh. Tekhnologiya mashinostroyeniya. Svodnyy tom, Abs. 1B448

AUTHOR: Gurevich, I. Ye.

TITLE: Brass coating in the tartaric acid electrolytes

CITED SOURCE: Sb. Nekotoryye vopr. teorii i praktiki ispol'z. v gal'vanotekhn. neyadovit. elektrolitov. Kazan', 1964, 89-90

TOPIC TAGS: brass, electrolyte, tartaric acid, copper, zinc, sodium, potassium/khlorin fabric

TRANSLATION: The composition of the electrolyte, its necessary admixtures, the method of its preparation, and its stability under long use in obtaining brass coatings of the composition 65-80% Cu and 20-35% Zn were investigated. The optimal composition of the electrolyte (in g/liter) is: Cu 8, Zn 8, tartaric acid Na-K 260, NaOH 40. Production parameters: Dk 0.5-7 amp/dm^2, pH 12.5-13.5, temperature 50C; brass anodes with jackets of "khlorin" fabric. Air agitating of the electrolyte is necessary. I. Potapov

Card 1/2

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

L 57876-65

ACCESSION NR: AR5012743

SUB CODE: IE, MM ENCL: 00

Card 2/2

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

GUREVICH, K.

27-5-12/25

AUTHOR: Gurevich, K., Candidate of Pedagogic Sciences.

TITLE: Professional Education and Questions of Labor Psychology (Professional'noye obucheniye i voprosy psikhologii truda)

PERIODICAL: Professional'no - Tekhnicheskoye Obrazovaniye, May 1957, #5(144), pp 20-22 (USSR)

ABSTRACT: Recently a conference was held in Moskva concerning labor psychology, which was attended by psychologists and representatives of contiguous disciplines from various cities of the USSR. The lectures were divided into 5 sections: 1) general questions of labor psychology ; 2) questions of polytechnical education; 3) psychology of professional education; 4) psychology of professional labor; 5) methods of studying labor activity. The purpose of the article is to call the attention of leaders, teachers, foremen and methodical workers to the questions of labor psychology.

L. A. Radushinski and R.S. Person in their report: "Methods of studying the Working Movements of Man by Recording the Applied Efforts with a Tension-Measuring Machine" told of such a device

Card 1/2

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

27-5-12/25

TITLE: Professional Education and Questions of Labor Psychology (Professional'noye obucheniye i voprosy psikhologii truda)

which enables the synchronous and the divided recording of three components of the applied effort and the muscle tension. The curves received, characterize the activity according to speed, effort and coordination of movements of both hands. The lecturers demonstrated curves indicating the difference in the work of a skilled and an unskilled laborer.

Two other lecturers told of experiments made in the study and rationalization of ways of work on metal-cutting machine tools, with the assistance of photography and motion pictures taken with one, two and three cameras. In some cases the initial operational moments of the machine tool had been recorded on the control instruments by means of an oscillograph.

INSTITUTION: Akademiya Pedagogicheskikh Nauk RSFSR (Academy of Pedagogical Sciences RSFSR)

PRESENTED BY:

SUBMITTED:

AVAILABLE: At the Library of Congress

Card 2/2

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

GUREVICH, Kh.; HUDNIK, I.

More packaged goods. Sov.torg. no.10:25-26 O '56. (MLRA 9:12)
(Packaging)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

GUREVICH, Kh. A.

"Influence of Grid Blade Spacing and Angle of Attack on Aero-dynamic Characteristics of Impulse Turbine Profiles." Trudy LPI im. Kalinin No. 1(1951)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

GUREVICH, Kh.S., sadovod-lyubitel' (Moskva)

Simple method for controlling the apple-blossom weevil. Zashch. rast. ot vred. i bol. 8 no.5:66 My '63. (MIRA 16:9)
(Apple--Diseases and pests)
(Weevils--Extermination)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

GUREVICH, K. L.

"Vitamin B_1 and Pyroracemic Acid in Some Diseases of the Internal Organs," Klin. Med., 26, No.4, 1948

Functional Clinic, Naval Medical Academy

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

DEMENT'YEVA, M.I., kand. sel'skokhoz. nauk; IDRISOV, S.; ISAKOV, A., entomolog; GUREVICH, Kh.S., sadovod-lyubitel'

For the amateur fruit grower. Zashch. rast. ot vred. i bol. 9 no.2:40-41 '64. (MIRA 17:6)

1. Glavnyy agronom untsukul'skogo proizvodstvennogo upravleniya Dagestanskoy SSR (for Idrisov). 2. Untsukul'skoye proizvodstvennoye upravleniye Dagestanskoy SSR (for Isakov).

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

GUREVICH, K.M.; KLIMOV, Ye.A.

Third Conference of the Ural Branch of the Psychological Society. Vop. psikhol. 6 no.5:168-170 S-O '60. (MIRA 13:11)
(Psychological societies)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

GUREVICH, K.M.

Psychological manifestations of the basic properties of the nervous system in work activity. Vop.psikhol. 7 no.1:23-34 Ja-F '61. (MIRA 14:3)

1. Institut psikhologii Akademii pedagogicheskikh nauk RSFSR, Moskva.
(Nervous system) (Work)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

GUREVICH, K.M.; GADZHIYEV, S.S.

Study of the role of the personal factor in the control of electrical equipment in electric power stations; psychological manifestations of the basic properties of the human nervous system at work. Vop. psikhol. 8 no.3:37-44 My-Je '62. (MIRA 15:6)

1. Institut psikhologii Akademii pedagogicheskikh nauk RSFSR i Moskovskoye rayonnoye upravleniye energeticheskogo khozyaystva.
(Electric power plants) (Psychology, Industrial)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

GUREVICH, K.M. (Moskva)

"Entertaining psychology" by K.K.Platonov. Reviewed by K.M. Gurevich. Vop.psikhol. 9 no.2:167-170 Mr-Ap '63. (MIRA 16:4)

(Psychology) (Platonov, K.K.)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

LEVITOV, Nikolay Dmitriyevich, prof.; MILERYAN, Ye.A., kand. ped. nauk, retsenzent; GUREVICH, K.M., kand. ped. nauk, st. nauchnyy sotr., retsenzent; VVEDENSKAYA, L.A., red.; KARPOVA, T.V., tekhn. red.

[Psychology of work] Psikhologiia truda. Moskva, Uchpedgiz, 1963. 339 p. (MIRA 16:7)

1. Zaveduyushchiy otdelom psikhologii truda Nauchno-issledovatel'skogo instituta psikhologii Ukr.SSR (for Mileryan). 2. Institut psikhologii Akademii pedagogicheskikh nauk RSFSR (for Gurevich).

