

L 21171-65

ACCESSION NR: AP5003033

source has shown absorption due to GaO only in the 4000 Å region. Although there is no final proof that the lower state of the investigated system is the ground state of GaO, this assumption is quite likely. The equilibrium of the reactions of Ga and In with the flame combustion products was investigated by determining the partial pressures of the metals from the relative intensity of the atomic lines in the flame spectra. The corresponding equilibrium constants were calculated from the measured partial pressures and from those calculated theoretically for equilibrium conditions. It was impossible to determine the dissociation energies of GaOH and InOH in the flames of carbon monoxide, because of the high temperature and the low concentration of the hydroxyl. In hydrogen and oxygen flames, the dissociation energies of GaOH and InOH were 101 ± 5 and 90 ± 5 kcal/mole, respectively. It is concluded that the main compounds of Ga and In in the 12 types of flames employed are the hydroxides, produced in the reaction $Me + H_2O = MeOH + H$ (Me = Ga or In). Other effects observed in the flames are briefly discussed.

ASSOCIATION: None

SUBMITTED: 04Nov63

ENCL: 00

SUB CODE: OP, LR

NR REF SOV: 003

OTHER: 004

Card 2/2

L 22894-65 EWT(m)/EWP(t)/EWP(b) IJP(c) JD

ACCESSION NR: AP5003037

S/0051/65/018/001/0143/0145

AUTHOR: Gurvich, L. V.; Ryabova, V. G.

TITLE: Investigation of the dissociation energy of BaO and BaOH

SOURCE: Optika i spektroskopiya, v. 18, no. 1, 1965, 143-145

TOPIC TAGS: barium compound, dissociation energy, binding energy, flame spectroscopy

ABSTRACT: In a book by one of the authors (with G. A. Khachkuruzov, V. A. Medvedev, and I. V. Veyts "Termodinamicheskiye svoystva individual'nykh veschestv" [Thermodynamic Properties of Individual Substances], AN SSSR, M., 1962) it is stated that the value of the dissociation energy D_0 obtained as a result of the investigation of equilibrium reactions of Ba in flames and by determining the heat of sublimation of BaO by various methods are in agreement, and yield a value 137 ± 2 kcal/mole. However, since these two methods of measurement can result in a considerable dispersion of the results, the authors have redetermined the dissociation energy by measuring the partial pressure of atomic barium in a flame of carbon monoxide with oxygen, in which no BaOH molecules are formed to distort

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the results. The measurements were made in the flame with composition $2\text{CO} + \text{O}_2 + 0.03\text{H}_2\text{O}$ ($T = 2,965\text{K}$). The partial pressure was determined from the absolute intensity of the $\lambda = 5535 \text{ \AA}$ line. At the same time, the partial pressure of the Ba^+ ions was determined from the absolute intensities of the $4,554$ and $4,934 \text{ \AA}$ lines. Check measurements were also made in three hydrogen-air flames with different compositions, and the results were much higher dissociation values, the difference being due to the fact that the flame contained appreciable amounts of BaOH . The effect of the presence of BaOH on other measurements is discussed briefly, and the values of 134 ± 8 and 114 ± 5 kcal/mole respectively are recommended for the dissociation energies of the molecules BaO and for the binding energy of BaOH , respectively. Orig. art. has: 2 formulas and 1-table.

ASSOCIATION: None

SUBMITTED: 03Feb64

ENCL: 00

SUB CODE: OP

NR REF SOV: 010

OTHER: 002

Card 2/2

ACCESSION NR: AP4042467

S/0294/64/002/003/0401/0405

AUTHORS: Gurvich, L. V.; Ryabova, V. G.

TITLE: The determination of metal halide dissociation energies on the basis of equilibrium reaction studies in flames. 1. Dissociation energy of BaF

SOURCE: Teplofizika vy*sokikh temperatur, v. 2, no. 3, 1964, 401-405

TOPIC TAGS: equilibrium reaction, hydrogen air flame, barium, partial pressure, fluorine, dissociation rate, atomic line intensity

ABSTRACT: The equilibrium reaction rate of Ba in a hydrogen-air flame, $aH_2 + bO_2 + cN_2 + dH_2O$, with the addition of $(C_2F_5)_3N$ vapor, was investigated experimentally. Barium was added to the flame in the form of 0.02 M $BaCl_2$ solution. The absolute value of Ba partial pressures in eight different flames, at 20-mm height, was determined by the absolute line intensity $\lambda = 5535 \text{ \AA}$ with the additions of several fluorine rates (5.5, 15.8, 35, and 50 mg/min of $(C_2F_5)_3N$) and also in the absence of fluorine. From this the dissociation energy $D_0(BaF)$ of barium fluoride was determined, using

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the expression

$$D_0(\text{BaF}) = T[\Delta\Phi_T - R \ln K_p(\text{BaF})],$$

which gave a value of 147.6 ± 1.7 kcal/mol. The dissociation energy was also determined from the ratio $I_{\text{Ba}}/I_{\text{Ba}}$ (relative atomic line intensity) as a function of the partial pressure $P_{\Sigma F}$ which in turn gave a value of 147.6 ± 2.2 , in excellent agreement with the first method. Orig. art. has: 5 formulas, 2 tables, and 1 figure.

ASSOCIATION: Nauchno-issledovatel'skiy institut vyssokikh temperatur (Scientific Research Institute of High Temperatures)

SUBMITTED: 06Apr64

ENCL: 00

SUB CODE: FP

NO REF SOV: 006

OTHER: 008

Card: 2/2

GURVICH, L.V.; RYABOVA, V.G.

Studying the dissociation energies of oxygenous compounds of gallium and indium on the basis of their reaction equilibrium in flames. Part 1. Experimental methods and study of flames of the type $aH_2 + bO_2 + cN_2 + dH_2O$. Teplofiz. vys. temp. 2 no.4:540-548 J1-Ag '64. (MIRA 17:9)

1. Nauchno-issledovatel'skiy institut vysokikh temperatur.

L 24480-65 EWT(m)/EPF(c)/EPR/EWP(j)/EWP(b) Pc-4/Pr-4/Ps-4 RPL JD/
 WW/JW/RM

ACCESSION NR: APL047388

S/0294/64/002/005/0834/0835

AUTHORS: Ryabova, V. G.; Gurvich, L. V. B

TITLE: Determining dissociation energies of metal halides on the basis on investigating the equilibrium of reactions in flames. 2. Dissociation energies of CaF, CaF₂, SrF and SrF₂

SOURCE: Teplofizika vy*sokikh temperatur, v. 2, no. 5, 1964, 834-835

TOPIC TAGS: chromatographic analysis, dissociation energy, fluorine compound, halide 27

ABSTRACT: The authors present a continuation of research results in investigating dissociation energies of metal halides based upon studies of the equilibrium of reactions in flames (L. V. Gurvich and V. G. Ryabova, Teplofizika vy*sokikh temperatur, 2, No. 2, 215, 1964; and 2, No. 3, 401, 1964). Spectroscopic determination of equilibrium constants for the reactions forming CaF and SrF molecules was carried out by introducing strontium and calcium into hydrogen-air flames containing a small percentage of fluorine (about 0.4% of the flame gases). The flame composition was varied according to the formula $\sqrt{a H_2 + b O_2 + c H_2 + d H_2O}$, where a, b, c, and d are varied to produce 8 different flame types. The authors described the experimental setup and combustion products in an earlier work

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L 24480-65

ACCESSION NR: AP4047388

(Teplofizika vy*sokikh temperatur 2, No. 4, 1964). In the reaction of the type $Me + HF \rightleftharpoons MeF + H$, the equilibrium constants were determined by spectroscopic measurement of partial pressures and by the variation of the relative intensity of the metal line in the flame spectra with and without fluorine addition for varying quantities of fluorine. Reaction equilibrium constants showed close agreement for all tests. The corresponding dissociation energies were found to be 135 ± 7 and 132 ± 7 kcal/mole for CaF and SrF respectively. CaF₂ and SrF₂ molecules were formed by the reaction type $MeF + HF \rightleftharpoons MeF_2 + H$ in an excess of fluorine. Consideration of partial pressures led to association energies of ≈ 136 kcal/mole for (CaF - F) and ≈ 140 kcal/mole for (SrF - F). Summing the dissociation and association energies yielded close agreement with earlier work performed in a different manner. Orig. art. has: 4 equations.

ASSOCIATION: Nauchno-issledovatel'skiy institut vy*sokikh temperatur (Scientific Research Institute of High Temperatures)

SUBMITTED: 31Aug64

ENCL: 00

SUB CODE: GC

NO REF SOV: 004

OTHER: 001

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L 40786-65 EWG(j)/EWT(m)/EPF(c)/EWG(m)/EPR/T/EWP(t)/EWP(b) Pr-4/Ps-4
IJP(c)/RPL JD/JW/JG/RM

ACCESSION NR: AF4044520

S/0294/64/002/004/0540/0548

AUTHORS: Gurvich, L. V.; Ryabova, V. G.

