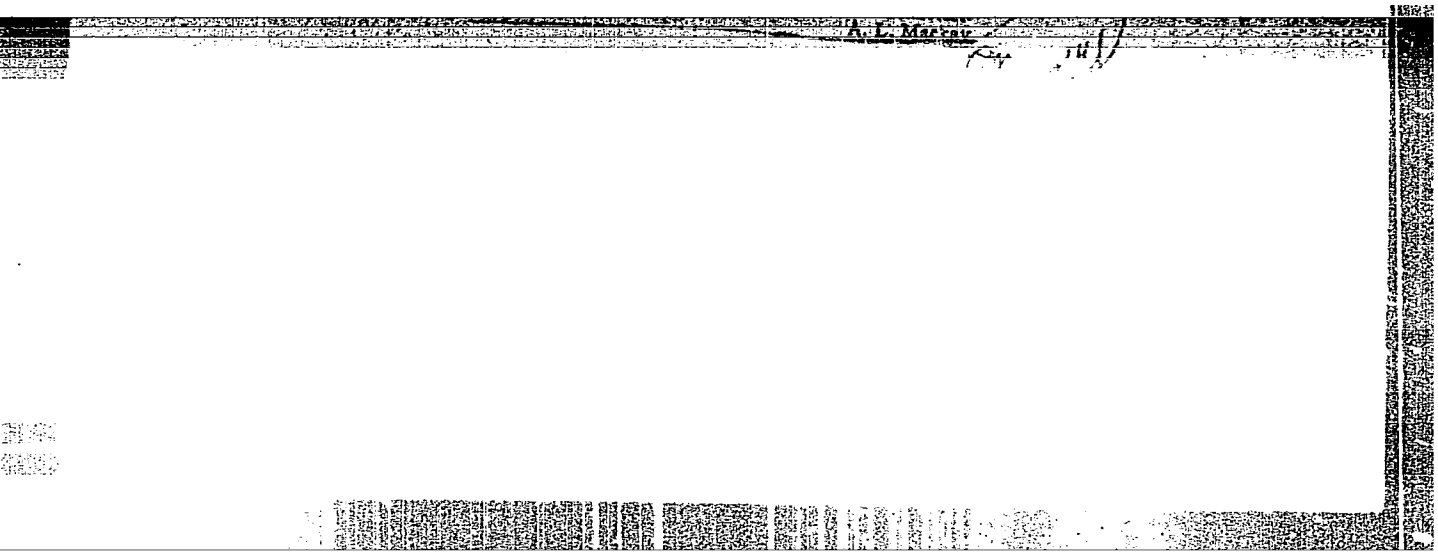

FIRSOVA, M.M.

Category : USSR/Solid State Physics - Mechanical Properties of Crystals and Polycrystalline Compounds E-9

Abs Jour : Ref Zhur - Fizika, No 3, 1957, No 6771

Author : Zubov, V.G., Firsova, M.M.
Inst : Moscow University, USSR
Title : Concerning the Elastic Properties of High Temperature Quartz

Orig Pub : Dokl. AN SSSR, 1956, 109, No 3, 493-494

Abstract : The Bergman-Schefer method was used to study the temperature behavior of the elastic constants of β quartz in the temperature renge from 578 -- 635°. As the temperature is increased, C_{11}, C_{33}, and C_{12} increase monotonically. C_{44} remains constant within the limits of experimentel error. At 580°, $C_{11} = C_{33}$ and C_{12} reverses its sign. $C_{(66)} = (C_{11}-C_{12})/2$ increases monotonically from 50×10^{10} to 51×10^{10} dyne/cm^2. C_{12} increases from 17×10^{10} dyne/cm^2 at 580° to 36×10^{10} dyne/cm^2 at 615 -- 620°. The elasticity of β quartz increases with temperature.

Card : 1/1

AUTHORS: Zhdanov, G.S., Zubov, V.G., Ivanov, A.T. and Firsova, M.M. SOV/70-3-6-11/25

TITLE: On the Elastic Properties of Quartz Irradiated by Neutrons (Ob uprugikh svoystvakh kvartsa, obluchennogo neytronami)

PERIODICAL: Kristallografiya, 1958, Vol 3, Nr 6, pp 720-725 (USSR)

ABSTRACT: The elastic constants of quartz, irradiated in a reactor by fast neutrons, have been measured by the method of Bergmann and Schaeffer. After irradiation by 2.10^{19} neutrons/cm^2 increasing errors which lay in the limits of 0.9 to 1.7% for a relative decrease in the density of quartz of 0.18% were found in the experiment for measuring the elastic constants. Comparison with the temperature variation of the elastic constants showed that the temperature and radiation changes in the elastic constants corresponding to the same change in density were sharply distinguished. The results agree qualitatively with the work of Mayer and Gigon (J. Phys.Rad., 1957, Vol 18, p 109) on the elastic moduli of irradiated quartz. Measurements were made on blocks about 20 x 20 x 4 mm cut perpendicular to the crystallographic axes. Four series each of three plates were used, careful controls being kept. The frequencies used were 8-10 Mc/s. Wittels and Sherill (Phil.Mag., 1957, Vol 48, p 24) contrasted the

Card1/2

On the Elastic Properties of Quartz Irradiated by Neutrons

changes in the elastic constants produced by thermal and radiation-produced expansion of the crystal lattice. Although qualitatively the anistropy is the same the actual values for it are quite different. This is shown experimentally. The structural meaning of the results obtained is not discussed. Acknowledgments to Academician I.K. Kikoin and V.L. Karpov. There are 4 tables. There are 11 references, 3 of which are Soviet, 8 English.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova (Moscow State University imeni M.V. Lomonosov)

SUBMITTED: June 12, 1958

ZUBOV, V.G.; OSIPOVA, L.P.; FIRSOVA, M.M.

Effect of constant voltage on the intensity and width of Raman spectrum lines of α-quartz. Kristallografiia 6 no.5:777-778 S-O '61. (MIRA 14:10)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.
(Raman effect) (Quartz)

ZUBOV, V. G.; FIRSOVA, M. M.

Characteristics of the elastic behavior of quartz in the $\alpha - \beta$ -transition region. Kristallografiia 7 no.3:469-471 My-Je '62. (MIRA 16:1)

1. Moskovskiy gosudarstvennyy universitet imeni M. V. Lomonosova.

(Quartz—Elastic properties)

GOVOROVA, Ye.Z.; FIRSOVA, M.M.

Interaction of natural oscillations in crystals. Kristallografiia 9 no.4:459-465 Jl-Ag '64.

(MIRA 17:11)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

EWP(l)/EWP(e)/EPA(s)-2/EWT(m)/EEC(t)/

Zubov, V. G.; Firsova, M. M.; Glushkova, T. M.

Curves of the variation of the dielectric constant of [illegible] under the influence of a constant [illegible]

SOURCE: Kristallografiya, v. 9, no. 6, 1964, 864-869

TOPIC TAGS: quartz, dielectric constant, temperature variation, impurity content

ABSTRACT: This is a continuation of an earlier investigation by the [illegible] Kristallografiya v. 8, No. 1, 1963 [illegible] of the temperature variation [illegible] constant [illegible]. The present study is devoted [illegible] of the dielectric constant at frequencies 1 Mcs and 1 kcs [illegible] constant electric field is applied. The tests were made at [illegible] and the setup employed is illustrated in Fig. 1 of the

Card 1/1

[illegible]. The results have disclosed a hitherto unobserved phenomenon, namely that the dielectric constant begins to increase rapidly following the application of the constant electric field, passes [illegible] maximum, after which it decreases slowly to a value cor- [illegible] the dielectric constant at [illegible] and time of reaching the maximum depend [illegible] tempera- [illegible] electric field applied. A [illegible] phenon- [illegible] interpretation of all the obs[illegible] [illegible] by using the theory of A. F. Iffe [illegible] Fizicheskogo [illegible]. in-ta XXIV, 1915, pp. 62--126), who [illegible] impurity ions, which are always present in the quartz, enter directly into the structure of the crystal. These dissociated ions have sufficient mobility to participate in all the electric processes occurring in the crystal when the electric field is applied. Orig. art. has: 5 figures.

ASSOCIATION: Moskovskiy gosudarstvenny*y universitet im. M. V.

L 16583-65 /
ACCESSION NR: AP5000290

Lomonosova (Moscow State University)

SUBMITTED: 17Mar64 ENCL: 01

SUB CODE: SS, EM NR REF SOV: 004 OTHER: 004

Card 3/4

L 16583-65
ACCESSION NR: AP5000290

ENCLOSURE: 01

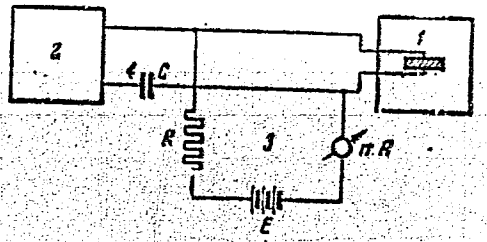

Fig. 1. Diagram of experimental setup.

1 - Holder with sample in oven, 2 - instrument for measurement of capacitance, 3 - electric cleaning circuit, 4 - decoupling capacitor

Card 4/4

L 07839-67 EWT(1) IJP(c)
ACC NR: AP6024670 SOURCE CODE: UR/0070/66/011/004/0628/0631

AUTHOR: Govorova, Ye. Z.; Zubov, V. G.; Firsova, M. M. 52 49

ORG: Moscow State University im. V. M. Lomonosov (Moskovskiy gosudarstvennyy universitet) B

TITLE: Certain features of acoustic wave interaction in crystals

SOURCE: Kristallografiya, v. 11, no. 4, 1966, 628-631

TOPIC TAGS: acoustic wave, ultrasonic wave propagation, ammonium compound, acoustic diffraction, single crystal, quartz crystal

ABSTRACT: This is a continuation of earlier work (Kristallografiya v. 9, no. 4, 459 -- 465, 1964), where the authors observed in α-quartz, by an ultrasonic diffraction method, the appearance of longitudinal oscillation modes accompanying transverse oscillations. The present article is devoted to a similar study with single-crystal ADP, in which there are no piezocoefficients causing longitudinal oscillations, and in which the elastic nonlinearity is larger than in quartz. The results have shown that the transverse mode is continuously accompanied by a second harmonic of a longitudinal mode in the same direction. In the general case this

Card 1/2 UDC: 548.0:539.37

longitudinal mode is weaker than the mode exciting it, but under certain geometrical resonance conditions the diffraction maxima on the longitudinal mode become comparable in brightness with the original transverse mode. The result is shown to agree with a general formula derived for the propagation of an elastic wave in a nonlinear crystalline medium, whereby under certain conditions the second-harmonic longitudinal oscillation can increase spontaneously and give rise eventually to a first harmonic, which was not present hitherto. This energy transfer from one harmonic to another is in good agreement with the results of E. Fermi, J. Pasta and S. M. Ulam (Studies of Nonlinear Problems, LA-1940, OTS, US Department of Commerce, Washington, D. C.), who investigated directly the energy transitions in the spectrum of a vibrating string with nonlinear parameters. The present experiments, like the observations of Fermi et al., only permit observation of this process but still offer no theoretical explanation. The authors thank I. S. Rez, F. I. Feygina, and R. D. Zaytseva for preparing the high grade ADP crystals. Orig. art. has: 2 figures and 4 formulas.