(Work) (Psychology)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

GUREVICH, K.M.

Human reaction time in the light of present-day research. Vop. psikhol. 11 no.1:179-183 Ja-F '65. (MIRA 18:4)

1. Institut psikhologii Akademii pedagogicheskikh nauk RSFSR, Moskva.

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

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L 36334-66 EWP(k)/EWT(d)/EWP)h)/EWP(1)/EWP(v) BC/GD

ACC NR: AT6012900 SOURCE CODE: UR/0000/65/000/000/0229/0234

27

B+1

AUTHOR: Gurevich, K. M.; Edel'man. L. M.

ORG: None

TITLE: Professional aptitude and throughput of operators

SOURCE: Sistema chelovek i avtomat (Man-automaton systems). Moscow, Izd-vo Nauka, 1965, 229-234

TOPIC TAGS: psychology, man machine ~~communication~~ relation, aptitude testing, automatic control equipment

ABSTRACT: The authors study professional aptitude of operators. The main determinant of professional attitude in operating automatic control equipment is behavior under emergency conditions. The main task is to determine what psychological characteristics of man are indicative of the possible loss of self control. After considering many instances of known appropriate reactions to emergency conditions, it was proposed that inadequate behavior of a worker under emergency conditions was in all probability determined by certain natural data such as the characteristics of his nervous system, excitation process, and the balance of nerve processes. Research anti-emergency training is studied. This'

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training consists of placing an operator in a simulated emergency state. The behavior of the operator under simulated emergency conditions is observed by a technician and a psychologist. 30 such experiments were performed. Six cases were observed where gross errors were performed. In these six cases confusion was the most evident factor contributing to these errors. In 9 out of the 30 cases correct behavior was observed. In 15 cases insignificant errors were noted. A relationship could not be established between correct behavior under emergency conditions and work complexity or special qualifications of the operator. Operators were subjected to special psychological study in order to determine special characteristics of their nervous systems. Bases have not been determined for studying throughput which is one of the main components of aptitude. It it necessary to continue the study of the professional aptitude of operators.

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Card 2/2

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

GUREVICH, K. N.

GUREVICH, K. N. I PRIYEMSKIY, G. N.

36151 Spetsializirovannyye stanki v transportnom mashinostroenii. V sb: Spetsializir. stanki v mashinostroyenii. M-L, 1949, S. 142-58.

SO: Letopis' Zhrunal nykh Statey, No. 49, 1949

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

GUREVICH, K.S. [translator]; KUZNETSOV, N.M., redaktor.

[Manufacture of welded steel fittings in the U.S.A.] Proizvodstvo svarnoi stal'noi armatury v SShA. Moskva, 1947. 7 p. (MIRA 8:4)

1. Moscow. TSentral'nyy nauchno-issledovatel'skiy institut mekhanizatsii i organizatsii truda v neftyanoy promyshlennosti. Byuro tekhniko-ekonomicheskoy informatsii.
(United States--Valves--Welding)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

GUREVICH, K. S.

Nasosy i kompressory neftepererabatyvayushchey promyshlennosti [Pumps and Compressors for the Petroleum Refining Industry], Moscow-Leningrad, 1951.

No. 444, 16 Aug 55

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

GUREVICH, K.Ya.

Stratigraphy of Tertiary deposits in the Solotvin Depression. Geol. sbor. [Lwov] no.2/3:210-219 '56. (MLRA 10:3)

1. Ukrainskiy vsesoyuznyy nauvhno-issledovatel'skiy geologo-razvedochnyy neftyanoy institut. L'vov.
(Solotvin Depression--Geology, Stratigraphic)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

GUREVICH, K.Ya.

Materials on the study of Carboniferous Ostracoda in the Lvov trough. Trudy UkrNIGRI no.1:147-173 '59. (MIRA 12:12)
(Lvov Province--Ostracoda, Fossil)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

GUREVICH, K.Ya.

Danilovo key well. Trudy VNIGNI no.24:284-339 '60.
(MIRA 13:7)

(Transcarpathia—Petroleum geology)
(Transcarpathi[illegible]—[illegible], [illegible]ral—Geology)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

KRANDIYEVSKIY, V.S.; GUREVICH, K.Ya.

Volyniella (Ostracoda), a new Silurian genus. Paleont.zhur. no.3: 74-76 '60. (MIRA 13:10)

1. Institut geologicheskikh nauk Akademii nauk USSR.
(Tomashuvka region--Ostracoda, Fossil)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

GUREVICH, K.Ya.

New Late Devonian ostracods of the Lvov-Volyn Basin. Paleont. zhur. no.2:60-73 '63. (MIRA 16:8)

1. Ukrainskiy nauchno-issledovatel'skiy geologorazvedochnyy institut, L'vov.
(Lvov-Volyn Basin--Ostracoda, Fossil)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

GUREVICH, K.Ya.

Comparative characteristics of the sediments of the Famenian stage of the Volyn'-Podolian margin of the Russian Platform and the Pripet fault. Trudy UkrNIGRI no.5:212-217 '63.

(MIRA 18:3)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

GUREVICH, K.Ya.; ZAV'YALOVA, Ye.A.; POMYANOVSKAYA, G.M.; KHIZHNYAKOV, A.V.

Stratigraphy of the Carboniferous sediments of the Lvov Trough. (MIRA 18:3)
Trudy UkrNIGRI no.5:218-232 '63.

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

GUREVICH, L. and TER-AVANESYAN, D.

"Significance of Pollen Quantity in Cotton Hybridization," Khlopovodstvo, No.5, 1952

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

GUREVICH, L.

USSR/Miscellaneous - Radio clubs

Card 1/1 Pub. 89 - 10/27

Authors : Kuus, V.; Yudashkin, I.; and Gurevich, L.

Title : Along the DOSAAF radio clubs

Periodical : Radio 2, 19-20, Feb 1954

Abstract : Three articles dealing with the DOSAAF radio clubs are presented. The first article gives a brief report of the 12th Estonian radio-amateurs' exhibition. The second article extols the club's need for a radio specialist who would be able to help the radio amateurs in case of technical difficulties. The third article gives some suggestions for a satisfactory solution of the problem of continuously supplying power for Kolkhoz radio centers.

Institution: .....

Submitted: .....

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

GUREVICH, L.