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40
B

TITLE: Investigation of dissociation energies of gallium and indium oxygen compounds in flames during equilibrium reaction I. Experimental method and investigation of $aH_2 + bO_2 + cN_2 + dH_2O$ flames

SOURCE: Teplofizika vysokikh temperatur, v. 2, no. 4, 1964, 540-548

TOPIC TAGS: combustion, flame, gallium oxide, indium oxide, dissociation, metallized flame, reaction rate constant, line spectrum, partial pressure/ UM 2 monochromator, M 106/1 millivoltmeter, Orekh power source, LF 3 lamp, SI 16 lamp

ABSTRACT: The relative and absolute spectral line intensities of metal atoms in flames were studied in order to determine the dissociation energy of metallic compounds in the combustion products of the flames. It is shown that if the metal Me forms a compound MeX with a radical in the flame (O, OH, or H) one can calculate the reaction rate constant K_p in $MeX \rightleftharpoons Me + X$ by determining the partial pressure of the metal. This in turn can be accomplished from the absolute spectral line intensities of the metal atoms in the flame obtained by comparing relative intensities with standard calibrated sources of continuous spectra. Thus

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$$p_{\lambda_0} = \frac{k\lambda}{hc g_m A_{mn}} \gamma \frac{T}{l} Q(T) e^{-E_m/T} B I_{\lambda, \text{lamp}}^{\text{abs}}$$

and

$$I_{\lambda, \text{lamp}}^{\text{abs}} = \epsilon_c(T) \lambda^{-1} \epsilon_1 e^{-E_m/T} n$$

To measure these absolute and relative resonance lines, type aH₂ + bO₂ + cN₂ + dH₂O flames were used and the metal was introduced in the flames as salts. The flame temperatures were measured by the spectral line-reversal technique and ranged between 1765C and 2159C. These results were checked by measuring D-line intensity of Na after introducing 5 x 10⁻³ M solution of NaCl in the flame. In order to determine radical concentrations in the flames, the equilibrium reaction of lithium with the combustion products was investigated. At 1600-2000C temperatures lithium exists as Li atoms and LiOH compounds with a known reaction constant. This in turn allows one to determine p_H and subsequently p_{OH} and p_O. The results of the measurement on the equilibrium reaction of Ga and In with combustion products will be given in a further study. Orig. art. has: 11 formulas, 3 tables, and 1 figure.

ASSOCIATION: Nauchno-issledovatel'skiy institut vysokikh temperatur (Scientific Research Institute of High Temperatures)

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L 40786-65

ACCESSION NR: AP4044520

SUBMITTED: 28Apr64

ENGL: 00

SUB CODE: FP, CC

NO REF SOV: 006

OTHER: 009

Card 3/3

578

RYABOVA, V.G.; GURVICH, I.V.

Metal - hydroxyl bonding energy in CaOH, SrOH, and BaOH molecules.
Teplofiz. vys. temp. 3 no.2:318-321 Mr-Apr '65. (MIRA 18:7)

1. Nauchno-issledovatel'skiy institut vysokikh temperatur, Moskva.

GURVICH, L.V.; RYABOVA, V.G.

Determination of the dissociation energy of metal halides based
on a study of the equilibrium of reactions in flames. Part 1.
Dissociation energy of BaF. Teplofiz. vys. temp. 2 no.3:401-405
My-Je '64. (MIRA 17:8)

1. Nauchno-issledovatel'skiy institut vysokikh temperatur.

GUR/ICH, L.V.; RYABOVA, V.G.

Dissociation energy of the BaCl molecule. Teplofiz. vyss. temp.
2 no.2:215-218 Mr-Ap '64. (MIRA 17:6)

RYABTSEV, V.I., inzh.

Operational effectiveness of OV-10 type condensate cooler for
high-pressure heaters of K-50-9C turbines. Energetik 12 no.6:
14-15 Je '64. (MIRA 17:9)

RYABOVA, V. V.

25(1) **TABLE 1 BOOK DESCRIPTION** 89/1745

Машины-обработчики абразивно-машиностроительной промышленности.
Классификация абразивных аппаратов

Продвинутое технологическое производство (Advanced Technology of Casting
Production) Kiyev, Naukova, 1966. 152 p., 6,000 copies printed.

М. В. Е. Рыбаков; Док. М. В. Рыбаков; М. В. Рыбаков; М. В. Рыбаков; М. В. Рыбаков;
Л. С. Рыбаков (Ред. М. В. Рыбаков); Л. С. Рыбаков; Л. С. Рыбаков; Л. С. Рыбаков;
(Publishing Division, Naukova); V. V. Ryabova, Engineer.

purpose. This book is intended for engineering personnel of foundries, and workers
of scientific research institutions.

contents. This book is a collection of articles and papers given by representatives
of leading scientific-research institutes, and deals on problems of advanced
methods of production and mechanization of the foundry industry at a conference
organized by the Kiyev Oblast State University of Mechanical Engineering
of the machine-building industry and the Academy of Mechanical Engineering
of the Academy of Sciences, Ukrainian SSR. The new method is centrifugal
page precision investment casting.

materials preventing porosity, and the use of airwaves (blow), and
the method of mechanization and automation of foundry processes are covered in
this book. In articles by V. V. Ryabova, dealing with a new cast iron welding
method developed by the author with the assistance of electrotherapist S. L.
Kryukov, and called "cold electric welding of cast iron by means of a metal
electrode with an indirect arc action." As the title indicates, the arc
acts only indirectly on the welded metal passing between the electrode and
the workpiece metal. Such welding ensures shallow fusion of the metal and
the formation of a composite surface layer is either absent or limited to a
very thin layer of not more than 0.2 mm, making for easy chemical
working. No particulars are mentioned. There are no references.

TABLE OF CONTENTS (Cont.) 89/1745

- ✓ Kryukov, S. L., Engineer. Use of Permanent Molds in the Casting of Steel 47
- ✓ Vasil'yev, S. D., Engineer. Cast-welded Constructions 55
- ✓ Ponomareva, S. L., Engineer. Mechanical Milling of Large Steel Castings 59
- ✓ Gavrilov, V. S., Engineer. Britam-etchal Finishes Casting 65
- ✓ Ryabova, V. V., Engineer. Use of Chromite as an Anti-etching Agent in Casting of Large-sectioned Steel and Cast Iron 72
- ✓ Ryabova, V. V., Candidate of Technical Sciences. Casting in Gaseous Media 76
- ✓ Ryabova, V. V., Candidate of Technical Sciences, Engineer, and S. L. Ponomareva, Engineer. Methods of Investigation and Introduction of Turbine Milling Systems in Mass Production. 87

Card 4/6

PEROVA, A.P.; NYAROVA, V.V.

Solubility of boric acid in aqueous solutions of oxalic acid.
Zhur. neorg. khim. 10 no.1, 209-219 Ja '65. (MIRA 18:11)

I. Voronezhskiy meditsinskiy institut, kafedra biokhimi.
Submitted July 17, 1963.

Ryabova, V. V.

AUTHOR: Ginzburg, Z.L., Engineer, 128-58-4-15/18

TITLE: Scientific-Technical Session on Progressive Technology of Casting Molds (Nauchno-tehnicheskaya sessiya po progressivnoy tekhnologii liteynoy formy)

PERIODICAL: Liteynoye Proizvodstvo, 1958, No. 4, pp 28-30 (USSR)

ABSTRACT: A conference on the technology of casting molds - organized by the NTOMASHPROM of the Khar'kov Oblast' - convened in Khar'kov on 14-16 November 1957. More than 200 delegates from plants, research institutes, vuzes and other organizations of the Khar'kov and other regions participated. Problems of earth-mold casting were discussed. A total of 24 reports were delivered on hardening and exothermic mixes and the mechanized processes in USSR and abroad. B.A. Noskov and V.I. Ryzhkov (KhPI) gave information on molding sand and clay available in the Khar'kov economic region. The following reports were also heard: V.V.Ryabova - on the use of carbon dioxide, at NKMZ, for chemical strengthening of molds, which has reduced the drying period and cut the consumption of generator gas, improved the quality of castings, and nearly

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128-58-4-15/18

Scientific-Technical Session on Progressive Technology of Casting Molds

doubled the production of molds; N.Kh. Ivanov - on the use of the same quick-hardening mixes, with cold carbon dioxide, at the Slavyanskiy mashinostroitel'nyy zavod (Slavyansk Machinebuilding Plant); Engineer D.A. Lur'ye (Giprostanok) - on modern methods and an installation for production of carbon dioxide; Engineer Ye.P. Tolmachev of the Voroshilovgradskiy teplovozo-stroitel'nyy zavod (Voroshilovgrad Diesel-Locomotive Plant) - on experience with molding sand milled in a special vibration mill, which solves the problem of obtaining castings with a clean surface not only with shell molds, but also with conventional molding methods; A.Ya. Izmalkov - on the oil-less binder "P" used at the plant "Serp i Molot"; A.I. Veynik - on the theory of forced cooling of castings and the experience in this method at the Novo-Kramatorskiy i Minskiy stankostroitel'nyy zavodov (Novo-Kramatorsk and Minsk Machine Tool Plants) which developed this method in the production of large castings; I.V. Ryzhov - on the physico-chemical nature of sand crust (on castings) and the ways of eliminating this crust by producing a de-oxidizing atmosphere between the mold and the metal, casting in vacuum, or crystallization-preventive additions to water glass; P.G. Novikov (of TsNIITMASH) - on

