36477
S/181/62/004/003/017/045
B117/B108

24.7800

AUTHORS: Ioffe, V. A., and Yanchevskaya, I. S.

TITLE: Dielectric resonance losses in aluminum silicates

PERIODICAL: Fizika tverdogo tela, v. 4, no. 3, 1962, 668 - 680

TEXT: The authors subjected crystalline aluminum silicates obtained by crystallization from solutions in readily fusible salts ($CaCl_2$, NaCl, LiCl) to X-ray, petrographic, and chemical examinations. This method of obtaining albite and β-spodumene in the form of dense polycrystalline druses will be published in ZhNKh. $CaAl_2Si_2O_8$ was produced by a ceramic procedure. These samples were X-ray investigated. $\tan\delta$ and ε were measured on dry samples in vacuo in the frequency ranges of 50 kcps 5 Mcps and 100 cps - 10kcps. The effect of thermal treatment on the resonance absorption of samples was studied on albite, plagioclase no. 15, plagioclase no. 25, four microclines of different origins, and orthoclase. It was shown that the dielectric losses of natural aluminum silicates and of aluminum silicates obtained from chemically pure reagents are of the same order of magnitude. The dichroism observed showed that the symmetry of the absorption centers coincide with

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Dielectric resonance losses in

the crystal symmetry. It may be assumed therefore that these centers are not impurities but structural formations. The change in resonance absorption during the heating of feldspars can be explained by the position of the cations in the Si-Al-O structure. Resonance losses increase after heating to temperatures corresponding to the formation of a solid solution, i. e., the start of cation displacement from the state of equilibrium. The results obtained confirm the assumption that the cause of resonance losses in aluminum silicates is an aluminum oxygen tetrahedron with incomplete compensation of the electrostatic charge. To explain the experimental temperature and frequency dependences of $\tan\delta$, a model reflecting three processes is suggested: (1) Transition of the electron captured by a vacancy from the ground state to an excited state; (2) resonance absorption during the transition between the components of the excited degenerate level; the splitting of this level is very small and increases with temperature up to a certain constant value ($\sim 10^{-6}$ kT); (3) in some cases, the resonant frequency increases with temperature owing to strong interaction between resonator and medium: $\omega_{max} \sim 1/\tau$ (τ is the relaxation time). The position of these processes on the temperature scale depends on the near order round the defect. In aluminum silicates, electron processes are the principal causes of dielectric

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losses up to temperatures of the order of 500°K and frequencies of 10^5 - 10^7 cps. In spite of a high content in alkali ions, ionic processes are of no particular importance in these temperature and frequency ranges. Resonance absorption was also observed in cerium and praseodymium aluminates of perovskite structure. The results will soon be published. There are 10 figures and 15 references: 5 Soviet and 10 non-Soviet. The four most recent references to English-language publications read as follows: J. B. Jones, W. H. Tailor, Acta Cryst., 14, 443, 1961; H. D. Megaw. Min. Mag., 32, no.246, 226, 1959; J. Volger, Disc. Faraday Soc., 23, 63, 1957; J. Susmann. Techn. Rep. Electr. Res. Acc. N. - L/T 348-5 (1956).

ASSOCIATION: Institut khimii silikatov AN SSSR, Leningrad (Institute of Silicate Chemistry AS USSR, Leningrad)

SUBMITTED: October 27, 1961

Card 3/3

IOFFE, V.A.; LEONOV, A.I.; YANCHEVSKAYA, I.S.

Nature of the high dielectric permeability of cerium aluminates of a perovskite-type structure. Fiz.tver.tela 4 no.7:1788-1795 Jl '62. (MIRA 16:6)

1. Institut khimii silikatov AN SSSR, Leningrad.
(Cerium aluminate) (Dielectric constants)

BRUDZ', V.G.; GLOBUS, R.L.; IOFFE, V.A.; GRACHEVA, L.I.

Guanidine carbonate (urea imide carbonate). Metod.poluch.khim. reak.i prepar. no.4/5:8-11 '62.

Guanidine sulfate (urea imide sulfate). Ibid.:17-18

(MIRA 17:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobo chistykh khimicheskikh veshchestv.

BRUDZ', V.G.; GLOBUS, R.L.; IOFFE, V.A.

Guanidine acetate (urea imide acetate). Metod.poluch.khim.reak.i prepar. no.4/5:18-19 '62.

Dicyandiamidine sulfate. Ibid.:23-24

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobo chistykh khimicheskikh veshchestv.

BRUDZ', V.G.; IOFFE, V.A.; GRACHEVA, L.I.

Dicyandiamidine carbonate. Metod.poluch.khim.reak.i prepar. no.4/5: 24-26 '62.

Dicyandiamidine bicarbonate. Ibid.:26-27 (MIRA 17:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobo chistykh khimicheskikh veshchestv.

ACCESSION NR: AP4043347 S/0181/64/006/008/2314/2321

AUTHORS: Ioffe, V. A.; Leonov, A. I.; Razumeyenk, M. V.

TITLE: Investigation of the dielectric constant and losses in some solid solutions based on cerium aluminate

SOURCE: Fizika tverdogo tela, v. 6, no. 8, 1964, 2314-2321

TOPIC TAGS: cerium alloy, aluminate, rare earth compound, dielectric constant, dielectric loss, solid solution, frequency shift, temperature dependence

ABSTRACT: This is a continuation of earlier work (FTT, v. 4, 1777, 1962) and is aimed at further explanation of the causes of the high dielectric constant of $CeAlO_3$ and the anomalous temperature dependence of its dispersion. To this end, the complex dielectric constant of aluminates of rare-earth elements with perovskite

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ACCESSION NR: AP4043347

structure and of a few solid solutions based on cerium aluminate were measured. Some samples exhibited an anomalous shift of the maximum of the imaginary part of the dielectric constant with change in temperature. The following conclusions are drawn: 1. Aluminates of rare-earth elements with perovskite structure, whose rare-earth ions are stable in the trivalent state, have a frequency-independent dielectric constant like all ionic crystals. 2. Praseodymium aluminate has a higher dielectric constant, which is probably due to the tendency of the praseodymium ion to assume a tetravalent state. Cerium aluminate with up to 0.1% of samarium aluminate or europium aluminate added has a low frequency-independent dielectric constant, probably because the Sm and Eu ions, which have a tendency to assume a divalent state, trap the electrons from the Ce^{3+} and inhibit the formation of defects that cause the high dielectric constant of $CeAlO_3$. The anomalous shift of the frequency maximum of the complex component of the dielectric constant with change in

ACCESSION NR: AP4043347

temperature, observed in $CeAlO_3$ and some solid solutions on its base, cannot be likened to any of the polarization and loss properties considered normally in the theory of dielectrics. Orig. art. has: 7 figures and 1 table.

ASSOCIATION: Institut khimii silikatov im. I. V. Grebenshchikova AN SSSR Leningrad (Institute of Chemistry of Silicates, AN SSSR)

SUBMITTED: 12Feb64 ENCL: 00

SUB CODE: IC, EM NR REF SOV: 001 OTHER: 002

Card 3/3

IOFFE, V.A.; LEONOV, A.I.; RAZUMEYENKO, M.V.

Study of the dielectric constant and loss in certain $CeAlO_3$-base solid solutions. Fiz. tver. tela 6 no.8:2314-2321 Ag '64.

Nonlinear characteristics of cerium aluminate. Ibid.:2405-2410 (MIRA 17:11)

1. Institut khimii silikatov imeni Grebenshchikova AN SSSR, Leningrad.

ACCESSION NR: AP4043361 S/0181/64/006/008/2405/2410

AUTHOR: Ioffe, V. A.; Leonov, A. I.; Razumeyenko, M. V.