Solving the problem of supplying electricity to radio reception and rediffusion centers. Radio no.2:20 F '54. (MLRA 7:2)

1. Glavnyy inzhener oblastnogo Upravleniya svyazi.
(Radio--Current supply)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

BEZRUK, V., doktor geol.-mineral.nauk; GUREVICH, L., kand.tekhn.nauk

Concrete made of soil cement and its use in road construction. Zhil.-kom. khoz. 11 no.2:6-8 F '61. (MIRA 14:5)
(Roads, Concrete) (Soil cement)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

GURVICH, L.A.; SIROTKIN, V.I.

Joining of the contact network on districts with electric centralization. Avtom. telem. i sviaz' 3 no.8:15-19 Ag '59. (MIRA 13:2)

1.Nachal'nik Ozherel'yevskoy distantsii signalizatsii i svyazi Moskovsko-Kursko-Donbasskoy dorogi (for Gurvich). 2.Starshiy inzhener Ozherel'yevskoy distantsii signalizatsii i svyazi Moskovsko-Kursko-Donbasskoy dorogi (for Sirotkin).
(Railroads--Electrification)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

GAPONOV, V.; Prinimal uchastiye: GUREVICH, L.A., nauchnyy sotrudnik

From war documents. Kryl.rod. 13 no.11:18-19 N '62. (MIRA 15:12)

(World War, 1939-1945—Aerial operations)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

GUREVICH, L. A.

Unitary representation in hibert space of a compact topological group. matem. SB., 13 (55), (1943), 79-86.

SO: Mathematics in the USSR, 1917-1947
edited by Kurosh, A. G.,
Markushevich, A. I.,
Rashevshiy, P. K.
Moscow-Leningrad, 1948

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

GUREVICH, L. A.

USSR.

Gurevič, L. A. On unconditional bases. Uspehi Matem. Nauk (N.S.) 8, no. 5(57), 153–156 (1953). (Russian)

The author chooses the following as his definition for unconditional convergence in a Banach space E: $\sum x_n$ converges unconditionally if and only if $\sum |f(x_n)| < \infty$ for each $f \in E$. (The more customary definition is: $\sum x_n$ converges unconditionally if and only if $\sum x_{\varphi(n)}$ converges for every 1-1 map φ of the integers onto themselves. The definitions are equivalent in case E is weakly sequentially complete.) A basis is called unconditional in case the expansion of each element of E converges unconditionally. The principal theorem of the author is: $\{x_n\}$ is an unconditional basis for E if and only if there is a constant K for which $|\sum_1^n \pm \xi_i x_i| \leq K |\sum_1^n \xi_i x_i|$, for any distribution of $\pm$ and any sequence of real numbers $\{\xi_i\}$. Obvious equivalent formulations are given. In the space c_0 (of null sequences $\{a_n\}$ with $\|\{a_n\}\| = \sup |a_n|$) the author gives an example similar to one given by the reviewer [Duke Math. J. 17, 187–196 (1950); these Rev. 11, 729] of a basis which is not unconditional. A necessary condition for an unconditional basis in Hilbert space is also given.

B. Gelbaum

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

GUREVICH, L.

Gurevič, L. A. On a basis in the space of continuous functions defined on a closed bounded set in n-dimensional space. Voronež. Gos. Univ. Trudy Fiz.-Mat. Sb. 27 (1954), 84–87. (Russian)

By using a projection onto the coordinate axes and a trivial modification of the Schauder construction for a basis of the continuous functions on a closed interval, the author produces a basis for the continuous functions over any compact set in finite-dimensional space. In view of the result of Bahner [Dokl. Akad. Nauk SSSR (N.S.) 101 (1955), 589–592; MR 16, 1031] the result before us is an "applied" rather than a "pure" theorem, since Bahner's paper shows that the continuous functions over any compact have a basis.

B. Gelbaum

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

GUREVICH, L.A.

Basis in the space of abstract functions. Dokl.AN SSSR 136 no.1: 12-15 Ja '61. (MIRA 14:5)

1. Voronezhskiy sel'skokhozyaystvennyy institut. Predstavleno akademikom S.L.Sobolevym.
(Spaces, Generalized) (Functional analysis)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

GILYAROVSKIY, V.A., redaktor; BELETSKIY, V.K., redaktor; SEGAL', Yu.E., redaktor; SKUIN', E.Ya., redaktor; SIMSON, T.P., redaktor; FEDOTOV, D.D., redaktor; KHACHATURYAN, A.A., redaktor; GUREVICH, L.A., redaktor.

[Problems in psychiatry; abstracts of scientific works by the Psychiatry Institute of the Ministry of Health of the U.S.S.R. (1945-1953)] Voprosy psikhiatrii; avtoreferaty nauchnykh rabot Instituta psikhiatrii Ministerstva zdravookhraneniia SSSR (1945-1953 gg). Pod red. V.A.Giliarovskogo i dr. Moskva, 1956. 453 p. (MIRA 10:11)

1. Russia (1923- U.S.S.R.) Ministerstvo zdravookhraneniya. Institut psikhiatrii. 2. Deystvitel'nyy chlen Akademii meditsinskikh nauk SSSR (for Gilyarovskiy).
(Psychiatry)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

SYROVATKO, F.A., prof., red.; LEBEDEVA, V.P., otv. red.; GUREVICH, L.A., red.

[Problems of present-day obstetrics and gynecology] Aktual'nye voprosy akusherstva i ginekologii. Moskva, 1957. 358 p. (MIRA 11:11)

1. Moscow. TSentral'nyy institut usovershenstvovaniya vrachey.
(OBSTETRICS)
(GYNECOLOGY)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

SKVORTSOV, K.A., prof.; FEDOTOV, D.D., prof., red.; GUREVICH, L.A., red.

[Psychotherapy for the somatopathic patient] Ocherki po psikhoterapii somaticheskogo bol'nogo. Moskva, Vses. ob-vo nevropatologov i i psikhiatrov, 1958. 86 p. (MIRA 11:12)
(MEDICINE, PSYCHOSOMATIC)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

FEDOTOV, D.D., otv.red.; LEBEDINSKIY, M.S., zam.otv.red.; AZBUKINA, V.D., red.; ZINOV'YEV, P.M., red.; KAMENEVA, Ye.N., red.; ROZHNOV, V.Ye., red.; ROKHLIN, L.L., red.; SIMSON, T.P., red.; SUKHAREBSKIY, L.M., red.; GUREVICH, L.A., red.