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Scientific-Technical Session on Progressive Technology of Casting Molds

results of the collective work of TsNIITMASH and NKMZ on technological problems of the production of large molds, and the new method of forced or controlled cooling of castings in the ground, as well as on the experiments with a system of universally applicable cast parts; B.K. Dymshin of the Khar'kovskiy turbinnyy zavod (Khar'kov Turbine Plant) and Engineer I.Ye. Gabey (NKMZ) - on exothermic mixes for heating the feeding heads of steel and cast iron castings; M.L. Turovskiy - on investigation of internal stresses at the Khar'kovskiy zavod transportnogo mashinostroyeniya (Khar'kov Plant of Transport Machines); V.S. Ladnov - on mechanized casting into shell molds by shot-strewing the mold boxes, being introduced at the same transport machine plant; K.I. Kostinenko - on the organization of boxless molding at the plant Rostsel'mash; N.A. Gerasimov of the Kremenchugskiy zavod dorozhnykh mashin (Kremenchug Road Machine Plant) - on casting parts in molds produced under pressure up to 100 kg/cm², without mold boxes, which nearly completely eliminates the necessity of machining the castings and greatly reduces the consumption of foundry materials and metal; A.M. Petrichenko of the Khar'kovskiy

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avtodorozhnyy institut (Khar'kov Auto-Road Institute) - on the experience of the Chinese Democratic Republic with semi-permanent molds for thin-wall castings; Ye.A. Sukhodol'skaya of the Khar'kovskiy politekhnicheskii institut (Khar'kov Polytechnical Institute) - on some peculiarities of foundry technology in China; V.D. Bezuglov of the Khar'kovskiy zavod zubovrachebnykh materialov (Khar'kov Plant of Dentistry Materials) - on self-hardening plastics "AST" which is readily machineable, well suited for decorative correction of surface faults on metal castings, and also for making light core boxes, press-molds for wax patterns, etc. The conference recommended that the Khar'kov Sovnarkhoz organize the exploitation of molding sands and clays in the region and a centralized production of carbon dioxide. The conference pointed out the necessity of extensive use of quick-drying mold mixes, forced cooling of castings, exothermic mixes for heating the feeding heads, and the necessity to introduce the shell-mold and the chill-casting methods. The method of making molds

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Scientific-Technical Session on Progressive Technology of Casting Molds

under high pressure was recommended for use. The importance of the Khar'kov Dentistry Materials Plant and KHTZ work with self-hardening plastics for foundry use was emphasized.

AVAILABLE: Library of Congress

Card 5/5

1. Castings-Scientific reports

L 35352-66 EWT(1)/EWT(m) RO

ACC NR: AR6017800

SOURCE CODE: UR/0058/66/000/001/A058/A058

AUTHOR: Korotin, B. A.; Mysev, I. P.; Ryabova, Ye. A. 43
0 B

TITLE: Simplified procedure for calculating the counting rate of detectors and determination of optimal dimensions of measuring volumes in the radiometry of beta-active gases

SOURCE: Ref. zh. Fizika, Abs. 1A498

REF SOURCE: Tr. Soyuzn. n.-i. in-ta priborostr. vyp. 1, 1964, 44-53

TOPIC TAGS: radiometry, scintillation counter, pulse counting, Beta detector, gas discharge counter

ABSTRACT: One of the most reliable and simplest methods of measuring the concentration of β -active gases is considered - the method of direct registration of the activity of the gas (contained in a limited volume) with the aid of gas-discharge or scintillation counters. It is noted that the analytic expressions that relate the counting rate of the detector with the concentration of the β -active gas are complicated and cumbersome when rigorous account is taken of the geometry of the measurement and absorption of the β radiation by the medium, so that their practical use is very limited. Since a calculation accuracy of $\sim 15 - 20\%$ is perfectly adequate for many problems, it is possible to simplify the formulas and make them more universal for the determination of the sensitivity for different geometries of the measuring gas volumes. The method of obtaining simpler qualitative relations consisted in the following:

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ACC NR: AR6017800

the counting rate N_0 of a point-like detector is calculated without account of β -particle absorption. From an analysis of the data obtained for non-point and point-like detectors, the correction for the deviation from a point is calculated and is found to be close to unity. Similarly, the correction for absorption is determined from a comparison of the expression for N_0 with the expression in which account is taken of the β -particle absorption (for a point-like detector). M. L. [Translation of abstract]

SUB CODE: 20, 09

Card

2/2

bdh

KRYLOV, P.N.; MAYYER, V.F.; ZHIDKOVA, M.V.; LAGUTIN, N.S.; KOROVKIN, G.N.; KIRICHENKO, N.Ya.; AGABAB'YAN, E.M.; KUZ'MINA, Ye.I.; GALYNSKIY, V.T.; SKRYLEVA, V.N.; GLYAZER, L.S., red.; RYABOVA, Ye.A., red.; GERASIMOVA, Ye.S., tekhn. red.

[Planning national consumption in the U.S.S.R.; current problems] Planirovanie narodnogo potrebleniia v SSSR; sovremennye problemy. Pod red. V.F.Maiera i P.N.Krylova. Moskva, Izd-vo "Ekonomika," 1964. 134 p. (MIRA 17:1)

1. Moscow. Nauchno-issledovatel'skiy ekonomicheskii institut.

FILIPPOV, V.V., red.; RYABOVA, Ye.A., red.

[Methodology of planning labor productivity in industry]
Metodika planirovaniia proizvoditel'nosti truda v pro-
myshlennosti. Moskva, Ekonomika, 1964. 79 p.

(MIRA 17:10)

PLYSHEVSKIY, Boris Pavlovich, st. nauchn. sotr., kand. ekon. nauk;
YAREMENKO, Yuriy Vasil'yevich, mlad. nauchn. sotr.; KATS,
V.I., doktor ekon.nauk, red.; TRIFSIK, G.B., red.; RYABOVA,
Ye.A., red.; PONOMAREVA, A.A., tekhn. red.

[Regularities of the development of the national product and
national income] Zakonomernosti dvizheniia obshchestvennogo
produkta i natsional'nogo dokhoda. Moskva, Ekonomizdat,
1963. 187 p. (MIRA 16:8)
(Gross national product) (Income)

BRAGINSKIY, B.I., doktor ekonom. nauk, red.; KARPUKHIN, D.N., kand.
ekon. nauk, red.; MASHENKOV, V.F., kand. ekon. nauk, red.;
KONIKOV, L.A., red.; RYABOVA, Ye.A., red.; PONOMAREVA, A.A.,
tekh. red.

[Work planning] Voprosy planirovaniia truda. Moskva, Ekonom-
izdat, 196a. 349 p. (MIRA 15:6)

1. Moscow. Nauchno-issledovatel'skiy ekonomicheskiy institut.
(Labor productivity)

S/169/63/000/001/017/062
D263/D307

AUTHORS: Andreyeva, A.N., Karmanov, V.G. and Ryabova, Ye.P.

TITLE: A semiconductor bolometric radiant energy receiver for phytophysiological and microclimatic investigations

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 1, 1963, 6, abstract 1B46 (Sb. tr. po agron. fiz., 1962, no. 9, 162-170)

TEXT: Construction of the bolometer is described. The receiving semiconducting layer is 6 - 8 mm² in area and ~ 10 μ thick. Its resistance is 20 - 50 kΩ at 20°C, with a temperature coefficient of 3.5% per degree at 20°C, and a power dissipation of 200 - 300 μv per degree. Paired blocks of the bolometer are blackened and are placed in an internally blackened box, covered with fluorite filters. The device is 10 mm high and 11 mm in diameter and possesses a 20 mm tubular handle. The bolometer is connected into a bridge with a supply of 3 - 7 v. Sensitivity of the receiver is such as to allow

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A semiconductor ...

S/169/63/000/001/017/062
D263/D307

operation with light intensities varying from direct solar illumination to e.g. 0.01% of that value (from 1.1 to 0.0001 volt.cm⁻²). The disadvantage of the bolometer is the nonlinearity of response when the film is heated, and a dependence of response on the bridge voltage. The following points are considered: measurement of the radiation balance components of leaves of vegetation, measurement of the intensity of monochromator light beams, measurement of the indicatrix of dispersed light, study of the radiational field of light installations, determination of the relative emissive characteristics of various bodies and the determination of the rate of drying of the ground and of leaves.

[Abstracter's note: Complete translation]

Card 2/2

KAGAN, V.K.; RYABOVA, Ye.P.

Calculating the spectral brightness distribution for a cloudless sky using a two-parameter model of the atmosphere. Trudy GGO no.152:16-30 '64. (MIRA 17:7)

KAGAN, V.K.; RYABOVA, Ye. P.