TITLE: Nonlinear properties of cerium aluminate

SOURCE: Fizika tverdogo tela, v. 6, no. 8, 1964, 2405-2410

TOPIC TAGS: cerium alloy, aluminate, dielectric constant, polarization, ferroelectricity, hysteresis

ABSTRACT: This is a continuation of earlier work by some of the authors (FTT, v. 4, 1778, 1962 and v. 6, 2314, 1964) on the high dielectric constant of some samples of $CeAlO_3$ and on the complicated nature of the processes of polarization and absorption in solid solutions on its basis. To this end, the authors investigated the dielectric hysteresis loops, the dependence of the reversible dielectric constant on the bias field intensity, and the electric conductivity in weak and strong fields, using samples of $CeAlO_3$ and

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ACCESSION NR: AP4043361

some solid solutions on its basis. The dielectric hysteresis loops were investigated with apparatus similar to that of Sawyer and Tower. The oscillograms were photographed and calculated using a conventional procedure. Samples with low dielectric constant and ordinary temperature dependence of the components of the dielectric constant displayed no hysteresis. Samples with anomalous properties, such as those described by the authors earlier, did show hysteresis loops which increased with increasing field intensity and became more rectangular. Attempts to compensate for the hysteresis loop were unsuccessful, and the polarization did not reach saturation up to breakdown values of the field. No change in the dielectric constant was observed after application of a bias field. The electric conductivity of the samples was shown to have an exponential dependence on the field intensity. The hysteresis loops are shown to be due to nonlinear relationship between the electric conductivity and the field intensity, rather than to ferroelectric properties of $CeAlO_3$. Orig. art. has: 6 figures.

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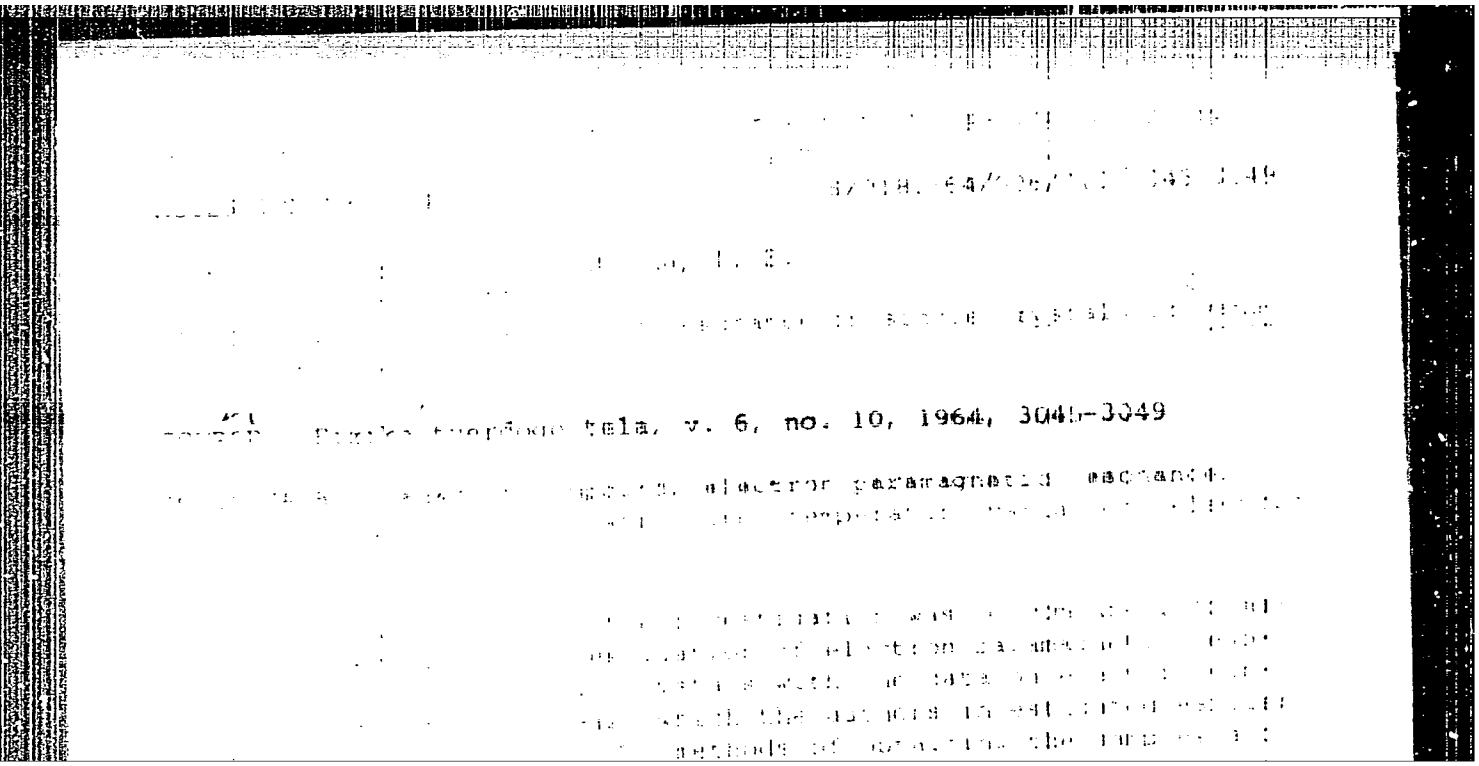
ACCESSION NR: AP4043361

ASSOCIATION: Institut khimii silikatov AN SSSR, Leningrad
(Institute of Chemistry of Silicates, AN SSSR)