[Current problems in psychiatry: Vascular diseases of the brain. Schizophrenia. Mental health and psychoprophylaxis] Aktual'nye problemy psikhiatrii; sosudistye zabolevaniia golovnogo mozga. Shizofreniia, psikhogigiena i psikhoprofilaktika. Moskva, 1959. 506 p. (MIRA 14:1)

1. Vsesoyuznoye obshchestvo nevropatologov i psikhiatrov.
(MENTAL ILLNESS) (BRAIN--BLOOD VESSELS)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

GUREVICH, L. A. (Moskva, G-2, Karmanitskiy per., 3, kv. 3);
SEMENOVSKIY, M. L. (Moskva, TSentr, Luchnikov per., 4, kv. 10)

Possibilities of pneumomediastinography and angiography of the lungs in determining the operability of lung cancer. Vop. onk. 8 no.1:5-12 '62. (MIRA 15:2)

1. Iz 2-y kafedry rentgenologii (zav. - prof. Yu. N. Sokolov) i 2-y kafedry klinicheskoy khirurgii (zav. - prof. B. K. Osipov) TSentral'nogo instituta usovershenstvovaniya vrachey (dir. - M. D. Kovrigina) na baze Moskovskoy gorodskoy bol'nitsy No. 50 (glav. vrach - N. P. Brusova)

(LUNGS--CANCER) (ANGIOGRAPHY)
(MEDIASTINUM--RADIOGRAPHY)

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

ROZHDESTVENSKAYA, A. I.; GUREVICH, L. A.; VINNER, M. G.

X-ray diagnosis of hamartomas of the lungs; one observation. Vop. onk. 8 no.5:104-106 '62. (MIRA 15:7)

1. Iz 2-y kafedry rentgenologii i meditsinskoy radiologii (zav. - prof. Yu. N. Sokolov) TSentral'nogo instituta usovershenstvovaniya vrachey (dir. - M. D. Kovrigina) i rentgenovskogo otdeleniya (zav. - M. D. Ryapolova) Moskovskoy gorodskoy klinicheskoy bol'nitsy No. 50 (glav. vrach - N. P. Brusova)

(LUNGS—TUMORS)

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

SOKOLOV, Yu.N., prof.; GUREVICH, L.A.; STETSYUK. A.G.

Some observations in cineangiography of the lungs in connection with the diagnosis of cancer; report no.1. Vestn. rentgen. i radiol. 38 no.4:3-13 Jl-Ag'63 (MIRA 17:2)

1. Iz 2-y kafedry rentgenologii i meditsinskoy radiologii (zav. - prof. Yu.N.Sokolov) TSentral'nogo instituta usovershenstvovaniya vrachey.

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

GUREVICH, L.A.

Importance of pneumomediastinography in determining the operability of patients with lung cancer. Trudy TSIU 62:90-98 '63. (MIRA 18:3)

1. II kafedra rentgenologii i meditsinskoy radiologii (zav. prof. Yu.N.Sokolov) i II kafedra klinicheskoy khirurgii (zav. prof. B.K. Osipov) TSentral'nogo instituta usovershenstvovaniya vrachey.

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

KOGAN, A. M.; SERGEYEV, V. A.; SHLEKFMAN, R. B.; GUREVICH, L. B.

Capron for molding. Mashinostroitel' no.10:31-32 O '62. (MIRA 15:10)

(Nylon)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

ACCESSION NR: AT4033981 S/0000/63/000/000/0024/0028

AUTHOR: Korshak, V. V.; Kogan, A. M.; Sergeyev, V. A.; Shleyfman, R. B.; Gurevich, L. B.; Andion, G. B.

TITLE: The rapid low-temperature alkaline polymerization of Epsilon-caprolactam

SOURCE: Geterotsepny*ye vy*sokomolekulyarny*ye soyedineniya (Heterochain macromolecular compounds); sbornik statey. Moscow, Izd-vo "Nauka," 1963, 24-28

TOPIC TAGS: polymerization, caprolite, capron, low temperature polymerization, alkaline polymerization, caprolactam

ABSTRACT: Influenced by the recent work of Wichterle on a method for the production of high-quality poly-ε-caproamide (Capron), the authors studied the peculiarities of rapid low-temperature polymerization and the properties of the polymeric products with the aim of producing pure and admitted compositions suitable as raw material for large pieces. The polymerization of ε-caprolactam was carried out with equimolar ratios of the sodium salt of caprolactam and N-acetylcaprolactam as a catalytic system. Samples measuring 55 x 6 x 4mm were used in tests for static

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ACCESSION NR: AT4033981

bend ultimate strength, specific impact toughness and moisture absorption, and 6 x 6 x 4mm samples were used in tests for compressible ultimate strength. The best physical-mechanical properties were obtained with a ratio of 0.3 : 0.3 mol/%. The poly-ε-caproamide produced (caprolite) was greatly superior to the "B" brand cast capron. The methods of pre-desiccation of the ε-caprolactam were found to have no influence on the course of polymerization and properties of the product. The connection between the molecular weight and the physical-mechanical properties of caprolite were also studied using N,N'-isophthaloyl-and N,N'-terephthaloyl-bis-caprolactams, and N,N'-isophthaloyl- and N,N'-terephthaloyl-bis-piperidones to enlarge the chain, which proved to be effective co-catalysts in the process. It is concluded that the physical-mechanical properties of caprolite are independent of the molecular weight (within the 16700-72000 range) but are dependent on the content of low-molecular water-soluble substances. Orig. art. has: 2 tables, 1 figure and 1 chemical formula.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy AN SSSR (Institute of Organometallic Compounds, AN SSSR)

Card 2/3

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

PROCESSES AND PROPERTIES INDEX

2

Heat Capacity of Solid Solutions. L. E. Gurevich (*Zhurnal eksperimental'noi i teoreticheskoy Fiziki* (*J. Exper. Theoret. Physics*), 1936, **6**, (6), 537–543). – [In Russian.] Impurities in the crystal lattice distort the character of atomic oscillation and therefore alter its heat capacity. At low temperatures this changes the Debye characteristic temperature, calculation of which is given.