Calculating the components of radiation balance of the surfaces
of engineering structures. Inzh.-fiz. zhur. no.2:131-143 F '61.
(MIRA 14:4)

1. Agrofizicheskiy institut, Leningrad.
(Solar radiation)
(Building)

AUTHOR: Ryabova, Ye. P. SOV/50-58-11-2/25

TITLE: Certain Peculiarities of Irradiation of Ridge-like Soil Surfaces Through Direct Solar Radiation (Nekotoryye osobennosti oblucheniya grebnistoy poverkhnosti pochvy pryamoy solnechnoy radiatsiyey)

PERIODICAL: Meteorologiya i gidrologiya, 1958, Nr 11, pp 11-17 (USSR)

ABSTRACT: Most of the agricultural plants of the USSR outside the black-earth belt suffer from lack of warmth and excessive humidity. Since a long time the methods of using ridge-like soil formations for the growing and harvest increase of early vegetables is employed. It was shown that by cultivating ridge-like beds temperature conditions in the soil are notably changed. In order to clarify this the author has, in the years of 1954 and 1955, investigated by experiment all elements of heat balance relative to a soil with ridge-like beds and to level soil. In the present paper the author deduces equations which permit solution of different problems related with the said problem whereby investigation results of N. N. Kalitin (Ref 1, Table 1) were used (1) - (7b). The diagrams (Figs 2,3) show the results of calculations. The said equations make it possible to sort

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SOV/50-58-11-2/25

Certain Peculiarities of Irradiation of Ridge-like Soil Surfaces Through
Direct Solar Radiation

out the importance of direct solar radiation in the heat balance of a ridge-like surface. Especially, the following data were found: 1) the irradiation of a ridge-like surface through direct solar radiation takes place irregularly as one ridge overshadows the other. The most intense radiation hits the upper part of the ridge-like beds; for a latitude $\gamma = 60^\circ$, however, the shadow until the half height of the ridge is quite unimportant. 2) At the beginning of irradiation, one flank of the ridge receives a larger amount of radiation (relatively as well as absolutely) at all azimuths than this is the case with a level surface. 3) At some azimuths, the proportion of the radiation amount hitting a ridge-like and a level surface can increase indefinitely. However, the high values of this amount are not characteristic as the absolute radiation amount reaching the earth's surface is negligible. The difference of absolute radiation amounts, therefore, hitting a ridge-like and a level surface, constitutes a more important comparative characteristic factor. From this point of view, the Northeast-Southwest (β - azimuth of ridge = 45°) direction of ridges is

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SOV/50-58-11-2/25

Certain Peculiarities of Irradiation of Ridge-like Soil Surfaces Through
Direct Solar Radiation

more favorable. In doing so, the south-eastern flank receives the largest amount of direct solar radiation (as compared with a level surface) during the first half of the day. A little less favorable is the North-South direction of the ridges ($\beta = 0$) although, in this case, the warming up of the eastern part at the beginning and of the western part towards the end of irradiation takes place in a very intense degree. There are 3 figures, 1 table and 9 references, 8 of which are Soviet.

Card 3/3

RYABOVA, YE. G.

SUSHILIN, V.A.; ROMANOVA, N.L.; RYABOVA, Ye. G.

Adsorption test for water injection wells. Neft. khos. 34 no.12;
36-37 D '56. (MLBA 10:8)

(Oil field flooding)

RYABOVA, Ye.K.

One theorem on orthogonal functions. Uch.zap.Kaz.un. 116 no.5:10-12 '56. (MLRA 10:4)

1. Kafedra diferentsial'nykh uravneniy.
(Functions, Orthogonal)

RYABOVA, Ye.P.

Thermal sound for measuring soil temperature along a vertical
line. Sbor.trud.po agron. fiz. no.5:97-101 '52. (MIRA 11:7)
(Soil temperature--Measurement)

Byabeva, Ye. I.

PHASE I BOOK EXHIBITION 807/4117
807/28-100

Leningrad. Otkrytye gosklimatskaya observatoriya
Izdatel'stvo meteorologicheskogo profsoyuznogo (Investigation of Radiation Processes).
Leningrad, Otkrytye gosklimatskaya observatoriya, 1950. 197 p. (Series: Issi Trudy VVP, 100)
Krysha 215. 1,000 copies printed.

Additional Sponsoring Agency: USSR. Otkrytye gosklimatskaya observatoriya
Leningrad.

81. (Title page): K.S. Bultin, Doctor of Physics and Mathematics, and V.L.
Ogryzskiy, Candidate of Geography; M. (Series book): L.P. Zhukovskiy, Techn.
En.: M.I. Bryukina.

NUMBER: The publication is intended for astronomers and students of hydro-
meteorology at higher technical schools.

COMMENT: This issue of the Transactions of the Main Geophysical Observatory named
A.I. Voznesenskiy consists of articles on investigations of the radiation processes
occurring in the atmosphere and on the earth's surface. Individual articles on
the following topics are included: Light dispersion in a two-layer atmosphere,
comparative analysis of existing conditions under a cloudy and a cloudless sky,
investigation of long-wave radiation of the atmosphere, electronic temperature con-
troller, direct instruments for measuring the spectral optical characteristics
of the atmosphere and the underlying surface, and the dependence of long-wave
atmospheric radiation upon the meteorological elements. References accompany
Ogryzskiy, V.L. Light Dispersion in Two-Layered Atmosphere 17

82. V.L. Ogryzskiy, V.P. Petrovskiy, and V.P. Rybnikov. Brightness of a Cloudless
Sky in a Two-Parameter Model of the Atmosphere 20

83. V.L. Ogryzskiy, V.P. Petrovskiy, and V.P. Rybnikov. Brightness of a Cloudless
Sky in a Two-Parameter Model of the Atmosphere 20

84. Investigation of the Meteorological Distance of
Visibility During a Snowfall 37

85. Investigation of the Meteorological Distance of
Visibility During a Snowfall 37

86. Investigation of the Meteorological Distance of
Visibility During a Snowfall 37

87. Investigation of the Meteorological Distance of
Visibility During a Snowfall 37

88. Investigation of the Meteorological Distance of
Visibility During a Snowfall 37

89. Investigation of the Meteorological Distance of
Visibility During a Snowfall 37

90. Investigation of the Meteorological Distance of
Visibility During a Snowfall 37

91. Investigation of the Meteorological Distance of
Visibility During a Snowfall 37

92. Investigation of the Meteorological Distance of
Visibility During a Snowfall 37

93. Investigation of the Meteorological Distance of
Visibility During a Snowfall 37

94. Investigation of the Meteorological Distance of
Visibility During a Snowfall 37

95. Investigation of the Meteorological Distance of
Visibility During a Snowfall 37

96. Investigation of the Meteorological Distance of
Visibility During a Snowfall 37

97. Investigation of the Meteorological Distance of
Visibility During a Snowfall 37

KAGAN, V.K.; PEREL'MAN, A.Ya.; RYABOVA, Ye.P.

Brightness of a cloudless sky in a two-parameter atmospheric
model. Trudy GGO no.100:20-24 '60. (MIRA 13:6)
(Solar radiation)

Cand
RYABOVA, Ye. P.: Master Phys-Math Sci (diss) -- "Radiational and thermal conditions of the friable surface of soil". Leningrad, 1958. 16 pp (Main Geophysical Observatory im A. I. Voyeykov), 150 copies (KL, No 2, 1959, 118)

RYABOVA, Ye.P.

Some features of direct solar irradiation of furrowed soil sur-
faces. Meteor. i gidrol. no.11:11-17 N '58. (MIRA 11:12)
(Solar radiation) (Vegetable gardening)

KAGANOV, M.A.; RYABOVA, Ye.P.; GHUDNOVSKIY, A.F.

Soil temperature of fields between strips of forest. Sbor.trud.
po agron.fiz. no.6:96-104 '53. (MIRA 11:7)
(Soil temperature) (Forest influences)

S/170/61/004/002/018/018
B019/B060

AUTHORS: Kagan, V. K., Ryabova, Ye. P.

TITLE: Calculation of the Components of the Radiation Equilibrium
of Structure Surfaces

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, 1961, Vol. 4, No. 2,
pp. 131-143

TEXT: The part played by radiation in building construction was discussed in a number of lectures at the II Vsesoyuznyy soveshchaniy po aktinometrii i atmosfernoy optiki (2nd All-Union Conference on Actinometry and Atmospheric Optics) (1959). The present paper is devoted to the construction of a computation scheme for the determination of all components of the radiation equilibrium of a surface element when the radiative exchange with other surfaces surrounding this surface element is taken into account. After a definition of designations and geometrical relations the direct solar radiation is first dealt with and an expression is obtained for the solar radiation flux, which is a function of the

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Calculation of the Components of the
Radiation Equilibrium of Structure Surfaces

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geographic latitude, sun's altitude, and time of day. An expression for the scattered radiation is derived in the following section. The longest section is devoted to reflected radiation. Expressions concerning the radiation flux are developed for regularly and diffusely reflected radiation. A set of formulas is finally set up for the calculation of the radiative exchange. The radiative exchange is the resultant of counter radiation, of reflection from the surrounding objects, heat radiation, and reflections of the element investigated. Expressions are given for these components of radiant exchange. M. P. Yelovskikh is mentioned. There are 2 figures, 3 tables, and 15 references: 14 Soviet and 1 German.