SUBMITTED: 27Feb64 ENCL: 00

SUB CODE: SS NR REF SOV: 002 OTHER: 010

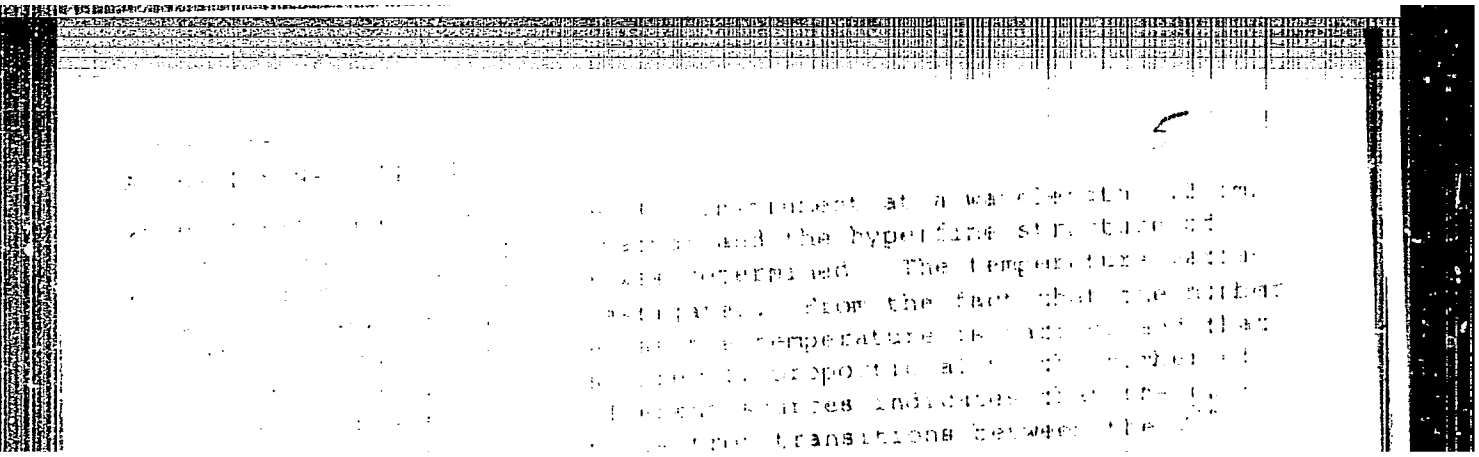
Card 3/3

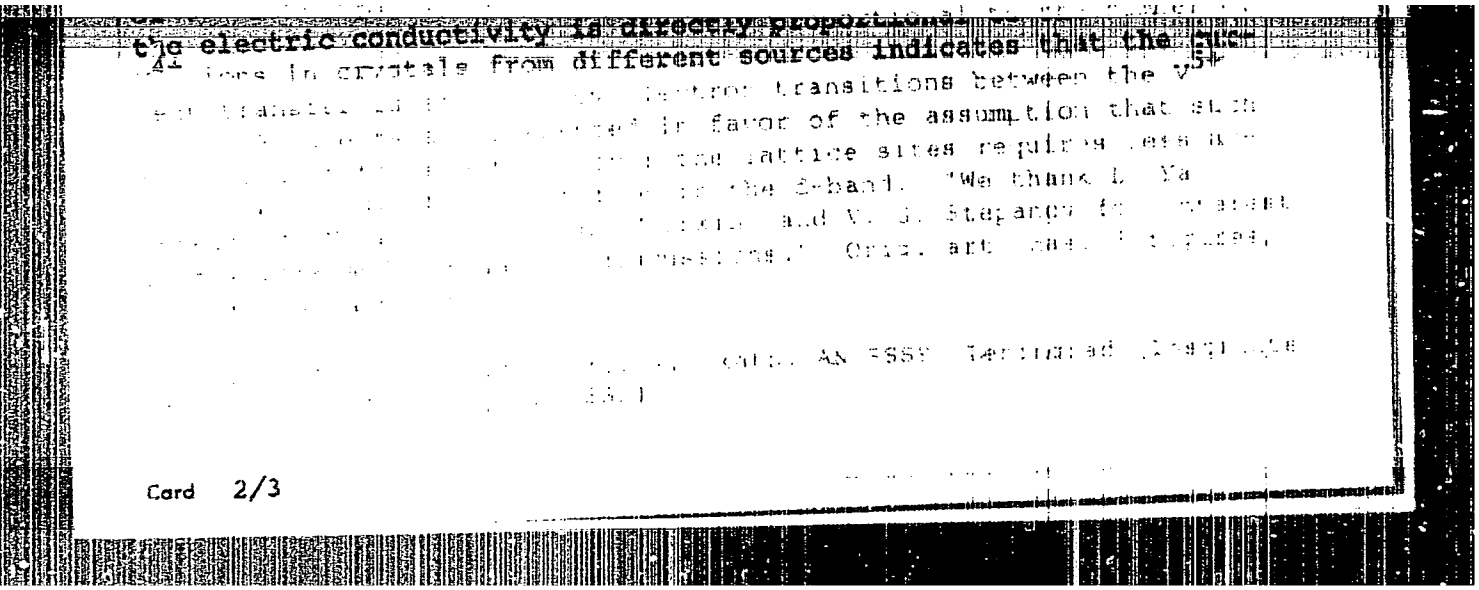


[illegible] Physica Scripta Tela, v. 6, no. 10, 1964, 3041-3049

[illegible] electron paramagnetic [illegible]

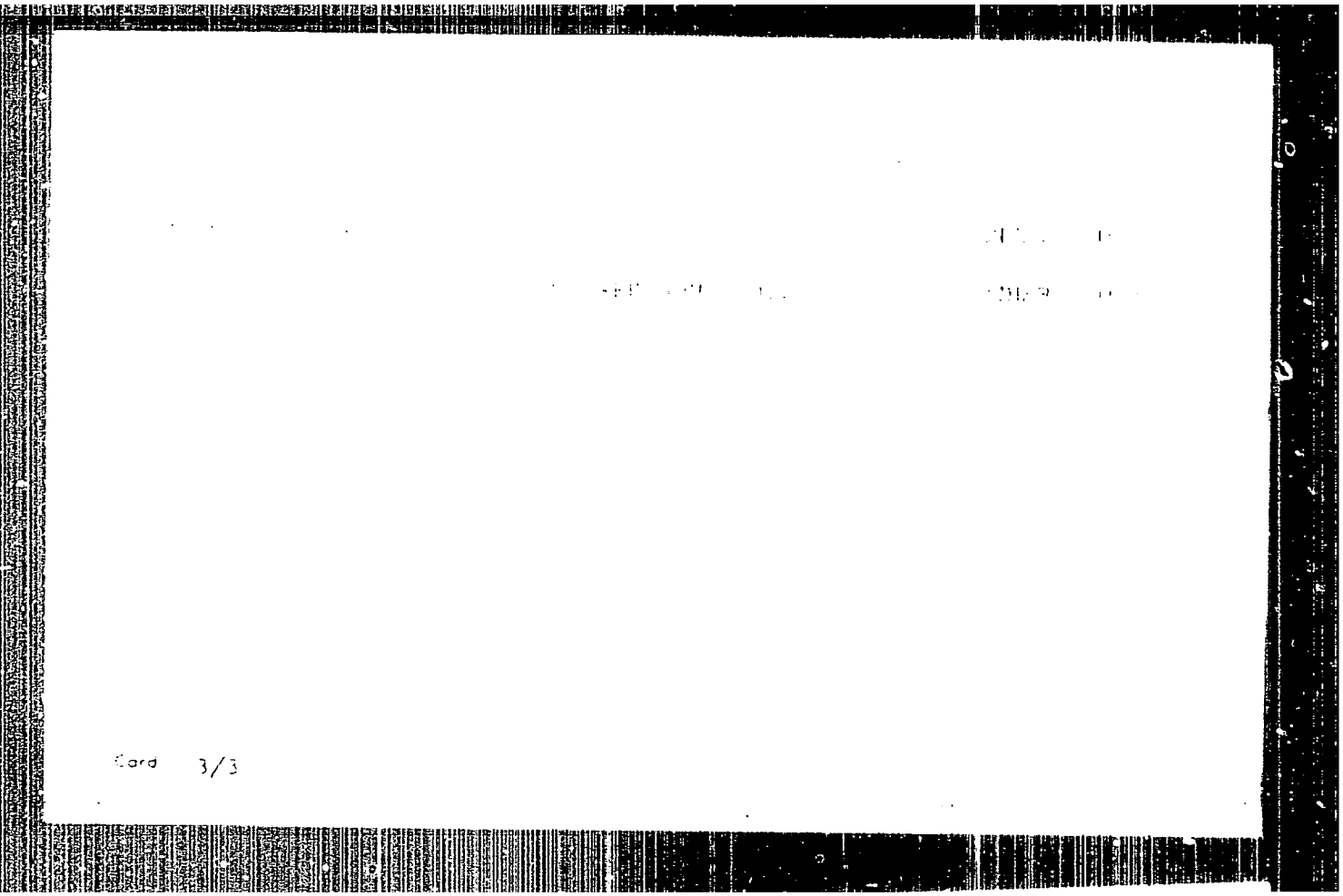
nance (EPR) in V_2O_5 single crystals with the [redacted]
ductivity of these crystals, which the authors investigated earlier
[redacted] methods of obtaining the samples and
[redacted] in the earlier paper. [redacted]