N. A.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

BC

A-1

Problem of electron interaction in metals.
L. E. Gurevitch (Compt. rend Acad. Sci. U.R.S.S., 1938, 20, 355—360).—Mathematical. F. J. G.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

GUREVICH, L. E

Ca

4

Electrodeposition of zinc at high current densities. N. P. Diev and L. E. Gurevich. *Tsvetnye Metal.* **1938**, No. 10, 75-84. Expts. were made for the purpose of developing a cell for producing electrolytic zinc as a continuous strip. With increasing c. d. to 4000 to 6000 amp./sq. m. the output increases. With increased acidity the output decreases only slightly. The highest current output is obtained with the concn. of 70 to 120 g. Zn./l. With Zn concn. above 120 g./l. and with higher c. d. a coarse cryst. and uneven deposit is obtained. This creates conditions causing discharge of H_2 and chem. corrosion of Zn. The current output is thereby decreased. Of colloids added to the electrolyte, glue produced the best results; with 0.1 to 0.2 g. of glue/l. the current ouput was 74 to 79%. Next best colloid is gelatin, 0.3 g./l. An empirical formula was developed for calcn. of potential in the electrolyte with 5000 amp./sq. m., 80 to 120 g. Zn/l., 150 g. acid/l. and 2.5 cm. spacing of electrodes: $V = 3.1 + 2 \times 10^{-4} C_{ZnD} - 3 \times 10^{-4} C_{H_2SO_4} + 12 \times 10^{-4} aD$, where C is concn. in g./l., a is spacing, and D = c. d. in amp./sq. m. It was possible to keep the energy consumption within the usual 3100-3300 kw.-hrs.; owing to increased acidity with energetic agitation and spacing the electrodes 2 cm. it was possible to produce compact Zn deposit in spite of high c. d. (up to 4000 amp./sq. m. Analysis of gases with high c. d. (4000) in hermetically sealed bath showed a possibility of obtaining O_2-rich gas (83% O_2), i. e., for each ton of Zn about 0.2 ton O_2. Expts. with a bell over the anode in hermetically sealed bath did not result in any improvement of the gas compn. because gas bubbles partially migrate with the electrolyte from one electrode to the other. Feasibility of obtaining a continuous deposit in the form of strip (40 cm. wide) was demonstrated. This was obtained by stripping off the deposit from a revolving-drum cathode as it emerged from the electrolyte. 7 references. B. N. Daniloff

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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PROCESSES AND PROPERTIES INDEX

CA

Z

Theory of thermal diffusion. II. L. Gurevich. *J. Exptl. Theoret. Phys.* (U.S.S.R.) 14, 121-4(1944); cf. *C.A.* 39, 855[1].—Theoretical-math. Nonstationary diffusion leads to the appearance of a temp. gradient and hence to thermal conduction, so that the pure equation of diffusion leads to an incorrect picture of the process of nonstationary diffusion and to a quantitatively incorrect solution of the problem. A similar phenomenon occurs for nonstationary heat cond. in mixts. General equations are derived for the special case in which the walls of the vessel play no role. F. H. Rathmann

Leningrad State University.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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WE

2448

The Absorption of Sound of High Frequency in Metals. I. Gurevich (Zh. eksp. teor. fiz., 1941, Vol. 11, No. 6, pp. 402-404). From an equation (1) determining the change in the number of sound quanta (phonons) resulting from their interaction with electrons, a formula is derived for calculating the absorption coefficient τ_s. It appears that τ_s is proportional to the sound frequency. It is also shown that for frequencies exceeding the inverse value of the time of the free travel of electrons, sound is absorbed during an interval of the order of the sound period i.e. propagation cannot take place.

This paper is related to 2432 of 1937 (Landau & Rumer).

Leningrad State University.

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

CA

2

Kinetics of the magnetization of diatomic paramagnetic gases. L. Gurevich. J. Exptl. Theoret. Phys. (U.S.S.R.) 14, Nos. 7-8, 318-32(1944).—Theoretical math. The process of magnetization of gases of the oxygen type takes place as follows: $^1/_3$ of the total magnetization is perpendicular to the axis of symmetry of the mol. and is due to the ordering of the atoms and to the relation between spin and rotation; $^1/_3$ of the total is due to magnetic interaction of the spins of the colliding mols. and is in equil. distribution due to exchange interaction. The time of relaxation detg. the dispersion of the magnetization is of the order of 10^{-4} to 10^{-6} secs. F. H. Rathmann

Leningrad State University.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

COMMON ELEMENTS

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OPEN

MATERIALS INDEX

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1ST AND 2ND ORDERS

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CA

2

Theory of thermal diffusion. L. Gurevich (Leningrad State Univ.). *J. Phys.* (U.S.S.R.) 9, 312 [illegible] (in English). See C.A. 39, 855[1], 1585[8]. E. M. K.

COMMON ELEMENTS

COMMON VARIABLES INDEX

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ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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PROCESSES AND PROPERTIES INDEX

BC

12

Kinetics of magnetization of diatomic paramagnetic gases. I. Gurevitsch (*J. Physics U.S.S.R.*, 1945, 9, 379—382). —Mathematical. The magnetization of diat. paramagnetic gases, the paramagnetism of which is due to the spin, is considered. In the time of the at. order, magnetization equal to $\frac{2}{3}$ of the total susceptibility is established, distributed normally to the symmetry axis of the mols., and due to the presence of spin rotation coupling. The remaining $\frac{1}{3}$ of the magnetization results from the magnetic interaction of spins of colliding mols., and is distributed in a stationary way owing to exchange interactions. The relaxation time which determines the dispersion of susceptibility is $\sim 10^{-4}$—10^{-5} sec. H. R. C.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

On the Absorption of High-Frequency Sound in Metals. L. Gurevich (*J. Physics* (*U.S.S.R.*), 1945, **9**, (5), 383-384).—[In English.] Theoretical. The absorption in metals of sound waves of such a short wave-length that the frequency exceeds the inverse time of the free path of the Debye waves, is investigated mathematically. Absorption takes place in a time of the order of the period of the sound, and such sounds cannot propagate in metals to any extent. According to the equations developed, the absorption coeff. is proportional to the frequency. G. V. D.

ASM SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

General Physics

3496

537.32

Thermoelectric Properties of Conductors: Part 1.

Ia. Gurevich (*J. Phys., U.S.S.R.*, 1945, Vol. 9, No. 6, pp. 477-488.) A new possible mechanism for thermoelectric e.m.f. is the carrying of electrons by the phonon current created by the temperature gradient. In a certain temperature range this e.m.f. may greatly exceed that to be expected from the usual theory, and observed anomalies may be due to the transition from one mechanism to another.

Leningrad State U.

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

401

538.60

Thermomagnetic and galvanomagnetic properties of conductors. III. GUREVICH, L. *J. Phys., USSR,* 10 (*No.* 2) 174-8 (1946).—[See Abstr. 346 (1947)]. Symmetry properties and temperature dependence of the coefficients involved are investigated in the general form. The Wiedemann-Franz law holds in any arbitrarily strong magnetic field for which the usual kinetic equation is valid. The Onsager symmetry relations are deduced for a case in which Onsager's derivation is invalid. The influence of carrying of electrons by phonons on Nernst's coefficient is clarified. A.

Leningrad State U.

METALLURGICAL LITERATURE CLASSIFICATION

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GUREVICH, L.