SUB CODE: 20/ SUBM DATE: 08Sep64/ ORIG REF: 004/ OTH REF: 003

FIRSOVA, N.M.

Morphology of the thyroid gland and the economic productivity of the Tajik breed sheep. Report No.1: Macromorphology of the thyroid gland in wethers and young rams of the Tajik breed. Trudy KirgNOAGE no.2:77-80 '65.

Morphology of the thyroid gland and the economic productivity of the Tajik breed sheep. Report No.2: Effect of iodine feeding on weight gains in wethers and young rams of the Tajik breed. Ibid.:80-84

Morphology of the thyroid gland and the economic productivity of the Tajik breed sheep. Report No.3: Effect of iodine feeding on the wool production in mother sheep, ewe lambs and yound rams of the Tajik breed. Ibid.:84-87

(MIRA 18:11)

1. Iz Tadzhikskogo nauchno-issledovatel'skogo instituta sel'skogo khozyaystva i kafedry gistologii (zav. - prof. A.A.Braun) Kirgizskogo gosudarstvennogo meditsinskogo instituta.

FIRSOVA, N.N.

25996 Firsova, N.N. O Psikhopatizatsii V Svyazi S Shelyustno-Litsevymi Raneniyami. V SB: Problemy Vosstanovit. Lecheniya Invalidov Otechestv. Voyny. Astrakhan', 1948, S. 113-24.

SO: Letopis' Zhurnal Statey, No. 30, Moscow 1948

FIRSOVA, M. N.

Vyyasnovskiy, A. Yu. and Firsova, M. N. - "Schizophrenia and manic-depressive psychoses during the war", Trudy Astrakh. gos. med. in-ta, Vol. IX, 1948, p. 194-99.

SO: U-3042, 11 March 53, (Letopis 'Zhurnal 'nykh Statey, No. 8, 1949).

FIRSOVA, N. N. (Astrakhan')

O sostoyanii psikhonevrologicheskoy pomoshchi Naseleniyu v Astrakhanskoy Oblasti

p. 552 V sb Aktual'n. probl. nevropatol i psikhiatrii. Kuybyshev, 1957.

SIMONOV, S. (g.Petrozavodsk); FIRSOVA, O., inzh.-konstruktor; MASLOV, V.; VARSHAVSKIY, A. (g.Odessa); PETRYANOV, V.

Readers report, advise, suggest. Zhil.-kom. khoz. 12 no.1:15 Ja '62. (MIRA 15:6)

1. Predsedatel' domovogo komiteta domoupravleniya No.13 Sovetskogo rayona, g. Gor'kiy (for Petryanov).
(Municipal services)

FIRSOVA, O.D.

Work of the Crimean Provincial Oncological Dispensary in increasing oncological knowledge among medical personnel. Vop. onk. 7 no.11:100-102 '61. (MIRA 15:5)

1. Iz Krymskogo oblastnogo onkologicheskogo dispansera (glavvrach - O.D. Firsova).
(CANCER)

NAGIB, Akhmed; FIRSOVA, P.P. (Moskva)

Methodology for performing bronchospirometry. Eksper. khir. i anest. 8 no.4:31-33 Jl-Ag '63. (MIRA 17:5)

FIRSOVA, P. P.

FIRSOVA, P. P. - "Change of the Phagocytic Reaction of the Blood in Patients With Inflammatory Processes and Under the Influence of Pathogenetic Therapy." Sub 24 Dec 52, Acad Med Sci USSR. (Dissertation for the Degree of Candidate in Medical Sciences).

SO: Vechernaya Moskva January-December 1952

FIRSOVA, P.P.

Methods for studying respiration in pulmonary patients [with summary in English] Eksper.khir. 1 no.4:43-49 Jl-Ag '56 (MIRA 11:10)

1. Iz Instituta khirurgii imeni A.V. Vishnevskogo (dir. -chlen-korrespondent AMN SSSR prof. A.A. Vishnevskiy) AMN SSSR.
(RESPIRATION, function tests
preop. in cardiopulm. surg., new appar. (Rus))
(RESPIRATION,
new appar. for preop. funct.tests in cardiopulm. surg. (Rus))
(RESPIRATION,
funct. dis., technics & appar. (Rus))

FIRSOVA, P.P. (Moskva)

Differential diagnosis of thoracic tumors with Minor's test. Klin. med. 34 no.12:71-76 D '56. (MLRA 10:2)

1. Iz 2-go khirurgicheskogo otdeleniya (zav. - prof. G.V.Alipov) Instituta khirugii imeni A.V.Vishnevskogo AMN SSSR (dir. - chlen-korrespondent AMN SSSR prof. A.A.Vishnevskiy)

(THORAX, neoplasms
neurilemmoma, diag., sweating test)
(NEURILEMMOMA, diag.
thorax, sweating test)

FIRSOVA, P.P.

A simplified method for specialized bronchospirometry. Report No.2. [with summary in English]. Eksper.khir. 2 no.5:58-61 S-O '57. (MIRA 11:2)

1. Iz 2-go khirurgicheskogo otdeleniya (zav. - prof. G.V.Alipov) Instituta khirurgii imeni A.V.Vishnevskogo AMN SSSR (dir. - deystvitel'nyy chlen AMN SSSR prof. A.A.Vishnevskiy.)

(RESPIRATION, funct. tests
bornchospirometry, simple method (Rus))

USSR/General Problems of Pathology. Neoplasms. U

Abs Jour: Ref Zhur-Biol., No 8, 1958, 37293.

Author : Firseva, P.P., Pyltsov, I.M.
Inst
Title : The Clinic of Lung Plasmocytoma.

Orig Pub: Klinich. meditsina, 1957, 35, No 7, 98-102.

Abstract: The authors describe three personal observations of extra medullary lung plasmocytomas and analyzed 8 cases in the world of literature. The tumor was more frequently situated in the upper lobes of the lung, in the form of an isolated structure inclosed in a thin capsule. On section, the tumor appeared white-yellowish or gray-yellowish in color, was fragile, and consisted of mature plasma cells of 10-12 microns in diameter.

Card : 1/2

Surgical Dept, + Roentgenology Dept
Inst. Surgery im A.V. Vishnevskiy AMS USSR

FIRSOVA, P.P. (Moskva).

Pneumograph with a measuring system. Eksp. khir. 3 no.6:55-56 N-D '58.
(PHYSIOLOGICAL APPARATUS) (RESPIRATION) (MIRA 12:1)

VOROPAYEV, M.M.; MAZAYEV, P.N.; FIRSOVA, P.P.

Angiopneumography in lung cancer. Sov.med. 22 no.2:49-52 F '58.
(MIRA 11:4)

1. Iz 2-go khirurgicheskogo (zav. - prof. G.A.Alipov) i rentgenologicheskogo (zav. - prof. P.N.Mazayev) otdeleniy Instituta khirurgii imeni A.V.Vishnevskogo (dir. - deystvitel'nyy chlen Akademii meditsinskikh nauk SSSR prof. A.A.Vishnevskiy) Akademii meditsinskikh nauk SSSR.

(LUNG NEOPLASMS, diag.
angiopneumography (Rus))
(ANGIOGRAPHY, in various dis.
lung cancer, angiopneumography (Rus))

KRYMSKIY, L.D., kand.med.nauk; PIRSOVA, P.P., kand.med.nauk (Moskva)

Unusual case of thymoma. Probl. endok.i gorm. 5 no.5:111-114 S-O '59. (MIRA 13:5)

1. Iz Instituta khirurgii imeni A.V. Vishnevskogo (dir. - deystvitel'nyy chlen AMN SSSR prof. A.A. Vishnevskiy).
(THYMOMA case reports)

VISHNEVSKIY, A.A.; FIRSOVA, P.P.; DMITRIYEVA, P.Ye. [deceased]

Clinical picture of nonparasitic cysts of the pericardium.
Khirurgiia 37 no.1:5-12 Ja '61. (MIRA 14:2)

1. Iz Instituta khirurgii imeni A.V. Vishnevskogo (dir. - deystvitel'nyy chlen AMN SSSR prof. A.A. Vishnevskiy).
(PERICARDIUM—TUMORS) (CYSTS)

FIRSOVA, P. P.

Effect of pleural adhesions on the function of external respiration. Grud. khir. no.2:46-51 '62. (MIRA 15:4)

1. Iz 2-go khirurgicheskogo otdeleniya (zav. - prof. G. V. Alipov) Instituta khirurgii imeni A. V. Vishnevskogo (dir. - deystvitel'nyy chlen AMN SSSR prof. A. A. Vishnevskiy) AMN SSSR. Adres avtora: Moskva, B. Serpukhovskaya ul., d. 28, Institut khirurgii imeni A. V. Vishnevskogo.

(PLEURA--DISEASES) (RESPIRATION)
(ADHESIONS(ANATOMY))

FIRSOVA, P.P.; PECHATNIKOVA, Ye.A.; AKHMET-NAGIB

Physiological basis of surgical approaches to the esophagus.
Vest.khir. no.3:9-14 '62. (MIRA 15:3)

1. Iz Instituta khirurgii im. A.V. Vishnevskogo (dir. - prof. A.A. Vishnevskiy) AMN SSSR. Adres avtorov: Moskva, B. Serpukhovskaya ul, d.27, Institut khirurgii im. A.V. Vishnevskogo.
(ESOPHAGUS—SURGERY) (SPIROSCOPE AND SPIROSCOPY)

FIRSOVA, P.P.; MAYSYUK, A.P.; NIKONOROV, A.I.