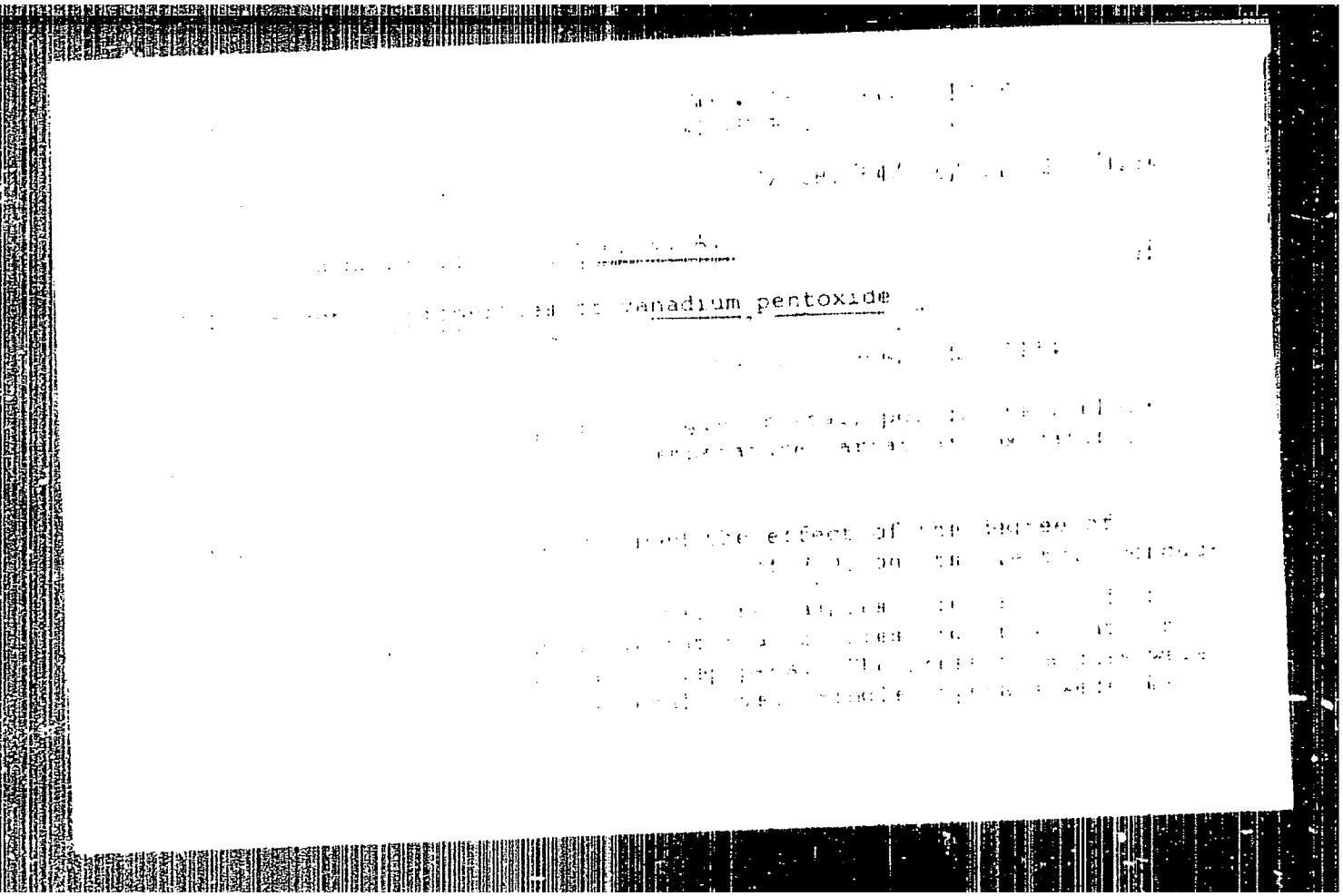


the electric conductivity is already proportional
ions in crystals from different sources indicates that the
electron transitions between the V
in favor of the assumption that
the lattice sites require
the E-band. "We thank L. Ya
and V. J. Stepanov
Orig. art
AN SSSR Terrestrial Magnetism
IZMIR