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

COMMON ELEMENTS

OPEN

LS INDEX

***Thermo-Electric Properties of Conductors.** L. Gurevich (*Zhur. Eksper. Teorel. Fiziki*, 1940, 10, 193-228; *C. Abs.*, 1947, 41, 1903).—[In Russian]. The fact that the temp. dependence of the thermo-electric e.m.f. V of various metal couples follows no uniform law (dV/dT being either, as for gold/platinum, positive, or, as for iron/copper, passing through a maximum and becoming negative; and d^2V/dT^2 being sometimes positive (gold/platinum), sometimes negative (iron/copper), and in some cases changing its sign at a certain temp. (iron/platinum)) leads to the assumption of different mechanisms for the thermo-electric effect. Theoretical treatment shows this to be possible. In the presence of a temp. gradient in a conductor, resulting in a non-equilibrium distribution of states for both the electrons and the lattice vibrations, the deviation from the equilibrium may be brought about by (1) direct effect of the temp. gradient on the electrons, (2) convection of the electrons by the stream of lattice waves (phonons) created by the temp. gradient. The latter indirect effect, not heretofore considered, and which may be described as asymmetric scattering of the electron stream by lattice vibrations aroused by the temp. gradient, is proved to be prevalent in certain temp. intervals, whereas elsewhere the first mechanism predominates. The experimental anomalies in the temp. dependence of V can be explained by transitions from one mechanism to another. The theory gives at higher temp. a differential thermo-electric e.m.f. proportional to $1/T$, at low temp. one proportional to T^3. Thermal conductivity is not materially altered by the introduction of the two mechanisms.

The Leningrad State University

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PROCESSES AND PROPERTIES INDEX

Thermomagnetic and galvanomagnetic properties of conductors. L. Gurevich (Leningrad State Univ.). *J. Exptl. Theoret. Phys.* (U.S.S.R.) **16**, 416-22 (1946). Theoretical analysis of the symmetry properties and the temp. dependence of the coeffs. of the thermomagnetic and galvanomagnetic effects. The Wiedemann-Franz law holds in magnetic fields of any strength [illegible] usual kinetic equation is still valid. From the [illegible] form of the equation, Onsager's symmetry relations are derived for the case where Onsager's own derivation does not apply. The effect of convection of electrons by phonons on Nernst's coeff. is discussed; the Nernst current is proportional to [illegible] instead of [illegible] theory.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

GUREVICH, L.E., professor.

Thermoelectric [illegible] in semiconductors at low temperatures. ([illegible])
Uch.zap. LGU no. 1:110-112 '48.
(Thermoelectricity)
(Semiconductors)

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

SUKACHEV, A.P., dotsent, kandidat tekhnicheskikh nauk; RYAZANOV, G.A., kandidat fiziko-matematicheskikh nauk (Leningrad); GUREVICH, L.E., doktor fiziko-matematicheskikh nauk (Leningrad); GENEROZOV, M.V., inzhener (Saratov).

Terminology of theoretical electric engineering. Elektrichestvo no.11:76-80 N '53. (MLRA 6:10)

1. Khar'kovskiy politekhnicheskiy institut im. Lenina (for Sukachev). (Electric engineering--Terminology)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

GUREVICH, L. E

FD-3338

USSR/Physics - Dielectrics

Card 1/1 Pub. 146 - 10/28

Author : Gurevich, L. E., and Grabov, V. N.

Title : Dielectric losses in ionic dielectrics in strong electric fields

Periodical : Zhur. Eksp. i Teor. Fiz., 29, No 5, 629-636, 1955

Abstract : Dielectric losses induced by Skanavi's mechanism (Skanavi, G. I.: Fizika dielektrikov (Physics of Dielectrics) 1949) in strong electric fields are analyzed. Three limiting cases are discussed and the computational results are presented in formulas. Two references.

Institution :

Submitted : February 22, 1954

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

GUREVICH, L.YE.

CARD 1 / 2 PA - 1968

SUBJECT USSR / PHYSICS

AUTHOR GRIBOV, V.N., GUREVIČ, L.E.

TITLE On the Theory of the Stability of a Layer Existing in a Gravitation Field in the Case of Superadiabatic Temperature Gradients.

PERIODICAL Žurn.eksp.i teor.fis, 31, fasc.5, 854-864 (1956)
Issued: 1 / 1957

The present work investigates the stability of a liquid or gas layer in the presence of a superadiabatic temperaturegradient if the upper and the lower boundaries of the layer are not fixed and if the convection occurring in this layer can expand up to the stable domains bordering upon this layer. The following two cases are investigated: 1.) Convection is able to expand only in an upward direction. 2.) Convection is able to expand both in the upward and downward direction proceeding from the nonstable layer.
The vertical dimensions of the entire mixture domain are assumed to be so small that the following holds: In its extension the relative modification $\Delta T/T$ of temperature and therefore also the relative modification of all other essential quantities (density, viscosity, heat conductivity etc.) is negligibly small. Furthermore, density may be assumed as being independent of amount if convection is lacking.
The case of the extension of convection in an upward direction: At first the system of equations for stationary convection is given in linear approximation after which it is reduced to a single equation. The solution of this equation is given in form of a potential series. The condition of continuity on the

Žurn.eksp.i teor.fis, 31, fasc.5, 854-864 (1956) CARD 2 / 2 PA - 1968

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upper boundary of the unstable layer furnishes six equations, their solubility condition is given in form of a determinant. This is the equation for the determination of the parameter C, i.e. of the entropy gradient which is necessary for the realization of a steady convection. This parameter C is determined as a function of the parameter p, which characterizes the horizontal dimensions of the convective cells. The main problem of this work is to determine the lowest possible value of C and of the corresponding value of p. The following cases are investigated: $C_1 \ll 1$ (the domain above this is near the limit of stability), $C_1 \ll 1$ (the domain above this has considerable stability). (The significance of C_1 was explained at the beginning of this work).
The case of the extension of convection in an upward and downward direction: In this case an equation for $z < 0$ is added to the equations which hold for extension in the upward direction. Also the boundary conditions which correspond to this limiting case are given. Also here the domains located above and below the unstable layer are either near the limit of stability or they have considerable stability.

INSTITUTION: Leningrad Physical-Technical Institute of the Academy of Science in the USSR.

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

GUREVICH, Lev Emmanuilovich, doktor fiziko-matematicheskikh nauk, professor; [redacted], redaktor; GUBIN, M.I., tekhnicheskiy redaktor

[Theory of relativity; basic ideas and deductions from the specific theory of relativity] Teoriia otnositel'nosti; osnovnye poniatiia i vyvody chastnoi teorii otnositel'nosti. Moskva, Izd-vo "Znanie," 1957. 36 p. (Vsesoiuznoe obshchestvo po rasprostraneniiu politicheskikh i nauchnykh znanii. Ser.8, no.18) (MIRA 10:7)
(Relativity (Physics))

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

GUREVICH, L.E.