Diagnosis and treatment of cartilaginous formations in the lungs. Khirurgiia 38 no.12:28-34 D '62. (MIRA 17:6)

1. Iz Instituta khirgurgii imeni A.V. Vishnevskogo (direktor deystvitel'nyy chlen AMN SSSR prof. A.A. Vishnevskiy) AMN SSSR.

FIRSOVA, P.P.; MAYSYUK, A.P.

Enterocystomas of the thoracic cavity. Grudn. khir. 5 no. 3: 92-94 My-Je '63. (MIRA 17:1)

1. Adres avtorov: Moskva, B.Serpukhovskaya ul., d. 27, Institut khirurgii imeni A.V.Vishnevskogo.

PUCHKOV, N.V.; FIRSOVA, P.P.

Effect of parasympathicotropic substances on the phagocytic activity of leukocytes in patients with cancer; preliminary report. Biul. eksp. biol. i med. 55 no.3:85-86 Mr '63. (MIRA 18:2)

1. Iz laboratorii patofiziologii (zav. - prof. N.V. Pichkov) Instituta pediatrii AMN SSSR i Instituta khirurgii imeni A.V. Vishnevskogo (direktor - deystvitel'nyy chlen AMN SSSR A.V. Vishnevskiy), Moskva. Submitted May 15, 1961.

SARKISOV, D.S.; FIRSOVA, P.P.; NIKISHIN, A.A. (Moskva)

Giant-cell malignant thymoma. Arkh. pat. 26 no.12:26-31 '64.
(MIRA 18:5)

1. 2-ye khirurgicheskoye otdeleniye (zav. - doktor med.nauk M.M.Voropayev) i otdel patologicheskoy anatomii (zav. - prof. D.S.Sarkisov) Instituta khirurgii imeni Vishnevskogo (dir. - deystvitel'nyy chlen AMN SSSR prof. A.A.Vishnevskiy) AMN SSSR.

AL'TER, L.B., doktor ekon. nauk; BLYUMIN, I.G., doktor ekon. nauk [deceased]; KARATAYEV, N.K., prof.; REUEL', A.L., doktor ekon. nauk; STEPANOV, I.G., doktor ekon. nauk; SHTEYN, V.M., doktor ekon. nauk; POLYANSKIY, F.Ya., doktorist. nauk; BOBKOV, K.I., kand. ekon. nauk; VASILEVSKIY, Ye.G., kand. ekon. nauk; MOROZOV, F.M., kand. ekon. nauk; PONOMAREV, Ye.I., kand. ekon. nauk; RYNDINA, M.N., kand. ekon. nauk; FIRSOVA, S.M., kand. ekon. nauk; TSAGA, V.F., kand. ekon. nauk; ZHUK, I., red.; VOSKRESENSKAYA, T., red.; NEZNANOV, V., red.; ULANOVA, L., tekhn. red.

[History of economic theories] Istoriia ekonomicheskikh uchenii. Moskva, Sotsekgiz, 1963. 549 p. (MIRA 17:2)

1. Akademiya nauk SSSR. Institut ekonomiki.

SLABKINA, A.I., kand. sel'khoz. nauk; FIRSOVA, T.N., kand. sel'-khoz. nauk; POTOKIN, V.P., kand. sel'khoz. nauk; VOLKOV, G.K., kand. vet. nauk; SHKUDOVA, R.I., red.

[Principles of animal husbandry] Osnovy zhivotnovodstva. Moskva, Kolos, 1964. 263 p. (MIRA 18:11)

88473

S/078/61/006/001/007/019
B017/B054

5.2100

AUTHORS: Mel'nikov, A. Kh., Firsova, T. P.

TITLE: Low-temperature Reaction of Sodium Hyperoxide With Water Vapor

PERIODICAL: Zhurnal neorganicheskoy khimii, 1961, Vol. 6, No. 1, pp. 169 - 176

TEXT: The reaction of sodium hyperoxide (NaO_2) with water vapor at -10, -5, and 0°C and a water vapor pressure of 2.0 - 4.6 mm Hg was dynamically investigated by the apparatus shown in Fig.1. Results are compiled in a table. Fig.2 shows the kinetics of oxygen delivery and the absorption of water vapor in the reaction of sodium hyperoxide with water vapor. The reaction of sodium hyperoxide with water vapor between -10 and 0°C proceeds according to the equation $2\ NaO_2 + nH_2O \longrightarrow Na_2O_2.nH_2O + O_2$. Fig.4 shows the ternary diagram of the system Na_2O - 1/2 O_2 - H_2O at 0, -5, and -10°C. The heat effect of the formation of sodium peroxide octahydrate

Card 1/2

Low-temperature Reaction of Sodium Hyperoxide With Water Vapor

S/078/61/006/001/007/019
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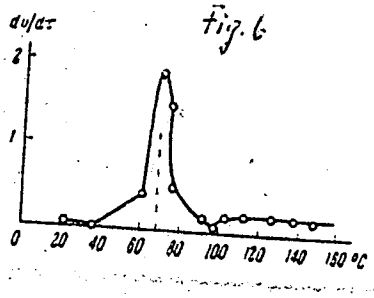
from NaO_2 and water vapor is 115.48 kcal, in the reaction with water it is 29 kcal. In the reaction of granulated sodium hyperoxide with water vapor at +20°C, a monohydrate of sodium hydroxide is formed with delivery of active oxygen. The octahydrate of sodium hyperoxide was synthesized. Its specific gravity is 1.56 at 0°C. Two endothermic effects appear on the heating curves, the first at 50 - 70°C, the second at 110 - 130°C. Fig.6 shows the rate of oxygen delivery from the octahydrate of sodium hyperoxide as a function of temperature. I. A. Kazarnovskiy, S. Z. Makarov, N. K. Grigor'yeva, and V. R. Kotov are mentioned. There are 6 figures and 19 references: 9 Soviet, 9 US, and 1 French.

SUBMITTED: October 8, 1959

Fig. 6



Card 2/2

17.1151 also 1273, 1583
11.2140

27894
S/078/61/006/010/001/010
B121/B101

AUTHORS: Mel'nikov, A. Kh., Firsova, T. P., Molodkina, A. N.

TITLE: Production of pure preparations of sodium peroxide and potassium superoxide

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 6, no. 10, 1961, 2225-2229

TEXT: An improved method has been developed for producing pure preparations of sodium peroxide, (Na_2O_2), and potassium superoxide, KO_2, by oxidizing the metals with oxygen. The apparatus is shown in Fig. 1. Reaction flask 1 is filled with the alkali metal by feeding part of the metal, previously melted in a test tube, through a capillary tube into flask 1. Sodium peroxide was produced from sodium and oxygen in a two-stage process. In the first stage, an oxygen pressure of 6-8 mm Hg is applied for about 30 min; the second stage lasting for 2-2 1/2 hr is performed under atmospheric pressure. At the beginning of oxidation an orange-colored luminescence of the metal occurs at 240-250°C, which may be prevented by reducing the O_2 supply. Complete oxidation occurs at a

Card 1/3

Production of pure preparations of...

temperature of 360°C at most. The loose reaction product formed can easily be removed from the reaction space. The process is easily reproducible and gives yields of 100 % of Na_2O_2. Potassium superoxide is similarly formed: Metallic potassium is treated in the first stage for 30-40 min at an oxygen pressure of 6-8 mm Hg, and in the second stage for 4-5 hr at atmospheric pressure. The initial temperature in the oxidation process applied to obtain potassium superoxide is 110-120°C, and the final temperature is 350°C at most. The KO_2 yield was 92.74-98.34 %. This process involves a noticeable corrosion of the glass reaction vessel owing to silicate formation. Thus, high-purity preparations can be obtained only in vessels resistant to alkali oxides. Proper dosing of oxygen results in a reaction time only one-fourth or one-fifth that required with the use of air in the first stage. A paper by I. A. Kazarnovskiy, S. I. Raykhshteyn (Zh. fiz. khimii, 21, 245 (1947)) is mentioned. There are 2 figures, 2 tables, and 3 references: 1 Soviet and 2 non-Soviet. The reference to the English-language publication reads as follows: A. V. Harcourt, J. Chem. Soc. (London), 14, 267 (1862).

SUBMITTED: September 15, 1960

Card 2/3

5.2440
17.1155

27895
S/078/61/006/010/002/010
B121/B101

AUTHORS: Mel'nikov, A. Kh., Firsova, T.P.

TITLE: Interaction of sodium superoxide and carbon dioxide in the presence of water vapor

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 6, no. 10, 1961, 2230-2236

TEXT: The reaction of sodium superoxide with carbon dioxide in the presence of water vapor is studied by a dynamic method in the temperature range from -10 to +25°C. The apparatus is described in Zh. neorg. khimii, 6, no. 10 (1961). At -10, 0, and 10°C, the humidity of the gas mixture corresponded to saturation; at 25°C, relative humidity was 25 or 50 %. It was found that oxygen was set free but incompletely below 10°C (only "superoxide oxygen"): $2NaO_2 + 2CO_2 = Na_2C_2O_6 + O_2$ (6). Humidity assists to form the peroxy-dicarbonate ($Na_2O_2 \cdot 8H_2O$ as intermediate product). The absorption of carbon dioxide proceeds slowly under these operating conditions. The molar ratio $CO_2/O_{2\,tot}$ exceeds 1. A significant change of the reaction process occurs at 25°C. Evolution of oxygen proceeds very

Card 1/2

Interaction of sodium superoxide and...

quickly and the capability of sodium superoxide to absorb carbon dioxide decreases; the molar ratio CO_2/O_2 falls below 0.5. The following reactions occur: (1) $2NaO_2 + H_2O = 2NaOH + 1\ 1/2\ O_2$ (2) $2NaOH + CO_2 = Na_2CO_3 + H_2O$. Sodium peroxy dicarbonate $Na_2C_2O_6$ was synthesized from sodium superoxide or sodium peroxide, carbon dioxide, and water. The initial peroxides were ground with a certain quantity of ice. The concentration of carbon dioxide in the initial gas mixture did not exceed 1 % by volume and was increased to 100 % by volume during the reaction. The reaction product is concentrated with alcohol and ether, and liberated from adsorbed ether vapors by vacuum distillation. Identical products were obtained from sodium peroxide and sodium superoxide (yield 68-85.9 %); this was confirmed by thermal analysis. Thermal decomposition of sodium peroxy-dicarbonate occurs with simultaneous evolution of active oxygen and carbon dioxide: $Na_2C_2O_6 = Na_2CO_3 + CO_2 + 1/2\ O_2$ (7). There are 3 figures, 2 tables, and 4 references: 2 Soviet and 2 non-Soviet.