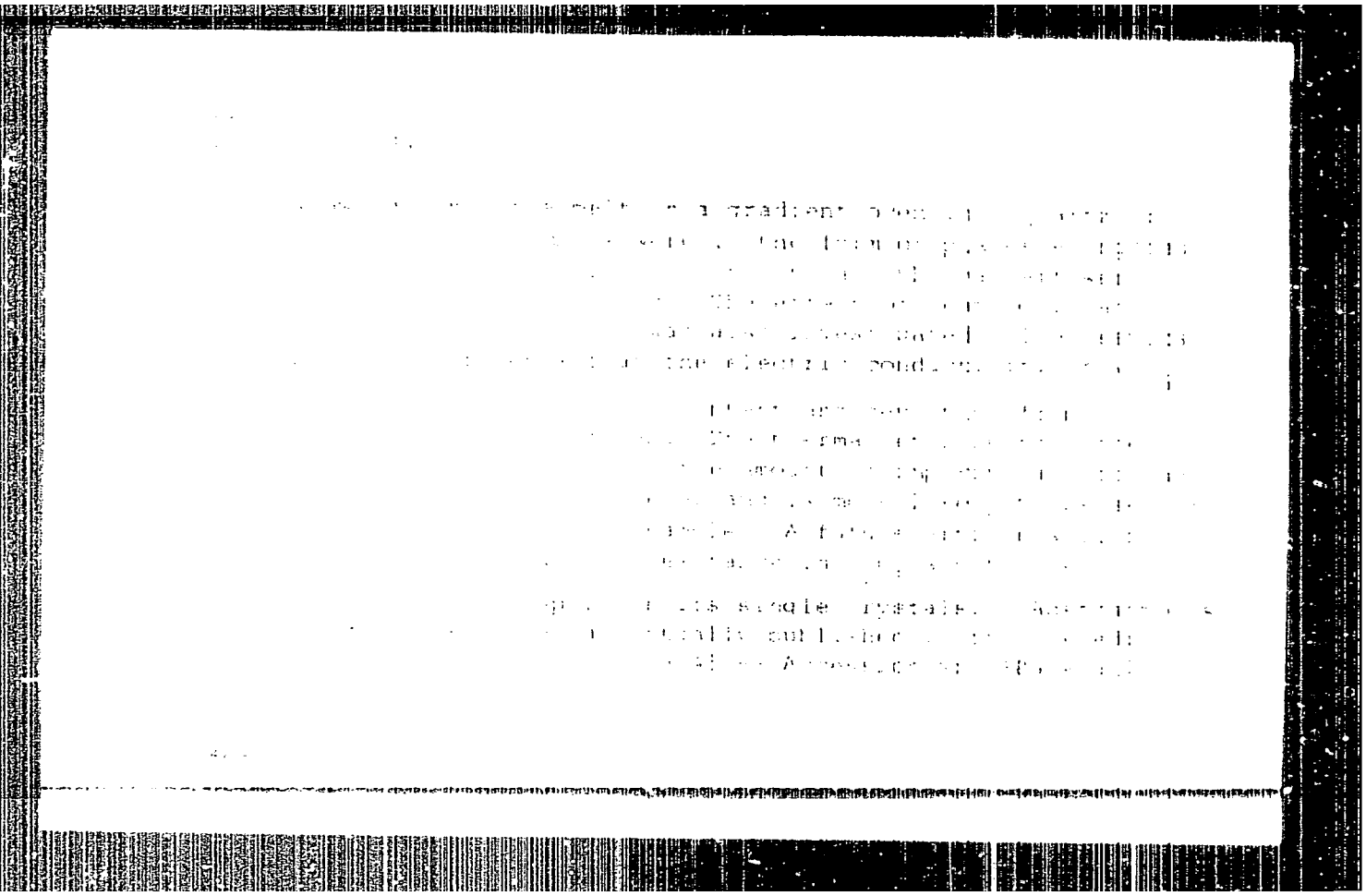
Card 2/3

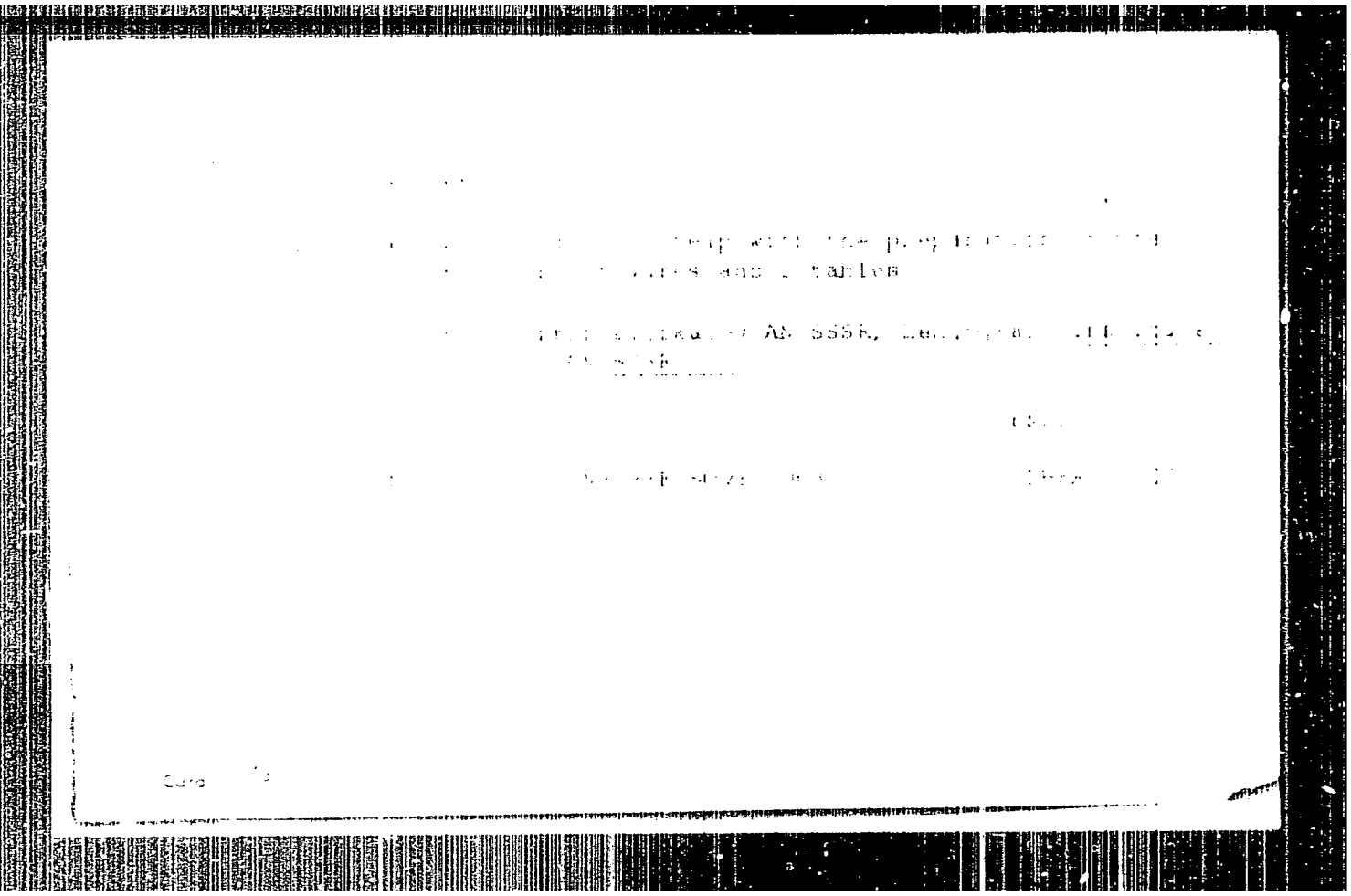


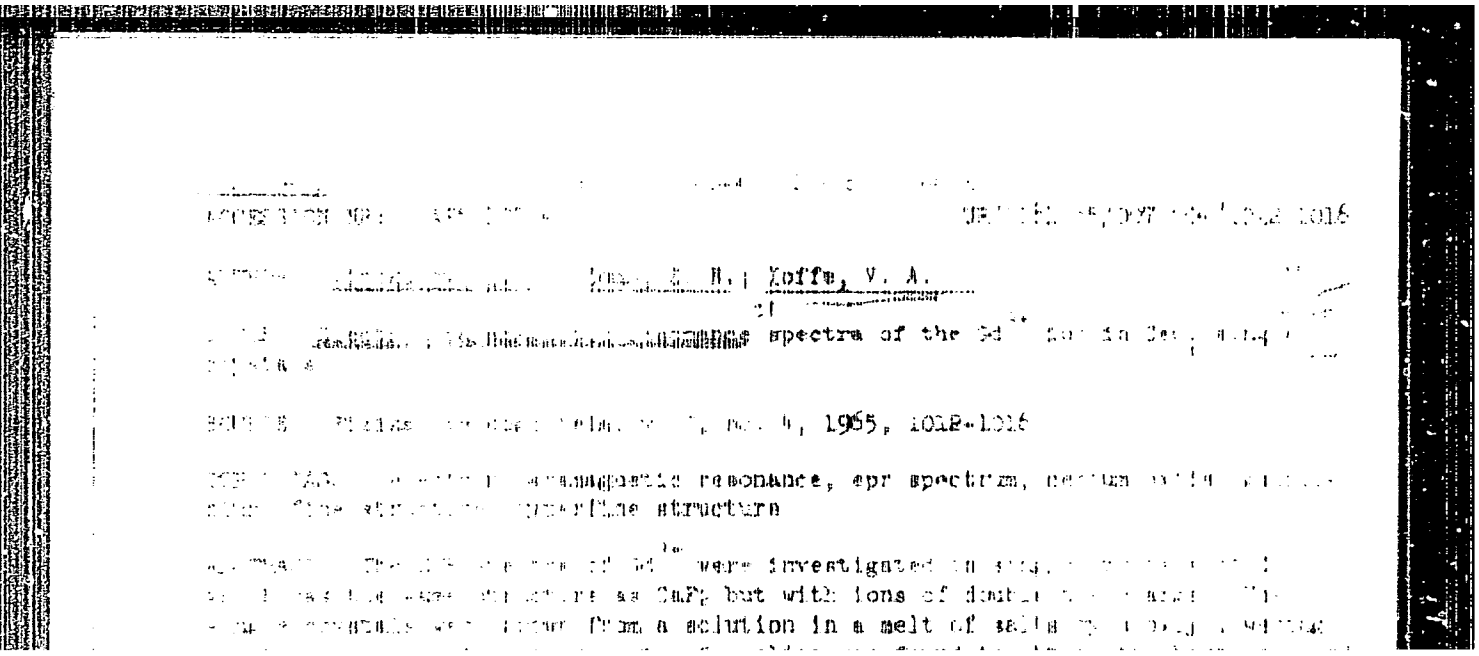
APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000618630004-3"



vanadium pentoxide







[illegible] Yoffe, V. A.

[illegible] spectra of the Gd^{++} ion in [illegible]

[illegible], 1965, 1028-1016

[illegible] paramagnetic resonance, epr spectrum, [illegible] structure

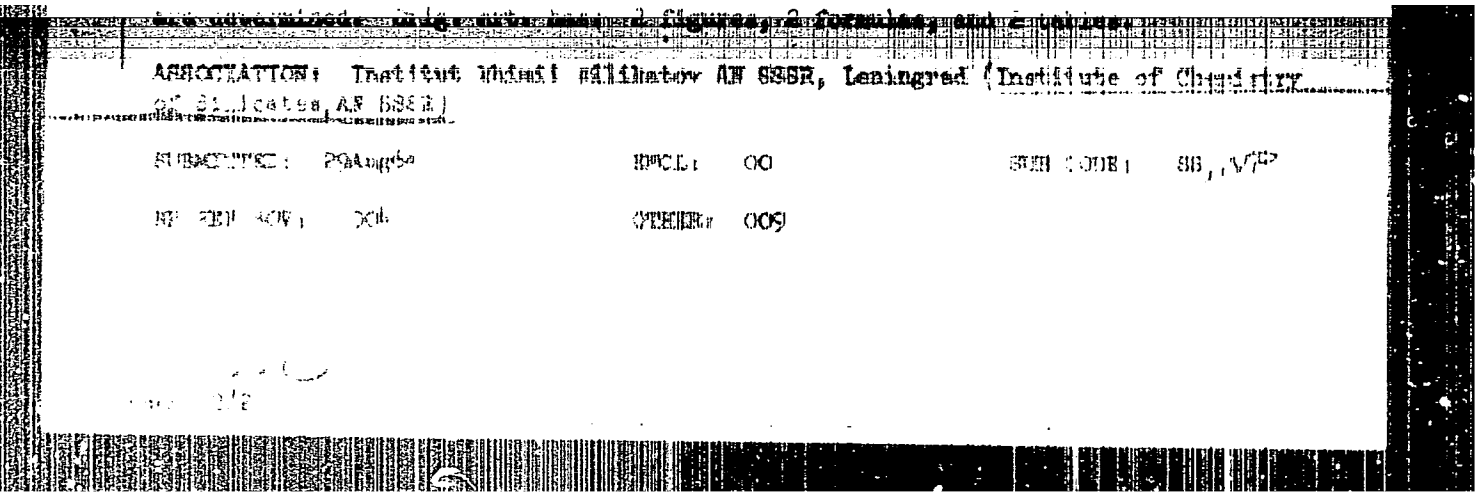
[illegible] were investigated in [illegible] but with ions of [illegible] from a solution in a melt of [illegible]

which has the same structure as CaF_2 but with ions of double the charge. The single crystals were grown from a solution in a melt of salts by slowly lowering the temperature. An optimum rate of cooling was found to obtain the best size and shape of the crystals (5.5°C/hr). The single crystals were investigated by x-ray diffraction and by thermographic analysis; the specific gravity was determined by Archimedes weighing, and was found to be 7.3 g/cm^3. The UV was investigated with a type UR-10 instrument at approximately 3.2 cm wavelength in the temperature from 77 to 300K. All samples, no matter how prepared, had the same spectrum,

and [illegible]

[redacted]

with a characteristic angular dependence
liner shows that, regardless of the crystal [illegible] with
ion concentration, centers of the same type
symmetry of the local field. The odd [illegible]
were used to obtain the hyperfine structure spectra. The



ASSOCIATION: Institut khimii silikatov AN SSSR, Leningrad (Institute of Chemistry of Silicates, AN SSSR)

SUBMITTED: [illegible] DATE: 00 SUB CODE: GC, MP

NR REF SOV: 001 OTHER: 009

L 9256-66 EWT(l)/EWT(m)/T/EWP(t)/EWP(b)/EWA(c) IJP(c, JD, AM, JG, JI

ACC NR: AP5022718 SOURCE CODE: UR/0181/65/007/009/2754/2758

44,55 44,55 44,55

AUTHOR: Dmitriyeva, L. V.; Ioffe, V. A.; Patrina, I. B.