Length of free electron paths in liquid and amorphous semiconductors. (MLRA 10:4)
Izv.AN SSSR.Ser.fiz.21 no.1:104 Ja '57.

1. Leningradskiy fiziko-tekhnicheskiy institut Akademii nauk SSSR.
(Electrons) (Semiconductors)

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

GUREVICH, L E

PA - 2354

AUTHOR: GUREVICH, L.E.

TITLE: Interaction between the Electrons of Semiconductors and Oscillations of the Lattice at extremely Low Temperatures. (Vzaimodeystviye elektronov poluprovodnikov s kolebaniyame reshetki pri sverkhnizkikh temperaturakh, Russian).

PERIODICAL: Izvestiia Akad. Nauk SSSR, Ser. Fiz., 1957, Vol 21, Nr 1, pp 105 - 111, (U.S.S.R.)

Received: 4 / 1957 Reviewed: 5 / 1957

ABSTRACT: Interaction between electron and lattice-oscillations cannot occur under emission or absorption of a phonon if temperature satisfies the condition $T \ll mc^2$, $v \ll c$. Here T denotes the temperature in energetic units, m, v - the mass of the electron and the mean velocity of its thermal motion, c - sound velocity. In the case of weak scattering by the lattice defects mobility would be bound to increase at $T \ll mc^2$, if temperature decreases according to the exponential law $u \sim e^{mc^2/T}$. In reality, however, mobility increases according to the exponential law $\sim T^{-8}$, because it is limited by processes of second order. Here, the emission of a phonon and the simultaneous absorption of another are concerned. Interaction between the electron and the lattice-oscillations is nearly elastic, for phonons of nearly equal energy are emitted and absorbed. Inspite of this the energy difference of these phonons must not be neglected since otherwise no finite mobility is obtained.

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PA - 2354

Interaction between the electrons of Semiconductors and the Oscillations of the Lattice at extremely Low Temperatures.

Transition probability: The twofold processes studied here can be considered in second perturbational approximation. The corresponding perturbation can be written down for long-wave lattice oscillations in the form $V(\vec{r}) = E_o \operatorname{div} \vec{s}$. Here $\vec{s}$ denotes the vector of the shift of the lattice and E_o - a constant of the dimension of an Energy. E_o here has the order of magnitude 1 eV. In the general case of an arbitrary lattice $V(\vec{r}) = \sum E_{ik} s_{ik}$ applies, where s_{ik} denotes the deformation tensor and E_{ik} - a function of the coordinates with the periodicity and the symmetry of the crystal. In the case of cubic lattices and lacking anisotropy, however, the more simple formula will be satisfactory in the present case. The matrix element of second order and the transition probability are determined and the corresponding formulae written down explicitly.

The integral equation: The number of electrons per interval unit of the quasi-momenta is developed according to spherical functions of different orders. The kinetic equation for the electrons is written down in form of an integral equation and is several times

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PA - 2354

Interaction between the Electrons of Semiconductors and the Oscillations of the Lattice at extremely Low Temperatures.

transformed. For the mean time of the free length of path τ the value $\tau \sim 1,8.10^{-27}(\theta)/T)^8$ is obtained. Processes of second order begin to play a part already in the case of such as are somewhat greater than mc^2. (No illustrations).

ASSOCIATION: Leningrad Physical-Technical Institute of the Academy of Science of the U.S.S.R.

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

GUREVICH, L E

PA - 2355

AUTHOR: GUREVICH, L.E.

TITLE: On some Electro-Acoustic Effects. (O nekotorykh elektroakustichakikh effektakh, Russian).

PERIODICAL Izvestiia Akad. Nauk SSSR, Ser. Fiz., 1957, Vol 21, Nr 1, pp 112 - 119 (U.S.S.R.)

Received: 4 / 1957 Reviewed: 5 / 1957

ABSTRACT: Stripping of current-carriers by ultrasonic phonons: An electro-acoustic effect must exist in metals and semi-conductors, which consists in "seizing" and stripping current carriers by a sound wave. On this occasion a potential difference is produced in the direction of the propagation of the wave. This effect must attain its maximum-value at such sound-frequencies ω where the mean electron moving with the velocity v remains much longer than the relaxation-time τ in the field of each potential well produced by the wave. At usual temperatures $\omega\tau \ll c/v \ll 1$ applies, where c denotes the sound-velocity. The aforementioned stripping effect can take place if this condition is satisfied. In the inverse limiting case $\omega\tau \gg 1$ this limiting case vanishes. In that case, however, another effect exists, which is strong at $\omega\tau \gg \tau$ and weak at $\omega\tau \ll c/v \ll 1$. This effect is similar to the stripping of electrons and holes by the oscillations of a crystal lattice; it is produced by electrons the energy of which is higher than the depth of the potential well. These electrons therefore are not seized by the sound-wave but

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On some Electro-Acoustic Effects.

are only scattered in another than the inverse direction of propagation. The condition $\omega\tau$ can also be written down in the form $\omega > \omega_1 = 300\ e/m^* u$. Here e, m^* and u denote charge effective mass, and mobility of the current-carriers. The values of the ratio ω_1/ω obtained are such that an investigation of the stripping of current-carriers occurring here by a current of ultra-sonic-phonons is expedient.

Damping of ultrasonic waves of extremely high frequency can be considered to be the result of interaction between the current of ultra-sonic-phonons and thermal phonons. In a similar manner the damping of ultra-sonics in metals can be regarded as a result of interaction between unltra-sonic phonons and electrons.

Next, the stripping of electrons by ultra-sonic phonons in metals and semi-conductors is discussed in detail.

The piezogalvanic effect: On the occasion of the propagation of sound in a conducting body or on the occasion of the existence of a pressure gradient in this body an electric field which is parallel to the pressure gradient is produced in this body. If a magnetic field is applied, further highly transversal potential differencies are produced. Finally, also this effect is discussed mathematically; it is, by the way, noticeably dependent on

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PA - 2355

On some Electro-Acoustic Effects,

temperature. (No illustrations)

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000617420003-8

57-28-5-3/36

AUTHORS: Gurevich, ~~I. E.,~~ Uritskiy, Z. I.