SUBMITTED: September 15, 1960

Card 2/2

5.2100
17.1153

29529
S/078/61/006/011/004/013
B101/B147

AUTHORS: Mel'nikov, A. Kh., Firsova, T. P.

TITLE: Interaction between sodium peroxide octohydrate and gaseous carbon dioxide

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 6, no. 11, 1961, 2470-2473

TEXT: In a previous paper (Zh. neorgan. khimii, 6, no. 10 (1961)), the authors found that the reaction between NaO_2 and CO_2 in the presence of water vapor yielded sodium peroxy-dicarbonate, $Na_2C_2O_6$. In this synthesis, $Na_2O_2 \cdot 8H_2O$ was produced as intermediate stage. Since $Na_2O_2O_6$ might be of practical importance as mild oxidizer, it was synthesized by reacting CO_2 with $Na_2O_2 \cdot 8H_2O$. The latter can easily be synthesized from NaOH and H_2O_2. Dry CO_2 was conducted over $Na_2O_2 \cdot 8H_2O$ which was contained as a thin layer in a flask. The reaction vessel was cooled by water. The synthesis proceeded in three stages: (1) p_{CO_2} = 3 mm Hg, 1.5 - 2 hr; (2) p_{CO_2} = 30 mm Hg,

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Interaction between sodium peroxide...

0.5 hr; (3) alternate filling of the reaction vessel with pure CO_2 and subsequent evacuation for removing the water residues. Experiments were performed between 0 and 33°C. 85.7 - 95.5% yields of $Na_2C_2O_6$ were obtained independent of temperature. The specific weight of this compound which was pycnometrically determined in benzene was 2.075 at 20°C. The product contained $NaHCO_3$ as impurity. The following data are given:

Substance	Molecular weight	Density, g/cm^3	Specific volume, $cm^3/mole$	Relative change of volume
$2NaO_2$	110	2.18	50.5	1.00
$Na_2O_2 \cdot 8H_2O$	222.1	1.57	142	2.81
$Na_2C_2O_6$	166	2.075	80.0	1.58

Therefrom it follows that carbonization of octohydrate causes a considerable decrease of volume. The differential thermal analysis of $Na_2C_2O_6$ with a Kurnakov pyrometer showed an endothermic effect at 102°C, which corresponds

Interaction between sodium peroxide...

to thermal decomposition of $Na_2C_2O_6$ into Na_2CO_3. From a 30% KI solution, I_2 is liberated by $Na_2C_2O_6$. The action of water on $Na_2C_2O_6$ initiates hydrolysis already at room temperature. Active oxygen and, especially at the beginning of the process, CO_2 are set free (Fig. 3). For this course of hydrolysis, the following is assumed: Formation of $NaHCO_4$, then of H_2CO_4, and decomposition into CO_2 and H_2O_2. Decomposition of H_2O_2, liberation of active oxygen, is the slower process. There are 3 figures, 2 tables, and 2 Soviet references.

SUBMITTED: September 15, 1960

X

Card 3/3

S/078/62/007/006/004/024
B124/B138

11.2110

AUTHORS: Mel'nikov, A. Kh., Firsova, T. P., Molodkina, A. N.

TITLE: Interaction of potassium hyperoxide with water vapor and carbon dioxide

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 7, no. 6, 1962, 1228-1236

TEXT: When studying the interaction of potassium hyperoxide with water vapor between -10 and +19°C it was shown that practically no peroxide oxygen was set free at -10°C, while at 0°C 3/4 of the original peroxide oxygen remained in the product, even after 3 hrs. Practically the whole peroxide oxygen was set free at 19°C. At 10°C and below, the hydrated compounds $K_2O_2 \cdot nH_2O$ were formed, while at 19°C and above KO_2 was converted to KOH with release of the whole active oxygen, and - in the presence of sufficient water vapor - KOH was formed in various hydrated forms and solutions. Fig. 3 shows the gradual change of composition of the solid phase, and Fig. 4 shows the arrangement for studying the interaction between KO_2 and CO_2. The interaction depends mainly on temperature.

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The composition of the end product depends on the transition phase formed during the first stage of interaction between KO_2 and water vapor. At $10^{\circ}C$ and below, hyperoxide oxygen is set free, and potassium peroxodicarbonate $K_2C_2O_6$ is formed, while at $50^{\circ}C$ and above potassium carbonate and bicarbonate are formed with the release of all the active oxygen (Figs. 7 and 8). Between 10 and $50^{\circ}C$, the formation of $K_2C_2O_6$ is mainly determined by the effective removal of the heat of the exothermic reaction between KO_2 and CO_2. No proofs have been found for the formation of potassium monopercarbonate, K_2CO_4, and potassium pyrocarbonate, $K_2C_2O_5$. There are 8 figures and 2 tables. The three most important English-language references are: P. W. Gilles, J. L. Margrave, J. Phys. Chem. 60, 1333 (1956); C. A. Kraus, E. F. Parmenter, J. Amer. Soc. 56, 2385 (1934); J. R. Partington, A. U. Fathallah, J. Amer. Chem. Soc., 1934 (1950).

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova Akademii nauk SSSR (Institute of General and Inorganic Chemistry imeni N. S. Kurnakov of the Academy of Sciences USSR)

Interaction of potassium hyperoxide ...

S/078/62/007/006/004/024
B124/B138

SUBMITTED: November 1, 1960

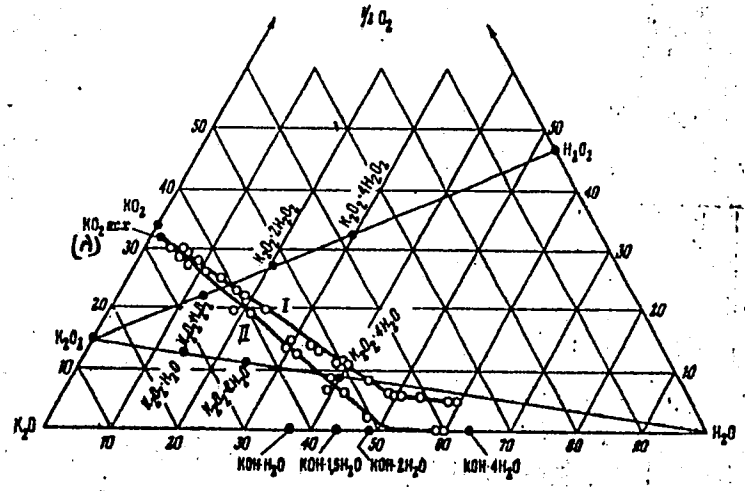

Fig. 3. Ternary diagram for K_2O - $(1/2)O_2$ - H_2O. (I) Test temperature -10 and 0°C; (II) test temperature 19°C. Legend: (A) KO_2 initial.

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S/078/62/007/006/005/024
B124/B138

AUTHORS: Mel'nikov, A. Kh., Firsova, T. P., Molodkina, A. N.

TITLE: Production of pure potassium peroxodicarbonate and study of some of its properties

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 7, no. 6, 1962, 1237-1241

TEXT: The authors studied the optimum conditions for the conversion of potassium hyperoxide to potassium peroxodicarbonate, and compared the properties of the latter with those of peroxodicarbonate obtained according to E. J. Constam and A. Hansen. They used 98.7% potassium hyperoxide as initial product. A mixture of CO_2 and water vapor was continuously blown through a thin layer of fine-grained product. The temperature of the thermostat, in which the reactor was placed, was kept at $\sim 0^{\circ}C$; the hyperoxide layer was heated to $10^{\circ}C$ by the heat released during the reaction. The experiments took 1-2 hrs; they were carried on until constant weight was reached. Finally, the product was dried with dry air for 2-3 hrs, first at experimental and then at room temperature.

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Production of pure potassium ...

The resulting product was light-brown whereas the electrolytic product had a pale-bluish color. The product obtained by interaction of KO_2 with CO_2 had an average purity of ~ 85%. The electrolytic production of $K_2C_2O_6$ from saturated K_2CO_3 solution was performed in an H-shaped vessel with a porous separating wall; platinum wire was used as anode and a platinum disk as cathode. A BCA-10 (VSA-10) selenium rectifier provided alternating current of 15-16 v and 0.1-0.3 a. The electrolyte temperature was -15 to -20°C and the purity of the product up to 99.9%. Dry $K_2C_2O_6$ preparations obtained by the two methods are fairly stable, even at room temperature. Losses of active oxygen within 1 year are only fractions of 1% at room temperature. The product becomes gradually brighter. The thermogram obtained by Kurnakov pyrometer (Fig. 2) showed two endothermic effects, at 155-160°C (thermal decomposition of $K_2C_2O_6$) and at 198-200°C (decomposition of $KHCO_3$). The specific gravity of pure $K_2C_2O_6$ obtained from KO_2 was determined pycnometrically in benzene solution at

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20°C. It was 1.97, while for electrolytic $K_2C_2O_6$ it was 1.95.

S. Z. Makarov and I. I. Vol'nov are mentioned. There are 3 figures and 2 tables. The English-language reference is: I. R. Partington, A. U. Fathallah, J. Chem. Soc. (London), 1934 (1950).

ASSOCIATION: Laboratoriya perekisnykh soyedineniy, Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova Akademii nauk SSSR (Laboratory of Peroxide Compounds, Institute of General and Inorganic Chemistry imeni N. S. Kurnakov of the Academy of Sciences USSR)

SUBMITTED: December 3, 1960

Fig. 2. Thermogram of potassium peroxodicarbonate: (a) obtained from potassium hyperoxide; (6) obtained electrolytically. Legend: (A) R_{diff} = 1000 ohms; (B) R_{simple} = 70,000 ohms; (C) time, min.

S/078/63/008/002/002/012
B101/B186

AUTHORS: Firsova, T. P., Molodkina, A. N., Morozova, T. G., Aksenova, I. V.