44,55

ORG: Institute of Silicate Chemistry im. I. V. Grebenshchikov AN SSSR, Leningrad (Institut khimii silikatov AN SSSR)

TITLE: Relationship between electrical conductivity and the state of V^{4+} ions in V_2O_5 crystals

SOURCE: Fizika tverdogo tela, v. 7, no. 9, 1965, 2754-2758

21,44,55

TOPIC TAGS: vanadium pentoxide, single crystal, EPR spectrum

21,44,55

ABSTRACT: The authors study electrical conductivity and electron paramagnetic resonance spectra in single crystals of V_2O_5 with an admixture of 0.1% MoO_3, and quadrupole splitting in nuclear magnetic resonance spectra of V^{51} in V_2O_5 single crystals. The methods and equipment used for preparation of the specimens and carrying out the experiments are described in detail. Electron paramagnetic resonance spectra are given for the tetravalent vanadium ion in a pure single crystal and in a crystal with an impurity of MoO_3. The experimental data show that V^{4+} ions may be present in single crystals of V_2O_5 in two energy states. Electron paramagnetic resonance data show that both V^{4+} ions as well as the Fe^{3+} ion are in an octahedral field with a strong axial component along axis *b*. An ion model is proposed for this type of struc-

Card 1/2

L 9200-66

ACC NR: AP5022718

ture. Tetravalent vanadium ions of only one type take part in current transfer. A comparison of electron paramagnetic resonance spectra for both types of vanadium ions and trivalent iron ions with nuclear magnetic resonance spectra of V^{51} at normal lattice sites is used for more precise determination of the state of current carriers in V_2O_5. Apparently only those electrons which interact with at least two vanadium nuclei take part in current transfer in vanadic oxide, i. e. they are localized not at one, but at at least two lattice points. Orig. art. has: 3 figures, 1 table.

SUB CODE: 20/ SUBM DATE: 08Apr65/ ORIG REF: 002/ OTH REF: 003

Card 2/2

L 2122-66 EWT(l)/EWP(e)/EWT(m)/EPF(c)/EWP(i)/EPF(n)-2/EWP(t)/EWP(b) IJP(c)
JD/NW/GG/WH
ACCESSION NR: AP5024556 UR/0070/65/010/005/0727/0731
548.0

AUTHOR: Zil'bershteyn, Kh. I.; Ioffe, V. A.; Fedorov, Yu. E.

TITLE: Electron paramagnetic resonance in irradiated monocrystals of quartz with aluminum impurities

SOURCE: Kristallografiya, v. 10, no. 5, 1965, 727-731

TOPIC TAGS: irradiation, radiation damage, quartz, EPR, electron paramagnetic resonance, x ray

ABSTRACT: The EPR was investigated in natural and synthetic single crystals of quartz containing different amounts of aluminum impurities. Samples 6 x 4 x 2 mm were irradiated at room temperature with a dose of 10^4 r, which was sufficient to cause saturation in all samples. The EPR spectrum (first derivative of the absorption curve) was recorded at both 77K and at room temperature (see Figs. 1 and 2 of the Enclosure). At room temperature when H||C the width of the main peak was 15.9 oe and g was 2.00; the width of the satellites was 3 oe and g was 1.97 and 2.02 oe. When the crystal was oriented in a different direction the satellites disappeared. The structure and the shape of the central peak changed, but the g-factor remained practically constant. The EPR spectrum at 77K (Fig. 2) was almost

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L 2122-66
ACCESSION NR: AP5024556

identical to that observed by J. H. E. Griffiths et al (Report of the Bristole Conference on Defects in Crystalline Solids, Physical Society, London, 1955, p. 51) at 20K. The group of equidistant lines was attributed to a hole center associated with aluminum and was described by the spin-Hamiltonian and the values of constants determined in the above-quoted paper by Griffiths. The maximum value of the g-factor of the second group of lines observed at 77K during rotation about the vertical axis was 2.021; the minimum value was 2.004. The nature of this signal is unknown. It was found that the intensity of the EPR signal observed at 77K decreased linearly with increasing annealing temperature, becoming zero at 350C. The color of the crystal changed in the same manner. Orig. art. has: 6 figures. [CS]

ASSOCIATION: Institut khimii silikatov AN SSSR (Institute of the Chemistry of Silicates, AN SSSR)

SUBMITTED: 01Jul64 ENCL: 02 SUB CODE: SS,NP

NO REF SOV: 003 OTHER: 004 ATD PRESS: 4113

Card 2/4

L 2122-66

ACCESSION NR: AP5024556

ENCLOSURE: 01

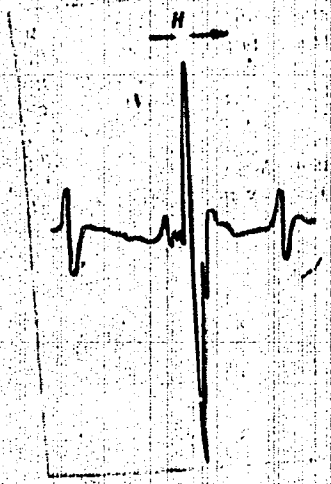

Fig. 1. EPR spectrum of irradiated quartz at T = 300K, H || C

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L 2122-66
ACCESSION NR: AP5024556

ENCLOSURE: 02

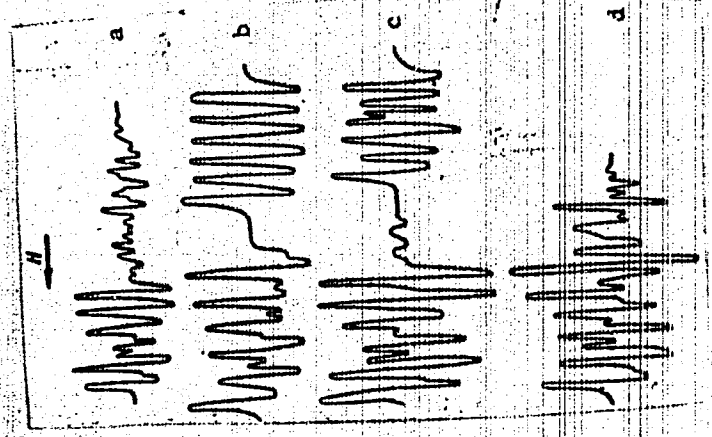

Fig. 2. EPR spectrum of irradiated quartz at T = 77K
a - H||C; the angle between H and C is: b - 45°;
c - 58°; g = 150°.

Card 4/4

L 15206-66 EWT(1)/EWP(e)/EWT(m)/EWP(t)/EWP(b) LIP(c) JD/WW/GO/WH

ACC NR: AP6001225 (A) SOURCE CODE: UR/0363/65/001/012/2093/2099

AUTHOR: Ioffe, V. A.; Yanchevskaya, I. S.