ASSOCIATION: Agrofizicheskiy institut, g. Leningrad (Institute of Agricultural Physics, Leningrad)

SUBMITTED: August 3, 1960

Card 2/2

RYABOVA, Ye. P.

"Measurement of the Temperature Profile of Air in Sod, and of the Temperature of Winter Wheat's Leaf and Spike".
Sbornik tr. po agron. fizike, No 7, pp 217-223, 1954.

Certain results of investigations on the phytoclimate of winter wheat during the period of spike formation and waxy ripeness are given. By means of microthermometers (diameter of the globe, 0.1 cm) measurements of the air temperature of the leaves and spikes of winter wheat were carried out. (RZhGeol, No 10, 1955)

SO: Sum No 884, 9 Apr 1956

RYNCOJA, Y. K.

5/20/54

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Meteorological Abst.
Vol. 4 No. 9
September 1953
Part 1
Radiation and
Temperature

49-125 551.525.4:551.584.43
 Rozenfel'd, L. M. and Riabova, E. P., *Izmerenie temperatury uzla kushcheniia ozimnykh kul'tur v period ikh perezimovki.* [Measurement of the stooling node temperatures of winter crops during the wintering period.] *Vsesoiuznaia Akademiia Sel'skokhoziaistvennykh Nauk imeni V. I. Lenina, Doklady*, No. 1:26-29, 1952. 3 pgs., table, 5 rels. DLC—Investigations were made during the winter of 1950/1951 at Ershovo experimental point of Saratov Agricultural Institute. Thermocouples of great sensitivity were brought into close connection with the stooling nodes of plants for measurement of their temperatures. Insignificant differences have been found between the temperatures of stooling nodes and the soil near the nodes. This permitted the determination of the temperature of stooling nodes by measurements of soil temperature near by. The peculiarities of the microrelief caused much greater differences, and that is why the representative characteristics of thermal conditions can be obtained with sufficient accuracy by measurements of soil temperature in many points of the field. Subject Headings: 1. Plant climatology 2. Microclimatology 3. Agricultural meteorology.—N.T.Z.

EH
5/21/54

RYANOVA, Ye. V.

"Transverse Impact With Variable Velocity Along a Flexible Filament." Sub 13 Dec 51.
Sci Res Inst Mechanics and Mathematics, Moscow Order of Lenin State U ineni M. V. Lomonosov.

Dissertations presented for science and engineering degrees in Moscow during 1951.

CO: Sum. No. 400, May 55.

RYABOVA, YE. V.

Defended ^{for} Candidates dissertation in the Mechanics and Mathematics Faculty
of Moscow State University on 7 May 1952.

Dissertation: "Transverse Stroke With Variable Speed Along an Elastic Thread."

SO: Vestnik Moskovskogo Universiteta, Seriya Fiziko-Matematicheskikh i
Yestestvennykh Nauk, No. 1, Moscow, Feb. 1953, pp 151-157: transl. in
W-29782, 12 April 54, For off. use only.

RYABOVA, Ye.V.
RYABOVA, Ye.V.

The problem of striking a string with a wedge. Vest.Mosk.un.
Ser.mat.,mekh.,astron.,fiz.,khim. 11 no.1:57-62 '56. (MIRA 10:12)
(Elastic rods and wires) (Wedges)

RYABOVA, Ye.V., kand.fiz.-matem.nauk, dotsent

Solution of one impact problem by the "method of characteristics".
Nauch. trudy MPI no.7/8:121-141 '58. (MIRA 14:12)
(Elastic rods and wires)
(Impact)

RYABKOVA, Ye.Ya., kand.tekhn.nauk; BAZELYAN, E.M., inzh.; SOKOLOV,
S.A., inzh.

Deformation of underground communication cables due to
lightning discharges. Izv.vys.ucheb.zav.; energ. 2 no.9:
38-42 S '59. (MIRA 13:2)

1. Moskovskiy ordena Lenina energeticheskiy institut. Predstavlena
kafedroy tekhniki vysokikh napryazheniy.
(Electric lines, Underground) (Lightning)

22(1)

SOV/3-59-3-36/48

AUTHOR: Ryabova, Ye.V.

TITLE: Conference of Scientist-Lawyers (Soveshchaniye uchënykh-yuristov)

PERIODICAL: Vestnik vysshey shkoly, 1959, Nr 3, p 71 (USSR)

ABSTRACT: The "Further Development of Soviet Democracy and Strengthening of Socialist Law" was the subject of a conference convened by the USSR Ministry of Higher Education at the Juridical Department of Moscow University. Among the more than 500 persons participating were not only instructors of Law vuzes and workers of scientific institutes, but also workers of courts, the procurator's offices, other state and social organizations, State Publishing Office of Law literature, editors of journals and post-graduate students of the MGU Juridical Department. The following lawyers-scientists from countries of people democracies also participated: Boris Spasov, Pro-Rector of Sofia University; Leon Kurovskiy, Dean of

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the Juridical Department of Warsaw University; Ion Oancha, Head of Chair for Criminal Law and Action of the Bucharest University imeni Parkhon; Professor Oswald Unger, Head of Chair of State and Administrative Law of the German Academy of State and Law imeni W. Ulbricht, Professor Laslo Nevai of Budapest University, and others. The plenary session was opened by Professor D.S. Karev, Dean of the Juridical Department of the MGU. Three reports called for the special attention of the conference: Professor N.G. Aleksandrov (MGU) elucidated the problem of Soviet democracy and Socialist law during the period of a gradual transition to Communism; **Corresponding Member** AS USSR, Professor S.A. Golunskiy (MGU), who has visited the USA, familiarized the conference participants with the latest trends in ideology in the field of law in that country; **Corresponding Member** AS USSR, Professor P.S. Romashkin (Law Institute AS USSR) reported on the discussion of questions of Socialist law at the International Conference in Warszawa. At meetings of the

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9 sections of the conference, 65 reports and scientific messages were given and 146 persons participated in the discussions. The problems discussed referred to the development of democracy and strengthening of Socialist law, and to law projects of the Union and individual republics. Joint sessions of various sections discussed reports concerning general problems of several branches of law. A joint meeting of the Sections of Theory and History of State and Law, and of Criminal Action and Civil Action heard reports on "The Inner Belief of Judges and Socialist Law" (Docent P.O. Nedbaylo - L'vov University) on "Socialist Justice of a Court's Decision in the Soviet State" (Docent V.G. Sokurenko - L'vov University), and several others. The addresses of Candidate of Juridical Sciences V.M. Lesnoy (MGU) on "Democratic Centralism and the Further Development of the Soviet System of Administration" and of Docent Ya.M. Bel'son (Kazakh University) on "The Basic Tendency in Modern Bourgeois Science of State and Law" were delivered to the joint session of the

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Sections for Theory and History of State and Law, and for State and Administrative Law. The report of Professor A.A. Gertsenzon (Vsesoyuznyy nauchno-issledovatel'skiy institut kriminalistiki - All-Union Scientific-Research Institute of Criminal Law), delivered at the joint meeting of the Section for Criminal Action and Section for Criminal and Reformatory - Labor Law, on some problems of studying and preventing criminality caused lively discussions. The conference members recommended that in 1959 a conference be convened to study the causes of criminality, that for this subject a special course be introduced in the higher educational institutions, and that a scientific center for studying and preventing criminality be established.

Card 4/4

RYABOVOL, I.M., inzh.

Automatic control of the temperature for heating mineral materials
in the D-138 mixer. Avt.dor. 24 no.12:12-13 D '61. (MIRA 14:12)
(Thermostat)

BRODYANSKIY, B.A., inzh.; RYABOVOL, I.M., inzh.

Building roads in the virgin territories of the Golodnaya Steppe.
Avt.dor. 24 no.5:5-6 My '61. (MIRA 14:6)
(Golodnaya Steppe--Road construction)

RYABOVOL, V. A., MIKHAYLOV, V. I.

Sugar - Manufacture and Refining

Conference of innovators. Sakh. prom. 26 no. 3, 1952.

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

MIKHAYLOV, V. I. = RYABOVOL, V. A.

Hose

More on the use of rubber tubing for sulfur dioxide. Sakh. prom. 26, no. 5, 1952.

Monthly List of Russian Acquisitions, Library of Congress, October 1952. UNCLASSIFIED.

KOROL'KOV, I.I.; TYAGUNOVA, Z.A.; IVLIYEVA, Ye.A.; RYABOVICH, V.I.;
PAPASHNIKOV, L.M.

Kinetic method of evaluating systems of percolation hydrolysis of
sawdust. *Gidroliz. i lesokhim. prom.* 11 no.6:3-6 '58.