TITLE: Synthesis of sodium peroxocarbonates

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 8, no. 2, 1963, 278 - 284

TEXT: In order to prove the existence of alkali hydroperoxides and to develop a simple method for synthesizing alkali peroxocarbonates, CO_2 was bubbled through concentrated solutions of NaOH and H_2O_2 at low temperatures. The filtrate was washed with ether and dried in air. The ratio NaOH : H_2O_2 was chosen according to the equations $2MOH + H_2O_2 + aq \rightleftharpoons M_2O_2 \cdot aq$; $MOH + H_2O_2 \rightleftharpoons MOOH + H_2O$ and $MOH + 1.5\ H_2O_2 \longrightarrow MOOH \cdot 0.5\ H_2O_2 + H_2O$. When carefully mixing H_2O_2 with NaOH (ratio: 0.5 : 1), bubbling of CO_2 through the mixture at a temperature from 0 to -15°C lead after 8 - 10 min to dissolution of the initially formed sodium peroxide octahydrate and to the

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Synthesis of sodium peroxocarbonates

sedimentation of a new phase which was identified as $Na_2C_2O_6 \cdot xH_2O$. Depending on the drying conditions, x fluctuated between 0.6 and 14 mole.. The residual 0.6 mole H_2O could not be removed without decomposing the substance. Thermographic analysis pointed to an endothermic effect at 126°C with the total active oxygen being liberated and Na_2CO_3 forming. If the mixing ratio H_2O_2 : NaOH was 1 : 1 $NaOOH \cdot 3H_2O$ was formed first. Bubbling CO_2 through the solution at a temperature between 0 and -20°C lead to the formation of sodium diperoxocarbonate $NaHCO_4 \cdot H_2O$ according to the equation CO_2 + MOOH $\rightarrow MHCO_4$. With the ratio H_2O_2 : NaOH = 1.5 : 1 $NaOOH \cdot 0.5H_2O \cdot 2H_2O$ was formed as intermediate product, as final product also $NaHCO_4 \cdot H_2O$. The formation of the new phase was finished in 20 to 25 min, longer bubbling lead to the decomposition of peroxocarbonate into bicarbonate. The yield of sedimented peroxocarbonate depends on the degree of dilution due to the solubility of this compound. According to the equation $NaOH + CO_2 + H_2O_2 \rightarrow NaHCO_4 \cdot H_2O$, the solvent H_2O does not combine in the compound. At

Synthesis of sodium peroxocarbonates

S/078/63/008/002/002/012
B101/B186

0°C and a ratio of NaOH : H_2O = 1 : 5.5 the yield was 80% at a ratio of 1 : 23 no sodium diperoxocarbonate was precipitated. This corresponds to a 22% solubility of this compound. A thermographic analysis yielded an endothermic effect at 50°C with a transformation to $Na_2CO_3 \cdot H_2O_2$ whereby only half of the active oxygen was liberated, as well as an exothermic effect at 75°C where the remaining O_2 was liberated and finally an endothermic effect at 100°C caused by dehydration. This thermographic result proves that $NaHCO_4 \cdot H_2O$ is not identical with compounds of equal gross formula, as e.g. $NaHCO_3 \cdot H_2O_2$ or $Na_2C_2O_6 \cdot H_2O_2 \cdot 2H_2O$. $NaHCO_4 \cdot H_2O$ crystallizes in anisotropic needles. There are 4 figures and 6 tables.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova Akademii nauk SSSR, Laboratoriya perekisnykh soyedineniy (Institute of General and Inorganic Chemistry imeni N. S. Kurnakov of the Academy of Sciences USSR, Laboratory of Peroxide Compounds)

SUBMITTED: May 24, 1962
Card 3/3

FIRSOVA, V. A., kand. med. nauk

Composition of the cerebrospinal fluid during treatment for tuberculous meningitis without the subarachnoid administration of medicinal substances. Probl. tub. no.3:35-44 '62. (MIRA 15:4)

1. Iz detskoy kliniki (zav. - zasluzhennyy deyatel' nauki prof. M. P. Pokhitonova) Instituta tuberkuleza AMN SSSR (dir. - chlen-korrespondent AMN SSSR prof. N. A. Shmelev)

(MENINGES—TUBERCULOSIS)
(CEREBROSPINAL FLUID)

ACCESSION NR: AT4028334 S/0000/63/000/000/0119/0127

AUTHOR: Firsova, T. P.; Molodkina, A. N.; Morozova, T. G.; Aksenova, I. V.

TITLE: Investigation of the reaction process of carbon dioxide with alkali solutions of hydrogen peroxide and the synthesis of peroxocarbonates

SOURCE: Soveshchaniye po khimii perekisny*kh soyedineniy. Second, Moscow, 1961. Khimiya perekisny*kh soyedineniy (chemistry of peroxide compounds); Doklady* soveshchaniy. Moscow, Izd-vo AN SSSR, 1963, 119-127

TOPIC TAGS: carbon dioxide, hydrogen peroxide, percarbonate synthesis, sodium superoxide, potassium superoxide, water vapor, alkali

ABSTRACT: The purpose of this paper is to explain the principle possibility and conditions of forming percarbonates with the action of carbon dioxide on aqueous alkali solutions of hydrogen peroxide and to confirm the conclusions of previous research relative to the character of the reaction of sodium peroxide and potassium peroxide with water vapor and carbon dioxide. A mixture of aqueous hydroxide solutions (sodium or potassium) and hydrogen peroxide was treated by carbon dioxide. The precipitates obtained were subjected to full quantitative analysis in the general alkali content. The results of the work are presented in tables and

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ACCESSION NR: AT4028334

thermograms. The authors confirm the conclusions of the previous research. A new method of obtaining true percarbonates of alkali metals which are contained in the carbonization of aqueous alkali solutions of hydrogen peroxide is developed. The advantages of the proposed method in comparison with known laboratory methods of producing percarbonates, is contained in the fact that it does not require a complex apparatus, or use of organic solvents as well as preliminary stages for obtaining peroxide as initial substances. Orig. art. has: 4 figures, 4 tables and 8 formulas.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N.S. Kurnakova AN SSSR (Institute of General and Inorganic Chemistry AN SSSR)

SUBMITTED: 13Dec63 / DATE ACQ: 06Apr64 ENCL: 00

SUB CODE: CH NO REF SOV: 005 OTHER: 001

Card 2/2

ACCESSION NR: AT4028335 S/0000/63/000/000/0128/0139

AUTHOR: Mel'nikov, A. Kh.; Firsova, T. P.; Molodkina, A. N.; Morozova, T. G.; Aksenova, I. V.

TITLE: Investigation of the reaction of sodium superoxide and potassium superoxide with water vapor and carbon dioxide and the synthesis of percarbonates

SOURCE: Soveshchaniye po khimii perekisny*kh soyedineniy. Second, Moscow, 1961. Khimiya perekisny*kh soyedineniy (chemistry of peroxide compounds); Doklady* soveshchaniy. Moscow, Izd-vo AN SSSR, 1963, 128-139

TOPIC TAGS: sodium peroxide, potassium peroxide, water vapor, carbon dioxide, percarbonate, percarbonate synthesis, oxygen, water, sodium superoxide, potassium superoxide

ABSTRACT: The authors investigate the reaction of sodium superoxide and potassium superoxide with water vapor and carbon dioxide at a lowered temperature and study the properties of the solid phase of the peroxide type formed in the process of this reaction. The work is divided into two segments: 1) the investigation of reaction process kinetics of sodium and potassium superoxides with water vapor and carbon dioxide in the presence of water vapor and 2) the synthesis and study of properties

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ACCESSION NR: AT4028335

of the peroxide type of solid phases formed in the low temperature reaction of sodium and potassium superoxides with carbon dioxide and water vapor. Diagrams of the illustrations are shown; graphs showing the kinetic curves of oxygen seperation, water vapor and carbon dioxide absorption are presented. Tables presenting the composition of potassium and sodium percarbonates are given. The study of the reaction kinetics shows two directions of the process dependent on the temperature. Within a temperature region of from +10° to -10°C, sodium and potassium superoxides react with water vapor and carbon dioxide, accompanied by a discharge of superoxide oxygen only and the formation of sodium and potassium percarbonates. The intermediate phases of the reaction process of sodium and potassium superoxide with water vapor and carbon dioxide at low temperatures are synthesized. Some of the properties, previously unpublished (thermo-stability, specific weight, hydrolysis, etc.) are studied. Orig. art. has: 4 tables, 9 figures, and 9 formulas.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. NS Kurnakova AN SSSR (Institute of General and Inorganic Chemistry AN SSSR)

SUBMITTED: 13Dec63 DATE ACQ: 06Apr64 ENCL: 00

SUB CODE: CH NO REF SOV: 017 OTHER: 019

Card 2/2

45452
S/078/63/008/003/002/020
B117/B186

11.2140

AUTHORS: Mel'nikov, A. Kh., Firsova, T. P.

TITLE: Reaction of hydrogen peroxide vapor with hydroxides of alkali and alkaline-earth metals

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 8, no. 3, 1963, 560-562

TEXT: Chemisorption was suggested as an efficient method of producing peroxide compounds of alkali and alkaline-earth metals from solid hydroxides and hydrogen peroxide vapor. Compared with other methods, it has the following advantage: the effect of hydrogen peroxide vapor on solid hydroxides and the simultaneous removal of the water set free in the reaction create conditions which prevent the hydrolysis of the dissolved peroxide compounds and hence their complete destruction. The reactions were studied in vacuo. It was possible to feed the reaction vessel continuously with hydrogen peroxide, to remove the water at the same time, and to control the pressure in the system. The latter is decisive in maintaining the hydrogen peroxide concentration acting on the hydroxide surface. A smooth reaction with nearly quantitative transformation of H_2O_2 into Li_2O_2, Na_2O_2, KO_2, and CaO_2 took place. Since

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the reaction occurred only on the surface of the granulated hydroxide, it may be possible to increase the metal peroxide yields by enlarging the reaction surface. There are 1 figure and 1 table.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N.S.Kurnakova Akademii nauk SSSR, Laboratoriya perekisnykh soyedineniy (Institute of General and Inorganic Chemistry imeni N. S. Kurnakov of the Academy of Sciences USSR, Laboratory of Peroxide Compounds)

SUBMITTED: January 16, 1961

FIRSOVA, T.P.; MOLODKINA, A.N.; MOROZOVA, T.G.; AKSENOVA, I.V.

Synthesis of potassium peroxydicarbonates. Zhur. neorg. khim. 9 no.5:1066-1071 My '64. (MIRA 17:9)

1. Laboratoriya perekisnykh soyedineniy Instituta obshchey i neorganicheskoy khimii imeni N.S. Kurnakova AN SSSR.

L 21000-66 EWT(1)/EWT(m)/EWP(t) SCTB/IJP(c) JD/DD

ACCESSION NR: AP5025512 UR/0062/65/000/009/1678/1679

541.11+655.39

16 B

AUTHOR: Firsova, T. P.; Molodkina, A. N.; Morozova, T. G.; Aksenova, I. V.