ORG: Institute of Silicate Chemistry im. I. V. Grebenshchikov, Academy of Sciences SSSR (Institut khimii silikatov Akademii nauk SSSR)

TITLE: Study of defects of quartz structure

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 12, 1965, 2093-2099

TOPIC TAGS: quartz crystal, thermoluminescence, EPR spectrum, luminescence center

ABSTRACT: The thermoluminescence of synthetic quartz samples containing the impurities Al, Na, Fe, Mn, Cu, Mg, Ti, Ca, and irradiated with x-rays in the 85 — 630K range and the electron paramagnetic resonance spectra of the samples were studied. A very sharp increase in the thermoluminescence intensity and a change in the thermoluminescence curve were noted as a result of several successive irradiation cycles at 85K and de-excitation up to 230K as compared to the de-excitation after a continuous irradiation of the same duration. Under such cyclic irradiation conditions, in addition to the six-component signals, a new narrow four-component signal due to the formation of a new trapping center appeared in the EPR spectrum. For all samples, the EPR spectrum consisted of six-component signals associated with the aluminum luminescence center. The thermoluminescence spectrum was the same for all the samples. Authors are grateful to L. I. Tsinober and I. Ye. Kamentsev for providing the

Card 1/2 UDC: 535.661:548.19

L 15206-66
ACC NR: AP6001225

samples of synthetic quartz. Orig. art. has: 7 figures and 1 table.

SUB CODE: 07, 20 / SUBM DATE: 13Apr65 / ORIG REF: 003 / OTH REF: 012

Card 2/2

L 11881-66 EWT(l)/EWT(m)/T/EWP(t)/EWP(b)/EWA(c) IJP(c) JD/JG/GS

ACC NR: AT6002243 SOURCE CODE: UR/2564/65/006/000/0122/0126

AUTHOR: Zonn, Z. N.; Ioffe, V. A.

ORG: none

TITLE: Growing of rare earth aluminate single crystals with a perovskite structure

SOURCE: AN SSSR. Institut kristallografii. Rost kristallov, v. 6, 1965, 122-126

TOPIC TAGS: single crystal growing, lanthanum compound, praseodymium compound, samarium compound, neodymium compound, aluminate, crystallization

ABSTRACT: Single crystals of $LaAlO_3$, $PrAlO_3$, $SmAlO_3$ and $NdAlO_3$ measuring up to 15 x 10 x 10 mm were obtained from an equimolar mixture of PbO and PbF_2 (ratio of crystallized substance to solvent, 1:8). The Pr, Nd, and Sm crystals were prepared from a mixture obtained by coprecipitation with NH_3. Observations with a high-temperature polarization microscope showed the presence of two phase transitions in $PrAlO_3$ (1000 and 1500 – 1600C) and $NdAlO_3$ (950 and 1400C). $LaAlO_3$ single crystals were prepared by heating to 1300C, then cooling at the rate of 4.5° per hour, and also by heating to 1200C, holding for 24 hr, and lowering the temperature at the rate of 1.5 – 2° per hour. These crystals contained up to 18% of ions of the palladium group and up to 2% lead ions as impurites. X-ray powder data for all four types of crystals are tabulated. They show that the number of lines changes with the crystallization conditions and with the size of the crystals. Orig. art. has: 5 figures and 1 table.

SUB CODE: 20 /SUBM DATE: none/ORIG REF: 002/ OTH REF: 007

Card 1/1

DMITRIYEVA, I.V.; IOFFE, V.A.; PATRINA, I.B.

Relation between the electroconductivity and state of V^{4+} ions in V_2O_5 crystals. Fiz. tver. tela 7 no.9:2754-2758 S '65.

(MIRA 18:10)

1. Institut khimii silikatov imeni I.V.Grebenshchikova AN SSSR, Leningrad.

L 11933-66 EWT(1)/EWT(m)/T/EWP(t)/EWP(b)/EWA(c) IJP(c) JD/JG
ACC NR: AP6001654 SOURCE CODE: UR/0051/65/019/006/0973/0975

AUTHOR: Zonn, Z. N.; Ioffe, V. A.; Feofilov, P. O.

ORG: none

TITLE: Luminescence of chromium and manganese ions in lanthanum aluminate crystals

SOURCE: Optika i spektroskopiya, v. 19, no. 6, 1965, 973-975

TOPIC TAGS: manganese, chromium, ion, lanthanum compound, single crystal, luminescence, aluminate

ABSTRACT: The authors discuss certain results of the study of the spectra and luminescence duration of isoelectronic ions Cr^{3+} and Mn^{4+} (electronic configuration $3d^3$), introduced into the crystal lattice of $LaAlO_3$. Both monocrystals grown from a solution in a melt as well as powdered samples were considered. No difference in the spectroscopic characteristics of the monocrystals and powders was noted. Crystal luminescence, located in the red and near-infrared portions of the spectrum was excited by an SVDSh-250 mercury lamp through a light filter consisting of a $CuSO_4$ solution, which had the effect of blocking the longwave portion of the energizing light. At small chromium concentrations

Card 1/2 UDC: 535.373.1

L 11933-66
ACC NR: AP6001654

the luminescence spectrum consists practically of a doublet with wavelengths of 7335 and 7338 Å. When the Cr^{3+} concentration is increased to 0.5% and above, the form of the luminescence spectrum undergoes definite modifications, which are described. With concentrations amounting to several percent, luminescence of Cr^{3+} in $LaAlO_3$ is entirely quenched. The luminescence spectra at different chromium percentages are illustrated. The luminescence is interpreted as a $^3E \rightarrow {}^4A_2$ transition in the Mn^{4+} ion. Orig. art. has: 3 figures.

SUB CODE: 20 / SUBM DATE: 20Mar65 / ORIG REF: 003 / OTH REF: 008

Card 2/2

IOFFE, V.

Plastics and the chemicalization of agriculture. Plast. massy no.12: 1-2 '63. (MIRA 17:2)

USSR / Human and Animal Morphology, Normal and Pathological. Blood and the Hematopoietic System. S-3

Abs Jour : Ref Zhur - Biol., No 18, 1958, No 83692

Author : ~~Ioffe, V. B.;~~ Kuznetsova, V. P.; Lagutina, O. A.
Inst : Samarkand Medical Institute.
Title : Morphological Composition of Blood in Patients Suffering from Toxic Encephalitis.

Orig Pub : Sb. nauchn. tr. Samarkandsk. med. in-ta, 1955, 10, 31-39

Abstract : No abstract.

Card 1/1

IOFFE, V.B.

65-12-7/9

AUTHORS: Ioffe, V.B., and Zaglodin, L.S.

TITLE: The Production of Hydrogen by Continuous Thermal Decomposition of Hydrocarbon Gases (Polucheniye vodoroda nepreryvnym termicheskim razlozheniyem uglevodorodnykh gazov)

PERIODICAL: Khimiya i Tekhnologiya Topliva i Masel, 1957, No.12, pp. 52-56 (USSR)

ABSTRACT: A method of production of hydrogen by continuous thermal decomposition of hydrocarbon gases on a moving heat carrier proposed by VNIIGAZ is outlined. As a heat carrier, solid granulated aluminium oxide (specific surface area 10-12 m^2/S) or coke is proposed. Lengiprogaz is developing the design of the plant required. At present, a pilot plant with a throughput of 200 m^3 of natural gas per hour is being designed. The description of the plant and a diagram are given. In the pilot plant, the heat of waste gas and hydrogen leaving the reactor is not utilised, but the utilisation of this heat in an industrial plant is being planned. Energy requirements for the production of 1 m^3 of hydrogen by the proposed method and those required when hydrogen is produced by conversion with steam compare favourably for the former method.

Cardl/2 There are 1 figure and 3 tables.

65-12-7/9

The Production of Hydrogen by Continuous Thermal Decomposition of Hydrocarbon Gases.

ASSOCIATION: Lengiprogaz

AVAILABLE: Library of Congress.

Card 2/2

PHASE I BOOK EXPLOITATION SOV/3558

Ioffe, Veniamin Borisovich

Osnovy proizvodstva vodoroda (Fundamentals of Hydrogen Production) Leningrad, Gostoptekhizdat, 1960. 429 p. Errata slip inserted. 3,700 copies printed.

Scientific Ed.: N. A. Nugachev; Exec. Ed.: P. S. Dolmatov; Tech. Ed.: A. B. Yashchurzhinskaya.