(MIRA 11:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut gidroliznoy i
sul'fitno-spirtovey promyshlennosti.
(Hydrolysis)

YANASHEVICH, G.I., inzh.; RYABOVY, V.V., inzh.

Effect of the manganese content on the durability of the ingot molds.
Steel no. 9:300-301 S (64). (MIRA 17:10)

1. Magnitogorskiy metallurgicheskiy kombinat.

LIPIN, Aleksandr Ivanovich, inzh.; SHLUGER, Mikhail Aleksandrovich, kand. tekhn. nauk; RYABOY, Ayzik Yakovlevich, inzh.; SHOVIK, L.Ye., inzh., ved. red.; SOROKINA, T.M., tekhn. red.

[Reducing the loss of chromium anhydride in electrolytic chromium plating. Chromium plating from a cold tetrachromate electrolyte] Umen'shenie poter' khromovogo angidrida pri elektroliticheskom khromirovanii. Khromirovanie iz kholodnogo tetrakhromatnogo elektrolita. [By] A.IA. Riaboi, M.A. Shluger. Moskva, Filial Vses. in-ta nauchn. i tekhn. informatsii, 1958. 16 p. (Peredovoi nauchno-tekhnicheskii i proizvodstvennyi opyt. Tema 13. No.M-58-203/21) (MIRA 16:3)
(Chromium plating) (Electrolytes)

RYABOY, A. YA.

Cand Tec Sci, Diss -- "Electrolytic chromium plating from a tetrachromate electrolyte". Moscow, 1961. 13 pp, 21 cm (Min of Higher and Inter Spec Educ RSFSR. Krasnoyarsk Inst of Nonfer Metals imeni M. I. Kalinin), 200 copies, Not for sale (KL, No 9, 1961, p 184, No 24367). [61-52316]

5(2)

SOV/80-32-3-21/43

AUTHORS: Ryaboy, A.Ya., Shluger, M.A.

TITLE: The Electric Precipitation of Chromium From a Tetrachromate Bath
(Elektroosazhdeniye khroma iz tetrakhromatnoy vanny)

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Vol XXXII, Nr 3, pp 588-595
(USSR)

ABSTRACT: The electric precipitation of chromium from an electrolyte of the following composition is studied here: CrO_3 360 - 400 g/l, NaOH 50 - 60 g/l, H_2SO_4 2 - 2.5 g/l, sugar 0.8 - 2 g/l. The current density is 50 a/dm², the temperature $20 \pm 0.2^\circ\text{C}$. At a H_2SO_4 concentration of 1.5 - 2.5 g/l the precipitates are of good quality and are easily polished. The optimum is between 2.0 and 2.5 g/l. The optimum of the alkali content is 60 g of caustic soda per liter. The content of trivalent chromium is determined by the quantity of sugar present. The addition of 1.5 - 2 g/l to the electrolyte which corresponds to 8 - 10 g of trivalent chromium per liter shows the best results. A content of 350 - 400 g/l of chromium anhydride produces precipitates of good quality. The optimum temperature is 45°C . At this temperature shining chromium is precipitated. The current density may

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The Electric Precipitation of Chromium From a Tetrachromate Bath

vary between 40 and 80 a/dm². The precipitates from tetrachromate have a low hardness of 350 - 400 kg/mm². The porosity of covers produced at a temperature of 20 - 25°C and a current density of 40 - 60 a/dm² is satisfying. Under other conditions, it is very high. The inner stresses are lower than in chrome-plating from the usual electrolyte. There are 11 graphs and 5 references, 4 of which are Soviet and 1 English.

SUBMITTED: February 14, 1958

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SHLUGER, M.A., RYABOV, A. Ya., KAZAKOV, V.A.

Internal stresses in chromium platings deposited from a tetra-
chromate electrolyte. Zhur.prikl.khim. 33 no.5:1217-1218 My '60.
(MIRA 13:7)

(Chromium plating) (Strains and stresses)

MAR'YANOVSKIY, I.M.; GORBACHEV, A.G.; RYVKIN, G.M.; RYABOY, A.Ya.;
KONAKOV, G.A.; GRIGOR'YEV, N.I.

Authors' abstracts of dissertations. Vest.mashinostr. 42
no.5:89 My '62. (MIRA 15:5)

1. Leningradskiy politekhnicheskii institut imeni M.I.Kalinina (for Mar'yanovskiy, Gorbachev).
2. Moskovskiy stankoinstrumental'nyy institut (for Ryvkin).
3. Krasnoyarskiy institut tsvetnykh metallov imeni M.I.Kalinina (for Ryaboy).
4. Khar'kovskiy politekhnicheskii institut imeni A.A.Zhdanova (for Konakov).
5. Leningradskiy korablestroitel'nyy institut (for Grigor'yev).
(Bibliography--Mechanical engineering)

S/080/61/034/001/015/020
A057/A129

AUTHORS: Ryaboy, A.Ya., Shluger, M.A.

TITLE: Investigation of the Cathodic Process during Electrodeposition of Chromium from a Tetrachromate Electrolyte

PERIODICAL: Zhurnal Prikladnoy Khimii, 1961, Vol. 34, No. 1, pp. 177-181

TEXT: The present work is a detailed investigation into the influence of each component in a tetrachromate electrolyte on the cathodic electrodeposition of chromium. The obtained results were discussed from the assumption stated by M.A. Shluger and V.A. Kazakov [Ref. 4: ZhFKh, 33, 7, 1666 (1959)] that a colloidal film is formed on the cathode during electrodeposition of chromium. Tetrachromate electrolytes are of practical interest because of essential advantages to other chrome-plating electrolytes and were already investigated by the present authors [Ref. 2: ZhPKh, 32, 588 (1959)] and M.A. Mitskus [Ref. 3: Voprosy teorii khromirovaniya (Problems of the theory of chrome-plating), AN LitSSR, 53 (1959)], but insufficiently. The present electrolysis were made in a H-shaped cell at 20°C using a lead-lamina anode and Pt-lamina

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cathode (both 0.36 cm²). The electrolyte was prepared from chromium anhydride, sodium hydroxide and sulfuric acid. Polarization curves were obtained by measurements on a ППТВ-1 (PPTV-1) potentiometer by the compensation method. The polarization curve (Fig.1) obtained from an electrolyte of the optimum composition: CrO₃ 400 g/l, NaOH 60 g/l, H₂SO₄ 2.5 g/l and sugar 2 g/l shows three sections. According to polarization curves obtained from a normal electrolyte containing CrO₃ and sulfate these sections characterize the following processes: Section 1 represents the incomplete reduction of Cr⁶⁺ to Cr³⁺. Increasing current density effects (section 2) discharge of hydrogen. A further rise in current density increases pH near the cathode making possible the formation of the colloidal chromium film on the cathode. This results in the third shift (section 3) of the curve. Thus 3 reactions occur on the cathode. The effect of NaOH additions is demonstrated on the polarization curves in Fig.2. The polarization curve (curve 1) obtained without NaOH addition does not have the above-mentioned 3 sections, while 20 g/l NaOH addition (curve 2) effects a curve of this type. Increase in NaOH concentration (curves

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3 and 4) facilitate the cathode process by two factors: 1. Reaction of NaOH with chromic acid decreases concentration of the latter, and 2. According to A.I. Levin and A.I. Falicheva [Ref.7: Sb. "Teoriya i praktika elektroliti-cheskogo khromirovaniya" (Symposium "Theory and practice of the electrolytic chrome plating"), Izd. AN SSSR, 44 (1957)] discharge of CrO_4^{2-} -ions occurs on the cathode and increasing NaOH concentration shifts the ionic equilibrium to CrO_2^- formation. Addition of NaOH and formation of tetrachromate ions influence the nature of the cathode film. Without NaOH brittle and useless deposits were obtained. High NaOH concentration (curve 5) eliminates the formation of chromium deposits, since all chromic acid reacts with NaOH. The same effect is caused by decreasing CrO_3 concentration (Fig.3). The cathodic film is formed mainly from Cr^{3+} ions. At low concentrations of H_2SO_4 the rate of formation of Cr^{3+} from Cr^{6+} ions is low. Thus 2 g/l sugar must be added to reduce partly the Cr^{6+} ions to Cr^{3+} ions and compensate the low reduction rate (see Fig.4). A principally new assumption was made by one of the authors, (Ref.4) namely, that the SO_4^{2-} ion promotes the formation of the

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Investigation of the Cathodic Process during Electrodeposition of Chromium from a Tetrachromate Electrolyte

cathode film and does not destroy it. Comparison of the chromium yield and NaOH concentration (see Tab) shows that the latter changes the cathodic potential and the chromium yield. Increase in cathodic polarization decreases the current yield. Thus a concentration of 20 g/l NaOH increases cathodic polarization and decreases the current yield, while with 40-60 g/l NaOH the cathodic polarization decreases and the current yield increases. There is not always a correlation between cathodic polarization and current yield, but in the present case increase in polarization indicates inhibition of the cathodic process, namely of the reduction of chromium to chromium metal. There are 4 figures, 1 table and 8 references; except Soviet references 2 references to the English-language publications are given: F. Taylor, *Electroplating*, 5,4 (1952); R. Pinner, *Electroplating and Metal Finishing*, 5 (1955).