TITLE: The melting temperature of potassium superoxide 27

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 9, 1965, 1678-1679

TOPIC TAGS: potassium superoxide, air regeneration, life support

ABSTRACT: Potassium superoxide (KO_2) is of considerable importance as an agent for regenerating air. In this work, samples containing 89—99% KO_2 and potassium peroxide, carbonate, hydroxide and small amounts of water were subjected to differential thermal analysis. It was found that at atmospheric pressure the melting points of various samples ranged from 490 to 530C. At pressures of 1—2 mm the melting points dropped to 350—415C. In the course of the experiments it was observed that molten potassium superoxide reacts vigorously with the glass walls of the container to form potassium silicate. This reaction is accompanied by evolution of nascent oxygen. Orig. art. has: 3 figures. [VS]

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova Akademii nauk SSSR (Institute of General and Inorganic Chemistry, Academy of Sciences, SSSR)

Card 1/2

L 21000-66

ACCESSION NR: AP5025512 0

SUBMITTED: 08Jan65 ENCL: 00 SUB CODE: IC, GC, TD

NO REF SOV: 002 OTHER: 005 ATD PRESS: 4118

Card 2/2 BK

L 37207-66

ACC NR: AP6014414 (A) SOURCE CODE: UR/0062/66/000/004/0757/0759

AUTHOR: Firsova, T. P.; Molodkina, A. N.; Morozova, T. G.; Stasevich, N. N.

ORG: Institute of General and Inorganic Chemistry im. N. S. Kurnakov Academy of Sciences SSSR (Institut obshchey i neorganicheskoy khimii Akademii nauk SSSR)

TITLE: Preparation and properties of sodium peroxide dihydrate

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 4, 1966, 757-759

TOPIC TAGS: sodium compound, peroxide, heat resistance, thermogram, dehydration

ABSTRACT: The dihydrate of sodium peroxide was obtained by vacuum dessicating the octahydrate at 0° over P_2O_5. A thermogram for the dihydrate was drawn; its density was determined to be 1.98±0.09 gm/cm^3. Attempts to dehydrate to the monohydrate were not successful. Dehydration at 0° did not reduce the water of crystallization content. At 20° the water was removed slowly but hydroxide was formed simultaneously. Orig. art. has: 1 figure and 3 tables.

SUB CODE: 07/ SUBM DATE: 16Sep65/ ORIG REF: 007/ OTH REF: 007

Card 1/1 MLP UDC: 541.549+546.33+661.49

GOLUBOVICH, Semen Rafailovich, inzh.; FINK, Lazar' Yegudovich, inzh.; BUZHEVICH, G.A., kand. tekhn. nauk, retsenzent; FIRSOVA, T.V., inzh., red.; MATVEYEVA, Ye.N., tekhn. red.

[Equipment for manufacturing slag concrete blocks] Oborudovanie dlia proizvodstva shlakobetonnykh kamnei. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1957. 143 p. (MIRA 11:7)
(Concrete blocks)

FIRSOVA, T.V.

BALLOD, R.R.; BOKOLYAR, S.M.; ANDROSOV, A.A., kand. tekhn. nauk, retsenzent,; FIRSOVA, T.V., inzh., red.; SMIRNOVA, G.V., tekhn. red.; UVAROVA, A.F., tekhn. red.

[Mechanic of an asphalt concrete plant] Mekhanik asfal'tobetonnogo zavoda. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1958. 96 p. (MIRA 11:12)
(Concrete plants--Equipment and supplies)

FIRSOVA, V.A.

Differential diagnosis of tuberculous and serous meningitis.
Pediatriia no.1:82-83 Ja-F '54. (MLRA 7:3)

1. Iz detskoy kliniki (zaveduyushchiy - professor M.P.Pokhitonova) Instituta tuberkuleza Akademii meditsinskikh nauk SSSR (direktor Z.A.Lebedeva). (Tuberculosis) (Meningitis)

FIRSOVA, V.A., mladshiy nauchnyy sotrudnik

Experience in treating experimental meningeal tuberculosis in rabbits [with summary in French]. Probl.tub. 34 no.5:42-51 S-O '56. (MIRA 10:11)

1. Iz detskoy kliniki (zav. - prof. M.P.Pokhitonova) i patomorfologicheskoy laboratorii (zav. - prof. V.I.Puzik) Instituta tuberkuleza AMN SSSR (dir. Z.A.Lebedeva)

(TUBERCULOSIS, MENINGEAL, exper.
eff. of isoniazid, PAS & streptomycin)
(ISONIAZID, eff.
on exper. meningeal tuberc., comparison with PAS & streptomycin, in rabbits)
(PARA-AMINOSALICYLIC ACID, eff.
on exper. emningeal tuberc., comparison with isoniazid & streptomycin, in rabbits)
(STREPTOMYCIN, eff.
on exper. meningeal tuberc., comparison with isoniazid & PAS, in rabbits)

FIRSOVA, V.P.

VASILEVICH, N.O.; FIRSOVA, V.A.; LEBEDEVA, L.V.

Effectiveness of isonicotinic acid hydrazide therapy in tuberculous meningitis; experimental and clinical data [with summary in French]. Probl.tub. 35 no.2:19-27 '57. (MIRA 10:6)

1. Iz Instituta tuberkuleza (dir. Z.A.Lebedeva) Akademii meditsinskikh nauk SSSR.

(ISONIAZID, ther. use
tuberc., meningeal, with PAS & streptomycin (Rus))
(STREPTOMYCIN, ther. use
tuberc., meningeal, with isoniazid & PAS (Rus))
(PARA-AMINOSALICYLIC ACID, ther. use
tuberc., meningeal, with isoniazid & streptomycin (Rus))

FIRSOVA, V.F.

VASILEVICH, N.O. [deceased]; YELUFIMOV, V.F.; FIRSOVA, [illegible]; LEBEDEVA, L.V.

Treatment of tuberculous meningitis [with summary in French]. Probl. tub. 35 no.7:78-86 '57. (MIRA 11:2)
(TUBERCULOSIS, MENINGEAL, ther.)

FIRSOVA, V.A., Cand Med Sci--(diss) "Experimental tuberculous meningitis in rabbits and its treatment with internal administration of phthivazide." Mos, 1958. 14 pp (Acad Med Sci USSR), 200 copies (KL,44-58,126)

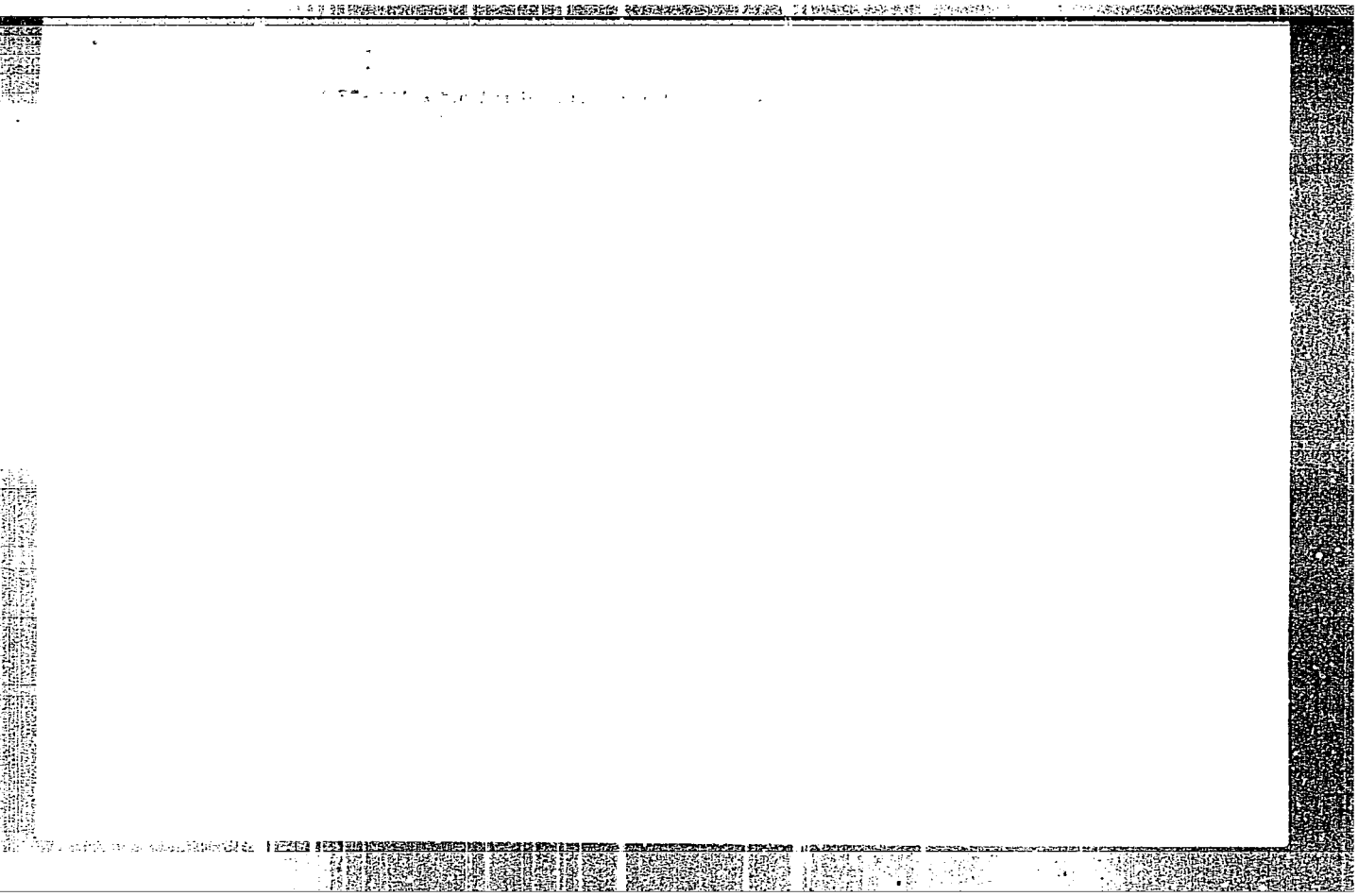
NYANKOVSKAYA, R.N.; FIRSOVA, V.G.

Irreversible-reciprocal system of sodium and potassium carbonates and bromides. Izv.Sekt.fiz.-khim.anal. 22:216-224 '53. (MLRA 7:5)

1. Kafedra khimii Yaroslavskogo gosudarstvennogo pedagogicheskogo instituta im. K.D.Ushinskogo.
(Carbonates) (Bromides) (Systems (Chemistry))

FIRSTOV, Vladimir Grigor'yevich; SHIROKOVA, G.M., red.