TITLE: Absorption Coefficient Oscillations in Crystals in a Magnetic Field in the Range of the Internal Photoeffect (Ostsillyatsii koeffitsiyenta pogloshcheniya kristallov v magnitnom pole v oblasti vnutrennego fotoeffekta)

PERIODICAL: Zhurnal Tekhnicheskoy Fiziki, 1958, Vol. 28, Nr 5, pp. 932-935 (USSR)

ABSTRACT: Tsverdling and Leks (Ref 1) observed oscillations of the infrared absorption in strong magnetic fields in the range of the internal photoeffect. These oscillations can be conditioned by the quantization of the electron and hole states in a strong magnetic field. The authors investigated the theory of this phenomenon in the case, where the energy excess of the light quantum over the threshold of the photoeffect is considerably less than the width of the electron and hole zone. It is expedient here to employ the quadratic dependence of the carrier energy upon the momentum (if the zones are not in touch with each other). For the computation of the absorption coefficient the dispersion matrix for the interaction of photons with electrons and holes was applied. The electrons in the conduction band and the holes in the valence band were repre-

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Absorption Coefficient Oscillations in Crystals in a Magnetic Field in the Range of the Internal Photoeffect 57-28-5-3/36

sented by the Ψ operator:

$$\Psi(x)=\sum_{n,p_2,p_3}\left[a_{n,p_2,p_3}\,\Psi_{-n,p_2,p_3}(\vec{x})e^{-i\mathcal{E}-x_0}+b^{+}_{n,p_2,p_3}\,\Psi^{*}_{+n,p_2,p_3}e^{i\mathcal{E}+x_0}\right]$$

It follows from the theorem of energy conservation, that it is possible to sum in the first term with respect to n up to $n<\frac{\omega-\omega_0-\Omega}{\Omega}-\frac{1}{2}$ and in the second term up to $n\leqslant\frac{\omega-\omega_0}{\Omega}-\frac{1}{2}$ As n is an integer, the absorption coefficient apparently varies discontinuously in the case of equality. Because of the damping of the excitation states these discontinuities will actually be finite. The absorption coefficient appears to be anisotropic according to the orientation of K and H with respect to each other. The existence of oscillations at low values of n can be understood because of the fact, that each term in the sum is diminished with an increase of H as well as of ω. If H varies in the range $0<n<1$, a maximum exists in the vicinity of $\Omega\approx\frac{2}{3}(\omega-\omega_0)$. Finally the photoabsorption of impurity electrons is investigated in that case, where the con-

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Absorption Coefficient Oscillations in Crystals in a Magnetic Field in the Range of the Internal Photoeffect 57-28-5-3/36

centration of impurity is low and no impurity zone is formed. Under the assumption, that the electron is localized in the volume of an elementary cell, the impurity electron is represented by the Ψ - function:

$\Psi_{pr} = \frac{1}{V_0} D(\vec{x} - \vec{x}_i)$. It is possible to obtain the formula

$x_{pr} = N_{pr} V_0 \varkappa$ for the absorption coefficient per unit length in the range of the impurity photoeffect, employing the interaction operator H given in formula (8). Thus the character of oscillations is in both cases the same. The magnitudes are proportional to the impurity concentrations and to the atom concentrations in the crystal. There are 3 references.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN SSSR(Physical-Technical Institute AS USSR).Gosudarstvennyy pedagogicheskiy institut im. A.I.Gertsena,Leningrad(State Pedagogic Institute imeni A. I. Gertsen, Leningrad)

SUBMITTED: January 24. 1958

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1. Infrared spectra--Magnetic factors

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GUREVICH, L.E.; ZHURKOV, S.I.

Seminar on the theory of dislocations. Usp. fiz. nauk 64 no.4:789-790 Ap '58. (MIRA 11:7)
(Dislocations in metals)

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AUTHORS: Gurevich, L. E., Uritskiy, Z. I.

TITLE: On the Theory of Long-wave Absorption by Crystals

PERIODICAL: Fizika tverdogo tela, 1959, Vol 1, Nr 8, pp 1298 - 1301 (USSR)

ABSTRACT: Long-wave radiation can be absorbed by crystals with frequencies $\omega < \omega_0$ (threshold of photoelectric effect) as well as in the range of the inner photoelectric effect. In the former case the following types of absorption are possible: a) direct by lattice vibrations, b) by formation of virtual excitations annihilated by phonon production, c) by free carriers, and d) by various types of excitons. The latter mechanism is not investigated in this paper. On the basis of papers by V. S. Mashkevich and K.B. Tolpygo (Ref 2), V. S. Mashkevich investigated resonance absorption by lattice vibrations. S. I. Pekar (Ref 3) pointed out a second type of absorption but did not calculate the absorption coefficient. The authors investigated absorption based on excitation of a virtual electron-hole pair by a quantum of light. This virtual pair is then annihilated to form one or several phonons. Calculations are carried out

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On the Theory of Long-wave Absorption by Crystals SOV/181-1-8-25/32

according to the invariant perturbation theory with an operator being assigned to electrons and holes. Phonons and electrons of high energies predominate in absorption so that only an estimation of the order of magnitude of the dispersion coefficient is possible. This is done by linear dispersion approximation for acoustic phonons and square isotropic dispersion approximation for optical phonons and electrons. Absorption coefficients are studied for the following cases: one-phonon resonance absorption; the ratio of absorption coefficients is $\simeq 10^{-3}$ in the case of production of i and i - 1 phonons. Absorption attains its maximum in the two-phonon process. Therefore, with frequencies equalling the sum of the maximum frequencies of any two branches, the absorption curve may exhibit singularities. The corresponding expression for κ_2 with $T \ll \Theta$ (Θ denotes Debye energy) is explicitly written down. The absorption coefficient κ_2 corresponding to a sharp resonance maximum is also written down. For impurity absorption $\kappa_{imp} \sim N\kappa_2$ holds, where N denotes the relative concentration of impurity states occupied by electrons. The authors investigate free-carrier absorption when a magnetic field is applied in the

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On the Theory of Long-wave Absorption by Crystals SOV/181-1-8-25/32

case of square isotropic carrier dispersion. The most essential point is the photon absorption by an electron together with emission or absorption of one phonon. The respective expressions for κ in the presence and absence of degeneration are written down. Zwerdling, Lax, Ye. F. Gross, B. P. Zakharchenya, and P. P. Pavinskiy (Ref 6) detected absorption coefficient oscillations in the region of the inner photoelectric effect; they may be explained by quantization of the electron- and hole states in the magnetic field. The corresponding general and fairly long expression for κ is written down. When electrons or holes are degenerate, the absorption edge is shifted according to polarization. There are 7 references, 6 of which are Soviet.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN SSSR (Institute of Physics and Technology of the AS USSR). Pedagogicheskiy institut im. A. I. Gertsena, Leningrad (Pedagogical Institute imeni A. I. Gertsen, Leningrad)

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