SUBMITTED: March 19, 1960

Card 4/9

SHUMSKAYA, L.S., kand.tekhn.nauk; MILEYKOVSKIY V.I., inzh.; NALETOV, D.V.,
inzh.; MININA, G.M., inzh.; RYABOY, E.B., inzh.

Automatic control of the combustion process in the TP-10 boiler.
Teploenergetika 8 no.11:30-37 N '61. (MIRA 14:10)

1. Tsentral'nyy kotloturbinnyy institut i Turbinno-kotel'nyy
zavod.

(Boilers)

(Automatic control)

SHUMSKAYA, L.S., kand.tekhn.nauk; RYABOV, E.B., inzh.

Study of the dynamics of the deaerati'on system of an 800 Mw. block.
Teploenergetika 12 no.1:10-15 Ja '65.

(MIRA 18:4)

1. TSentral'nyy kotloturbinnyy institut.

MEL'NIK, S.O.; RYABOV, G.B.

Table for "Neva" phototelegraphy apparatus. Vest. svyazi 22 no.7: p.3
of cover J1 '62. (MIRA 15:7)

(Phototelegraphy—Equipment and supplies)

RYABCY, L.Ya., kand. tekhn. nauk; SHLUGER, M.A., kand. tekhn. nauk

Properties of chromium platings obtained in a tetrachromate
electrolyte. Mashinostroenie no.5:64-65 S-0 '64

(MIRA 18:2)

ZOLOTAREV, S.V., student; OVSEPYAN, M.A.; ONDASYNOVA, A.I.; RYABOV, M.I.;
SHEYNIS, Ye.S., rukovoditel' raboty kand. tekhn. nauk, dotsent

Elements of physics in leather and shoe manufacture. Nauch. trudy
MTILP no.28:85-95 '63. (MIRA 17:11)

1 Kafedra fiziki Moskovskogo tekhnologicheskogo instituta legkoy
promyshlennosti.

Ryaboy, M. Ya.

25(5) PHASE I BOOK EXPLOITATION SOV/2394
Moscow. Dos nauchno-tekhnicheskoy propagandy imeni P.K. Dzerzhinskogo

Kompleksnaya avtomatizatsiya i mekhanizatsiya v mashinostroyenii: sbornik statey (Overall Automation and Mechanization in Machine Manufacturing) Collection of Articles Moscow, Mashgiz, 1959. 312 p. 8,000 copies printed.

Additional Sponsoring Agency: Obshchestvo po rasprostraneniya politicheskikh i nauchnykh znanii MSPS.

Ed. i A.N. Malov, Candidate of Technical Sciences; Tech. Ed. I. B.I. Rodal, Managing Ed. for literature on Metalworking and Toolmaking (Mashgiz); H.D. Boyzel, Man, Engineer.

PURPOSE: This collection of articles is intended for engineering and technical personnel of plant manufacturing machines and instruments.

COVERAGE: This book acquaints industrial workers with devices and equipment necessary for the overall mechanization and automatization of technological processes in machine manufacturing. Individual articles deal with general problems of automatization and mechanization of processes in preparatory, machine, and assembly shops, and with problems arising from the introduction of transfer lines. The book also includes examples of devices and equipment tested and used under actual plant conditions. The source of these data was the meeting on overall mechanization and automatization of technological processes held in 1957 by the Mokrovskiy Dum nauchno-tekhnicheskoye i tekhnicheskoye obshchestvo (P.G. D. Society for Scientific and Technical Progress) (P.G. D. Society). No personalities are mentioned. Several of the articles are followed by references.

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(7)

RYABOV, M.Ya., inzh.

Vibrating mechanisms as means for the automation of technological
processes. Mekh.i avtom.proizv. 14 no.3:12-15 Mr '60.
(Automation) (Vibrators) (MIRA 13:6)

SAFONOV N. D.

PHASE I BOOK EXPLOITATION

SOV/5112

Idlin, Mikhail Markovich, and Nikolay Danilovich Safonov

Osnovy sborki, regulirovki, i kontrolya aviatsionnykh elektro-giroskopicheskikh priborov (Principles of the Assembly, Regulation, and Checking of Aircraft Gyroelectrical Instruments) Moscow, Oborongiz, 1960. 354 p. Errata slip inserted. 6,500 copies printed. (Series: Bibliotekha rabochego aviatsionnoy promyshlennosti)

Ed. (Title page): G. A. Slomyanskiy, Candidate of Technical Sciences, Docent; Reviewer: V. I. Bostorin, Docent; Ed. of Publishing House: F. G. Tubyanskaya; Tech. Ed.: N. A. Pukhlikova; Managing Ed.: S. D. Krasil'nikov, Engineer.

PURPOSE: This book is intended for students of production engineering courses, for engineering schools for foremen who lack higher education, and as an aid in training and improving the qualifications of electrical instrument fitters.

Card 1/13-

Principles of the Assembly (Cont.)

SOV/5112

COVERAGE: The book examines the fundamentals of the assembly process of gyroelectrical instruments, with a brief review of basic information on mechanics and electricity. Results of the experience of industrial innovators and the personnel of a number of leading instrument plants are included. The authors thank M. P. Kovalev, Candidate of Technical Sciences, and V. I. Bostorin, Engineer. There are 19 references, all Soviet.

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SHUGAL, Ye.G.; RYABOV, O.M.; BOCHAROVA, T.V.; KISLYAK, L.M.; KOBEL'KOVA,
A.M.; LYKOV, A.D.; MANYAKHINA, O.V.; SHLENOVA, T.G.; YAGUPOVA,
Ye.I.; IVANOV, N.A.; RYBKIN, I.P.; KHOKHLOVA, P.Ye.; KHEUNT'YAYEVA,
A.S.; PROLOVA, M.I.; RAKOV, P.M., red.; MARCHENKO, V.A., red.;
KOLPAKOV, B.T., red.; DEMINA, V.N., red.; MELENT'YEV, A.M., tekhn.
red.

[Soviet commerce of the R.S.F.S.R.; a statistical manual] Sovet-
skaya torgovlia v RSFSR; statisticheskii sbornik. Moskva, Gos.
stat. izd-vo, 1956. 342 p. (MIRA 11:10)

1. Russia (1917- R.S.F.S.R.) Tsentral'noye statisticheskoye
upravleniye.

(Commercial statistics)

RYABOV, V.I.; GINZBURG, O.F.

Condensation of aryl alcohols with ethyl ester of nitroacetic acid. Zhur. org. khim. 1 no.11:2069-2071 N '65.

(MIRA 18:12)

1. Leningradskiy tekhnologicheskii institut imeni Lensovetu.

Submitted January 4, 1965.

RYABOV, V.I.; GINZBURG, O.F.

Products of the condensation of aminobenzhydrols with compounds containing a labile hydrogen atom. Izv. vys. ucheb. zav.; khim. i khim. tekhn. 8 no.3:426-431 '65. (MIRA 18:10)

Leningradskiy tekhnologicheskiy institut imeni Lensoveta, kafedra organicheskoy khimii.

S/169/61/000/011/018/065
D228/D304

AUTHORS: Vol'vovskiy, B.S., Vol'vovskiy, I.S., and Ryaboy, V.Z.

TITLE: Laboratory use of the method of controllable directed reception for interpreting the data of deep seismic sounding.

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 11, 1961, 21, abstract 11A197 (V sb. Razved. i promysl. geofiz., no. 36, M., 1960, 8 - 13)

TEXT: The laboratory modification of the method of controllable directed reception was used for distinguishing waves reflected from deep discontinuity surfaces. The substantial difference in the frequency characteristics of the apparatus of deep seismic sounding and controllable directed reception was overcome by means of the approximately fourfold enlargement of the time scale and summation base. Extended hodographs (to 35 km) of reflected waves corresponding to the surface of the subcrustal and granitic layer were constructed as a result of the processing of seismograms. Reflected

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Laboratory use of the method of ...

S/169/61/000/011/018/065
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waves were also distinguished at the point of origin. Anomalous
apparent velocities and sharp changes in the form of the wave re-
cordings were observed in the region of the points of origin. [Ab-
stractor's note: Complete translation].

Card 2/2

VOL'VOVSKIY, I.S.; RYABOY, V.Z.