[Use of radioisotopes in construction] Primenenie radioaktivnykh izotopov v stroitel'stve. Moskva, Stroiizdat, 1964. 159 p. (MIRA 17:9)



APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413220020-7"

USSR/Chemical Technology - Chemical Products and Their Application. Food Industry, I-28

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 63722

Author: Karnitskaya, N. V., Firsova, V. I., Makashev, A. P., Aldakimova, A. Ya.

Institution: None

Title: Action of Carbon Dioxice on Botulism Microbe in Fish Processed by Hot Smoking

Original Periodical: Vopr. pitaniya, 1956, No 2, 49-50

Abstract: Study of the effects of storage of fish, that has been hot-smoked, in an atmosphere of CO_2 (70-90%) on toxin formation by B. botulinus, the spores of which are found in the intestines of some fish under natural conditions. It was found that hot-smoked fish of small and medium size is preserved in CO_2 in good condition (according to organoleptic characteristics) for 15 days as compared with 2-3 days of the controls. Storage of fish in an atmosphere of CO_2 neither inhibits nor stimulates germination of spores and toxin production of B. botulinus.

Card 1/1

FIRSOVA, V. P.:

Firsova, V. P.: "The comparative characteristics of podzolic soils under the argillaceous cover of the central portion of the Russian plain." Leningrad State Order of Lenin U imeni A. A. Zhdanov. Leningrad, 1956. (Dissertation for the Degree of Candidate in Biological Science)

SO: Knizhnaya letopis', No 27, 1956. Moscow. Pages 94-109; 111.

ZAVALISHIN, A.A. [deceased]; FIRSOVA, V.P.

Studying the genesis of Podzols on clayey surfaces in the Central part of the East European Plain. Sbor. rab. TSentr. muz. pochv. no.3:7-95 '60. (MIRA 13:9)
(East European Plain--Podzol)
(Soil formation)

FIRSOVA, V.P.

Some characteristics of agricultural transformation of Podzolic soils formed from loamy parent material. Vest. LGU 15 no.3:67-78 '60. (MIRA 13:1)

(Vologda Province--Podzol)

FIRSOVA, V.P.

Clayey surfaces of the Northeast and the central part of the East European Plain as soil-forming rocks. Pochvovedenie no.11:32-40 N '60. (MIRA 13:11)

1. Institut biologii Ural'skogo filiala Akademii nauk SSSR.
(Russia, Northern--Soil formation)
(East European Plain--Soil formation)

FIRSOVA, V.P.

Effect of forest fires on soil. Trudy Inst. biol. UFAN SSSR no.16:41-51 '60. (MIRA 13:10)
(Forest fires) (Forest soils)

FIRSOVA, V.P.

Dynamics of water soluble substances in forest turf-Podzolic soils of the pine forests in the Pyshma Valley. Pochvovedenie no.9:59-69 S '64.
(MIRA 17:12)

1. Institut biologii Ural'skogo filiala AN SSSR.

FIRSOVA, V.P.

Effect of forest cutting and cleaning cutovers by burning on the content and dynamics of water-soluble substances in turf-Podzolic soils of the trans-Ural region. Pochvovedenie no.6:32-40 Je '65. (MIRA 18:11)

1. Ural'skiy filial Instituta biologii AN SSSR. Submitted May 4, 1964.

ZUBAREVA, R.S.; FIRSOVA, V.P.

Ecology of pines in the dark-green forests of southern taiga in the Central Ural Mountains. Trudy Inst. biol. UFAN SSSR no. 43: 203-207 '65. (MIRA 19:1)

1. Institut biologii Ural'skogo filiala AN SSSR.

PYLKOV, P.V.; FIRSOVA, Ye.A., redaktor; FOKINA. A.P., tekhnicheskiy redaktor.

[How to build your own motor boat] Kak samomu postroit' motornuiu lodku. Moskva, Izd-vo Glavsevmorputi, 1951. 53 p.[Microfilm] (MLRA 10:6)

(Motorboats)

FIRSOVA, Ye. A.

PHASE I BOOK EXPLOITATION 332

Isayev, S. I.

Polyarnyye siyaniya (Polar lights) Moscow, Izd-vo Glavsevmorputi, 1952. 60 p. 50,000 copies printed.

Ed. (title page): Khvostikov, I.A., Prof.; Ed. (inside book): Firsova, Ye. A.; Tech. Ed.: Moskvicheva, N. I.

PURPOSE: The book is designed to give a popular introduction to the study of the phenomenon of aurorae.

COVERAGE: The author discusses the following problems: a) the origin of polar lights and the nature of this phenomenon; b) how the study of polar lights can help us know more about the upper atmosphere of the earth. There are 6 references, all Soviet.

Card 1/3

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Polar lights (Cont.) 332

AVAILABLE: Library of Congress

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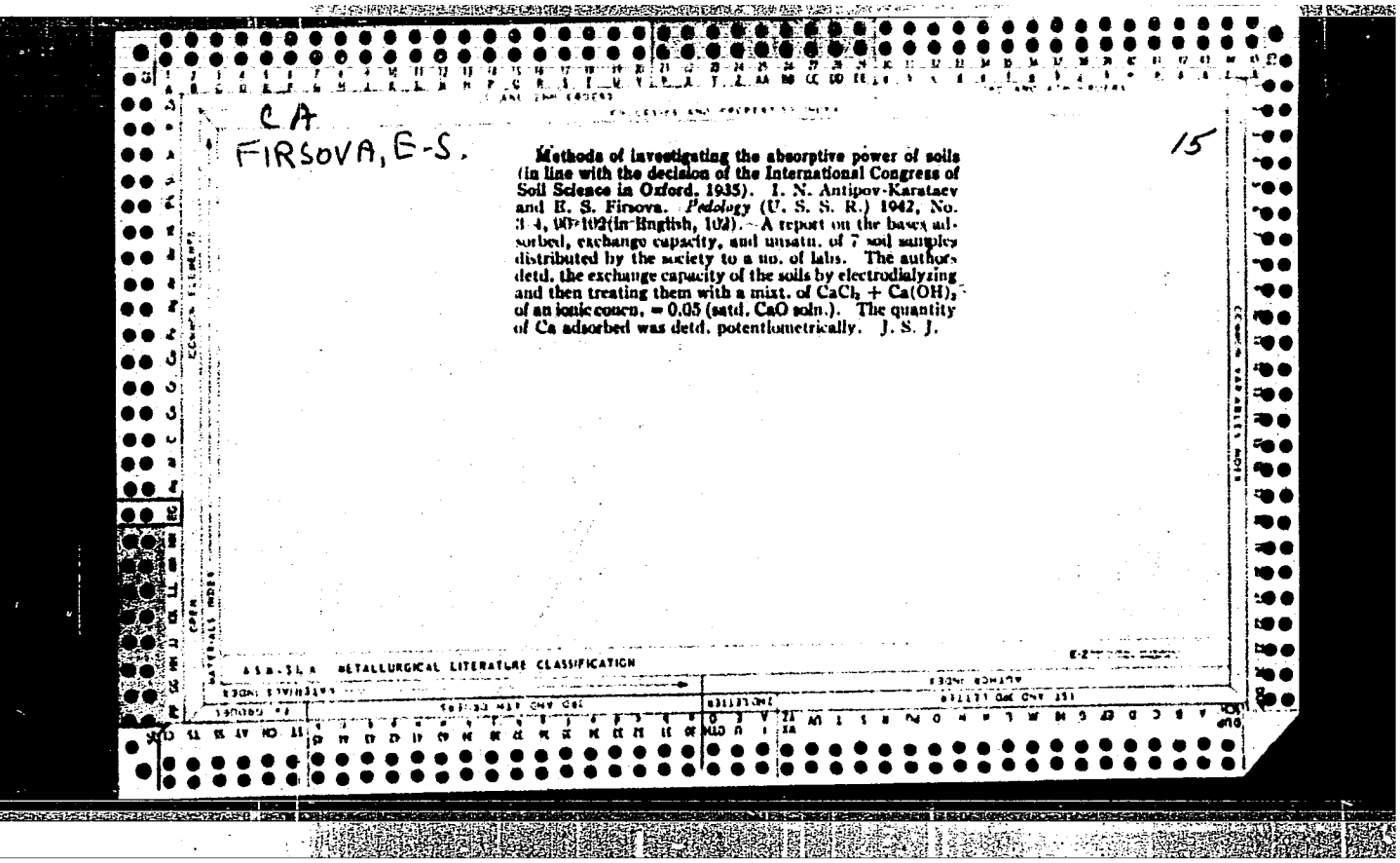
May 27,1958



CA

FIRSOVA, E-S.