Frequency composition of seismic waves corresponding to the
main divisional boundaries of the earth's crust. Izv. AN Turk.
SSR. Ser. fiz.-tekh., khim. i geol. nauk no.4:50-55 '61.
(MIRA 14:12)

1. Otdel razvedochnoy geofiziki i seysmologii pri Prezidiume
AN Turkmenskoy SSR.

(Seismic waves)

S/552/61/000/031/001/003
D218/D304

AUTHORS: Vol'voskiy, B.S., Vol'vovskiy, I.S. and Ryaboy, V.Z.
TITLE: Some data on seismic waves corresponding to the subcrustal layer (based on the results of seismic studies of the earth's crust in Uzbekistan)
SOURCE: Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskikh metodov razvedki. Prikadnaya geofizika. No. 31, 1961, 3-10

TEXT: The authors report on some methodological results obtained during the 1958-1959 regional seismic studies of the earth's crust along the Leninabad-Karaungur, Abadan-Vuadil' and Karabekaul-Koytash profiles. This research was carried out by the Uzbekskiy geofizicheskiy trest (Uzbek Geophysical Trust) and the Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskikh metodov razvedki (All-Union Scientific Research Institute for Geophysical Methods of Prospecting). It was the continuation of deep seismic soundings carried out in 1949-1955 in various regions of Soviet Central Asia by the Geofizicheskiy institut AN SSSR (Geophysical

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S/552/61/000/031/001/003
D218/D304

Some data on seismic waves ...

Institute of the AS USSR) previously known as Institut fiziki Zemli (Institute of Physics of the Earth) on the initiative, and initially under the direction of Academician G.A. Gamburtsev. Multiple seismographs were employed (4 instruments per group), the distance between the groups being 100 m. 1-2 ton charges of TNT were exploded at distances between 15 and 70 km and the maximum distance of the points of observation from the charges was between 200 and 300 km. It was found that the recorded waves can be divided into 3 types, namely 1) longitudinal refracted waves recorded both in first and subsequent arrivals, 2) reflected waves from low-lying separation boundaries in the crust recorded both at near (60-80 km) and distant (300 km) points, and 3) waves which could be ascribed to multiple reflected-refracted and composite waves due to low-lying separation boundaries. Some typical hodographs and velocity and amplitude spectra are reproduced and discussed. The experimental results have been evaluated on the basis of a dynamic theory of propagation of seismic waves developed at the Leningradskoye otdeleniye matematicheskogo instituta AN SSSR (Leningrad Branch of the Mathematical Institute AS USSR) by G.I. Petrashen^o, A.S. Alekseyev and others. These calculations

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D218/D304

Some data on seismic waves ...

have shown that the predominating waves in uniformly layered media are not head waves (as it was assumed so far), but waves reflected beyond the critical angle (i.e. so-called postcritical reflections). In gradient media the dominating waves are reflected and refracted waves (the calculations were carried out for a perfectly elastic model of the crust). In the present studies waves reflected from the surface of the subcrustal layer (Mohorovicic discontinuity) were observable beginning at 30-40 km from the point of explosion and were recorded in subsequent arrivals in the entire range of distances. The apparent velocities of these waves were found to decrease from 9-10 km/sec at 80-90 km to 6.5-7.0 km/sec at 250-300 km. Their hodographs have a hyperbolic form. The predominating frequencies vary between 9-11 and 14-15 cps and tend to decrease slightly with distance. The refracted waves are weaker in intensity and have apparent velocities between 8 and 9.5 km/sec. They tend to increase slowly with distance. The predominating frequencies in the spectra of these waves lie in the range 10-16 cps and are as a rule greater by 2-4 cps than in the case of the reflected waves. The frequencies tend to decrease with distance. It is pointed out that the dynamic theory mentioned-above predicts that the reflected waves should have higher

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Some data on seismic waves ...

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frequencies than the corresponding refracted waves which is an apparent contradiction with observations. The general conclusion is that seismic studies of the earth's crust in Soviet Central Asia show that waves reflected from the Mohorovicic discontinuity before and after the critical angle can be determined from seismographs. There is also a complex reflected group consisting of head waves produced on the surface of the subcrustal layer and weakly refracted in the latter. For the purposes of deep seismic sounding these waves may be interpreted as head waves corresponding to the surface of the subcrustal layer. There are 8 figures and 10 Soviet-bloc references.

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S/169/62/000/006/002/093
D228/D304

AUTHORS: Vol'vovskiy, I. S., Ryaboy, V. Z. and Shraybman, V.I.

TITLE: Abyssal geologic structure of the Ferganskaya Depression according to geophysical data

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 6, 1962, 5, abstract 6A21 (Sov. geologiya, no. 1, 1962, 156-160)

TEXT: A brief description is given of the results of regional seismic investigations (deep seismic sounding) on the Ferganskaya Depression's territory in 1958-1959, as a result of which the crust's structure was ascertained to a depth of 50 - 60 km. Knowing the character of deep crustal interfaces (the surfaces of the folded basement and of the granite, the basalt, and the subcrustal layers) and the stratal velocities, has allowed a better grounded approach to be made to the solution of the question of the large gravity low over the Ferganskaya Depression. A correlative relation between the propagational velocity of elastic seismic vibrations and the density was derived in the form $\sigma = (0.24 V_{Str} \text{ km/sec} +$

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Abyssal geologic structure ...

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D228/D304

+ 1.51) g/cm³ in order to ascertain the influence of various deep crustal layers upon the gravity field. In addition to this, data on the density of crustal rocks were obtained as a result of laboratory research and calculations by indirect methods. It is established as a result of the quantitative calculations: 1) that the relief of the folded basement surface has a considerable influence on the gravity field of the intermontane Ferganskaya Depression; this allows gravity survey data to be employed for determining its depth of occurrence; 2) that the observed gravity field cannot be due solely to peculiarities in the crust's structure; the existence in this area of a density irregularity in sub-crustal matter may, therefore, be assumed. [Abstracter's note: Complete translation.]

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Card 2/2

VOL'VOVSKIY, I.S.; RYABOY, V.Z.; SHRAYBMAN, V.I.

Nature of regional gravity anomalies in the Bukhara-Khiva region
and adjacent areas. Izv. AN SSSR. Ser.geofiz. no.5:644-651
My '62. (MIRA 15:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskikh
metodov razvedki i Moskovskiy institut neftekhimicheskoy i
gazovoy promyshlennosti im. akad.Gubkina.
(Uzbekistan--Gravity prospecting)

S/049/62/000/008/002/003
I046/I246

AUTHORS: Belousov, V.G., Vol'vovskiy, B.S., Vol'vovskiy, I.S. and Ryaboy, V.Z.

TITLE: Experimental investigation of the registration of deep-reflected waves

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya geofizicheskaya, no. 8, 1962, 1034-1044

TEXT: A report on the deep seismic sounding with reflected (subcritical) waves carried out in 1960-1961 in the South-Eastern Turkmenia over a 120 km profile. The noise waves were eliminated by using directional reception: seismoreceivers and sources of seismic vibrations were grouped together (9 receivers spaced evenly over a linear distance of 400 m, each group removed by 100 m from its neighbors). Comparison of the results with the data obtained in 1958 in deep seismic sounding with reflected (hypercritical) and leading waves shows good agreement in general features on the seismograms, though subcritical reflection is better in detecting fine details. It is

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Experimental investigation of the registration....

recommended to use as far as possible a combination of the two methods. There are 8 figures.

SUBMITTED: February 26, 1962

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskikh metodov razvedki (The All-Union Scientific Research Institute of Geophysical Methods of Prospecting) ✓

Card 2/2

VOL'VOVSKIY, I.S.; RYABOY, V.Z.; SHRAYMAN, V.I.

Use of the methods of frequency analysis and synthesis in interpreting the gravity field in the Bukhara-Khiva area. Prikl. geofiz. no.33:161-168 '62. (MIRA 15:10)

(Uzbekistan—Gravity)

GODIN, Yu.N., akademik [deceased]; VOL'VOVSKIY, I.S.; RYABOY, V.Z.

Some results of the use of seismic echo waves in a study of the earth's crust. Dokl. AN SSSR 146 no.2:340-343 S '62.

(MIRA 15:9)

1. Otdel razvedochnoy geofiziki i seysmologii AN Turkmenskoy SSR i Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskikh metodov razvedki. 2. AN Turkmenskoy SSR (for Godin).

(Seismic prospecting)

GODIN, Yu.N., akademik [deceased]; VOL'VOVSKIY, B.S.; VOL'VOVSKIY, I.S.;
RYABOY, V.Z.; SHRAYEMAN, V.I.

Characteristics of the structure of the earth's crust in
the western part of Central Asia. Dokl. AN SSSR 146
no.4:813-815 0 '62. (MIRA 15:11)

1. Institut geologii AN Turkmenskoy SSR, Vsesoyuznyy
nauchno-issledovatel'skiy institut geofizicheskikh
metodov razvedki i Moskovskiy institut neftekhimicheskoy
i gazovoy promyshlennosti. 2. AN Turkmenskoy SSR (for Godin).
(Asia,-Central--Seismic prospecting)

ALEKSEYEV, A.S.; VOL'VOVSKIY, I.S.; YERMILOVA, N.I.; KRAUKLIS, P.V.;
RYABOY, V.Z.

Physical nature of certain waves recorded in hodographic seismic
sounding. Part 1. Izv. AN SSSR. Ser. geofiz. no.11:1620-1630 N
'63. (MIRA 16:12)

1. Kontora "Spetsgeofizika", Leningradskoye otdeleniye
Matematicheskogo instituta imeni Steklova AN SSSR.