15

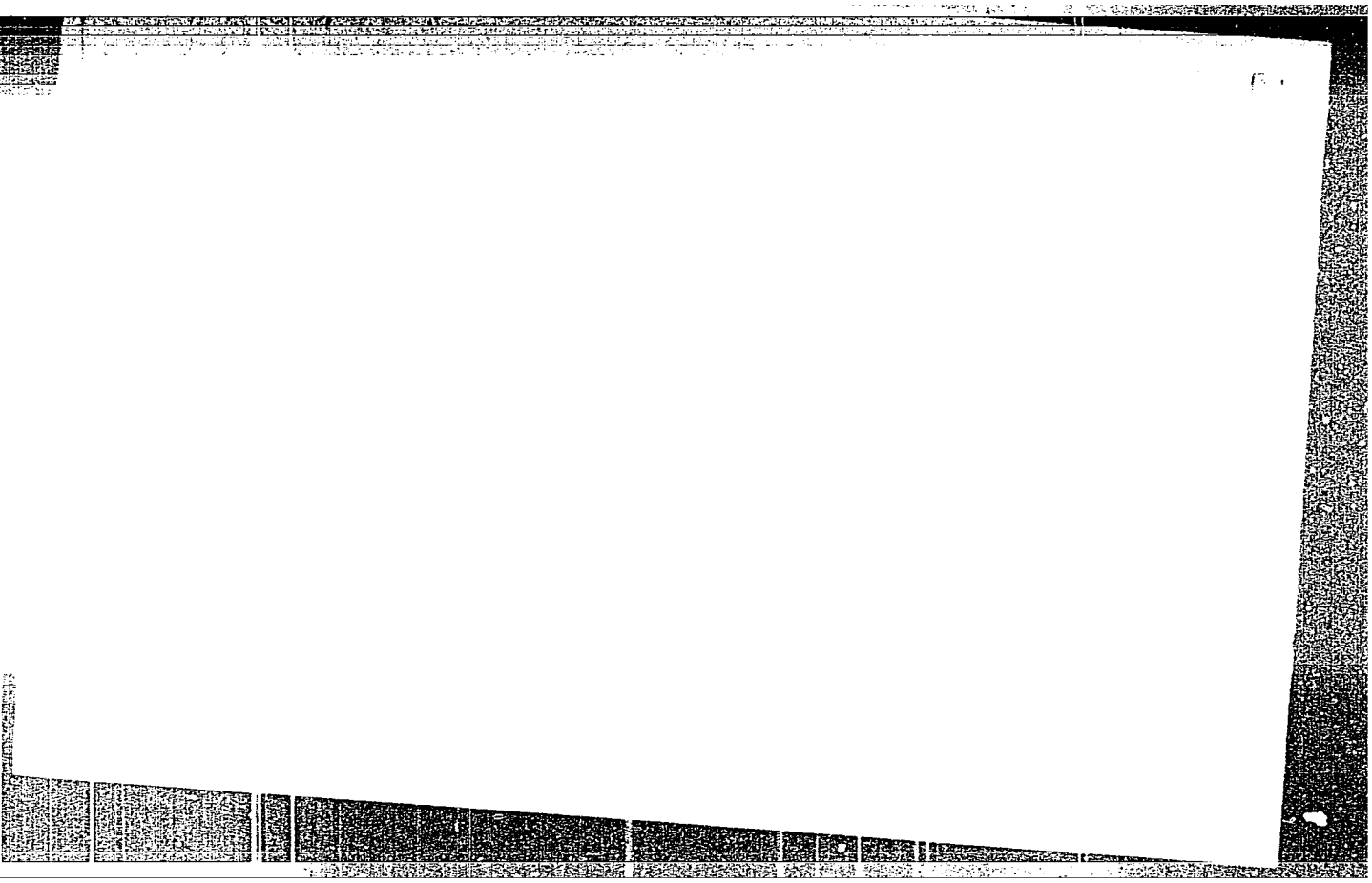
Methods of investigating the absorptive power of soils (in line with the decision of the International Congress of Soil Science in Oxford, 1935). I. N. Antipov-Karataev and E. S. Firsova. *Pedology* (U. S. S. R.) 1942, No. 3-4, 95-102(in English, 102).—A report on the bases adsorbed, exchange capacity, and unsatn. of 7 soil samples distributed by the society to a no. of labs. The authors detd. the exchange capacity of the soils by electrodialyzing and then treating them with a mixt. of $CaCl_2$ + $Ca(OH)_2$ of an ionic concn. = 0.05 (satd. CaO soln.). The quantity of Ca adsorbed was detd. potentiometrically. J. S. J.

A S M - S L A METALLURGICAL LITERATURE CLASSIFICATION

FIRSOVA, E.S.

25110 FIRSOVA, E.S. Vliyaniye Erodirovannosti Pochv Na Razvitiye I Urozhaynost' Vinogradnikov. Trudy Yubileynoy Sessii, Posvyaschch. Stoletiyu So Dnya Rozhdeniya Dokuchayeva. M.-L.,1949, S. 468-75.

SO: Letopis', No. 33, 1949



APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413220020-7"

FIRSOVA, Ye.S.

Minimum water capacity of soils [with summary in English]. Pochvovedenie no.2:72-76 F '58. (MIRA 11:3)

1. Pochvennyy institut im. V.V. Dokuchayeva AN SSSR.
(Soil moisture)

FIRSOVA, Ye.S.

Effect of soil forming rocks on the process of water erosion on the right banks of the Oka River [with summary in English]. Pochvovedenie no. 9:134-141 '58. (MIRA 11:10)

1. Pochvennyy institut imeni V.V.Dokuchayeva AN SSSR.
(Oka Valley--Erosion)

Determination of ethylene glycol and its monomethyl ether. I. M. Yurist and [illegible] 4

VASIL'TSOV, V.D.; VOLCHENKO, M.Ya.; GERTSOVICH, G.B., kand.ekon. nauk; ZHARKOV, Ye.I.; KONOVALOV, Ye.A., kand. ekon. nauk; MATVIYEVSKAYA, E.D.; OLEYNIK, I.P., kand. ekon. nauk; RAYEVSKAYA, E.S.,; SKVORTSOVA, A.I.; SOKOLOVA, N.V.; SOTNIKOVA, I.A.; TANDIT, V.S.; TRIGUBENKO, M.Ye.; FIRSOVA, Yu.V.; SHABUNINA, V.I.; YUMIN, M.N.; STOROZHEV, V.I., kand. istor. nauk, red.; LEPNIKOVA, Ye., red.; SMIRNOV, G., tekhn. red.

[Economy of the people's democracies in figures for 1960] Ekonomika stran sotsialisticheskogo lageria v tsifrakh 1960 g. Pod red. G.B.Gertsovicha, I.P.Oleinika, V.I.Storozheva. Moskva, Izd-vo sotsial'no-ekon. lit-ry, 1961. 238 p. (MIRA 15:4)
(Communist countries--Economic conditions)

VASIL'TSOV, V.D.; VOLODARSKIY, L.M.; VOLCHENKO, M.Ya.; GALETSKAYA, R.A.; IROV, N.I.; KARINYA, L.F.; KONOVALOV, Ye.A.; MATVIYEVSKAYA, E.D.; PETRESKU, M.I.; RUDAKOV, Ye.V.; SAYFULINA, L.M.; SKVORTSOVA, A.M.; SOKOLOVA, N.M.; SOTNIKOVA, I.A.; STOLPOV, N.D.; SURKO , Yu.V.; TEN, V.A.; TRIGUBENKO, M.Ye.; FIRSOVA, Yu.V.; SHABUNINA, V.I.; YUMIN, M.N.; RYABUSHKIN, T.V., doktor ekon. nauk, otv. red.; ALAMPIYEV, P.M., red.; PAK, G.V., red.; GERASIMOVA, D., tekhn.red.

[Economy of socialist countries, 1960-1962] Ekonomika stran sotsializma, 1960-1962gg. Moskva, Izd-vo "Ekonomika," 1964. 261 p. (MIRA 16:12)

1. Akademiya nauk SSSR. Institut ekonomiki mirovoy sotsialisticheskoy sistemy.
(Communist countries--Economic conditions)

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ACCESSION NR: AP5016834

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AUTHOR: udecek, Frantisek (Engineer); Firat, Antonin (Engineer)

mmation metering of large DC currents

Elektrotechnicky obzor, v. 53, no. 12, 1964

direct current, electric quantity instrument

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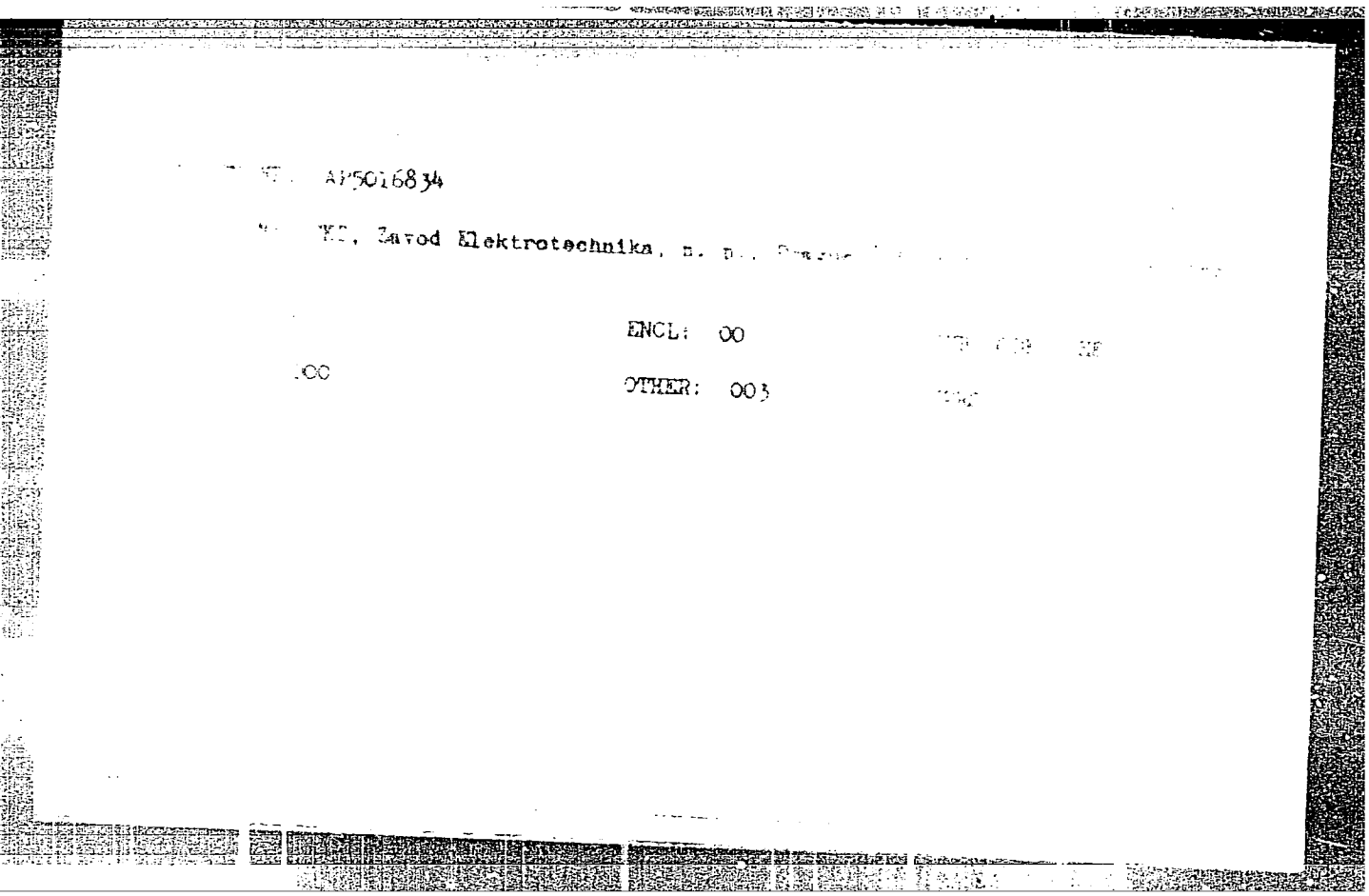

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