PURPOSE: This book is intended for engineers and technicians of enterprises and institutions connected with the production and purification of hydrogen and synthesis gas. It may also be useful to persons studying the technology of petroleum, gas, synthetic liquid fuels, and fixed nitrogen.

COVERAGE: The book reviews various methods of producing and purifying hydrogen and synthesis gas. It also indicates industries using these products. The physical properties of hydrogen such as thermodynamic characteristics, heat conductivity, viscosity, diffusion in metals and compressibility, are analyzed as are chemical

Card 1/5

properties. The utilization of hydrogen in the petroleum refining industry, chemical industry, food industry, metallurgical industry, and glass industry is briefly outlined. Various methods of hydrogenation for a variety of purposes are described. The content of hydrogen in different compounds is analyzed. Hydrogen-producing units of various types are described. Processes yielding hydrogen from iron and steam, and those producing water gas by gasifying solid fuels are also covered. The conversion of carbon monoxide, hydrocarbon gases, and the thermal decomposition of hydrocarbons are also described. The electrochemical method of producing hydrogen and of separating it from gaseous mixtures is discussed along with the equipment used for this purpose. Storage and purification of hydrogen and synthesis gas are outlined and safety measures are suggested. The author acknowledges contributions of members of the Gosudarstvennyy institut azotnoy promyshlennosti (State Institute of Nitrogen Industry) A. G. Leybush, M. A. Shpolyanskiy, B. D. Kornilov, Ye. Ya. Mel'nikov, Ya. D. Zel'venskiy, and F. P. Ivanovskiy and others to the development

of techniques for the conversion and purification of hydrocarbon gases. He also thanks Engineers L. S. Zaglodin, K. A. Kolyushchenko, and chemist V. P. Teodorovich. References accompany most of the chapters.

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AVAILABLE: Library of Congress

Card 5/5

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5-24-60

SREDIN, V.V., inzh. (Leningrad); IOFFE, V.B., inzh. (Leningrad); LASTOVKIN, G.A., inzh. (Leningrad); ONIKUL', B.A., inzh. (Leningrad)

Unit for rendering harmless the sulfur-alkali discharge petroleum refineries. Vod. i san. tekh. no.1:27-30 Ja '65.

(MIRA 18:3)

L 46672-66 EWT(m)/EWP(e)/EWP(k)/T/EWP(t)/ETI IJP(c) WW/JD/JG/JWD/WH/JW

ACC NR: AP6009582 (N) SOURCE CODE: UR/0226/65/000/011/0102/0107

AUTHOR: Ioffe, V. G.

83
B

ORG: Moscow Institute of Steel and Alloys (Moskovskiy ordena Trudovogo Krasnogo Znameni institut stali i splavov)

TITLE: Inflammability of metal powders 16

SOURCE: Poroshkovaya metallurgiya, no. 11, 1965, 102-107

TOPIC TAGS: metal powder, combustion mechanism, combustion theory, zirconium, titanium, autoignition, activation energy

ABSTRACT: The mechanism whereby metal powders undergo spontaneous combustion consists of two stages: 1) smoldering, triggered by the heat release due to slow oxidation and determined by the diffusion of oxygen across the solid oxide film and 2) deflagration, triggered by the appearance of a crack in the oxide film on the surface of the smoldering particle and the concomitant intensive oxidation of the exposed melting metal. These two stages have been experimentally established for the powders of Zr, Ti and their alloys. (V. G. Ioffe, Izv. VUZov, Tsvetnaya metallurgiya, no. 3, 1964; no. 6, 1964) The first stage is presumed to occur for any

Card 1/2

metal capable of oxidation owing to diffusion through the oxide film, while the second stage is presumed to occur only for the metals in which the oxide film gets eliminated in some manner during smoldering (For Zr and Ti, e.g. the oxide film gets eliminated by dissolution in molten metal owing to the extraordinarily high solubility of oxygen. In other cases, this film may get eliminated owing to melting, vaporization, erosion, etc.) Microstructural analysis of the products of both terminated combustion and combustion interrupted following stage 1) confirmed the existence of such a two-stage mechanism of spontaneous combustion. On the basis of the heat balance of oxidation of powder the author derives a formula relating the autoignition point to the physico-chemical characteristics of the specimen, which is in satisfactory agreement with experimental findings, and which shows that the autoignition point increases with the increase in the activation energy, heat conduction, density, and particle size of the powder and decreases with the mass and pour weight of the specimen. The storage of powders in air affects nonuniformly their inflammability; this is due to the features of the growth kinetics of oxide films, which obeys a parabolic or near-parabolic law. For alloys with a high chemical activity (Zr-Ti) or with a low chemical activity (Zr containing more than 50% Si) storage for six months does not affect the autoignition point, since for these alloys the parabolic curve of oxidation is such that its steep segment, along which the growth of the oxide film occurs, coincides in time with the period of storage. Orig. art. has: 4 figures, 10 formulas.

SUB CODE: 20, 11, 13/ SUBM DATE: 16Jan65/ ORIG REF: 004/

L 4[illegible]

ACC NR: AP6020560 SOURCE CODE: UR/0414/66/000/001/0117/0118

AUTHOR: Ioffe, V. G. (Lipetsk)

ORG: none

TITLE: Explosiveness of aerosols of zirconium and its alloys

SOURCE: Fizika goreniya i vzryva, no. 1, 1966, 117-118

TOPIC TAGS: zirconium base alloy, zirconium, aerosol, aerosol chemistry, titanium containing alloy, silicon containing alloy, metal combustion, combustion mechanism, METAL POWDER

ABSTRACT: In order to investigate the combustibility of Zr and its alloys with Ti and Si, the lower concentration limit of explosiveness of aerosols was determined. The powder was atomized by an air jet in a spherical bomb and ignited by a spark discharge, in which case the cloud of aerosol spread only on a portion of the bomb. This facilitated obtaining an aerosol homogeneous in concentration and reduced the pressure on the bomb walls, thus permitting use of a thin-walled glass bomb and optical methods of investigation. The specimens were preliminarily kept in air for about four months. The dependence of the lower concentration limit on the composition of the alloy was similar to the dependence of the temperature of spontaneous combustion of the composition, which in turn is determined by the chemical

Card 1/2 UDC: 536.468

ACC NR: AP6020560

activity of the alloy. Exposure of powders of Zr, Ti, and Si to air increases the lower concentration limit in comparison with freshly prepared powders. This passivation indicates that the chemical reaction in burning is controlled by diffusion through an oxide film, the thickness of which increases during exposure in air. The increase of the oxide film, which for these elements obeys a parabolic law, occurs more quickly for the more active materials. Therefore passivation of Zr during exposure is small since the increase of its oxide film is completed to a considerable extent as early as when grinding. The lower the activity of the powder, the more it is passivated when exposed to air, and Si after exposure cannot be ignited at all by a spark discharge. High-speed photography established that the duration of the induction period decreases and the propagation velocity of burning increases with an increase of the combustibility of the alloy. Orig. art. has: 1 figure.

SUB CODE: 11,19/ SUBM DATE: 03Nov65/ ORIG REF: 004/ OTH REF: 000

Card 2/2 MLP

TSEYTLIN, A.G., nauchnyy sotrudnik; ANTROPOVA, M.V., nauchnyy sotrudnik; IVANOV, V.N., nauchnyy sotrudnik; MIKHAYLOVA, L.V., nauchnyy sotrudnik; SAL'NIKOVA, G.P., nauchnyy sotrudnik; IOFFE, V.G., red.; LAUT, V.G., tekhn.red.

[School hygiene] Shkol'naia gigiena. Pod red. A.G.TSeitlina. Moskva, Izd-vo Akad.pedagog.nauk RSFSR, 1959. 375 p. (MIRA 12:11)

1. Akademiya pedagogicheskikh nauk RSFSR, Moscow. Institut fizicheskogo vospitaniya i shkol'noy gigiyeny. 2. Institut fizicheskogo vospitaniya i shkol'noy gigiyeny Akademii pedagogicheskikh nauk RSFSR (for all except Ioffe, Laut).
(School hygiene)

Inflammability of alloys in the system zirconium - titanium.
Izv. vys. ucheb. zav.; tsvet. met. 7 no.6:126-130 '64.
(MIRA 18:3)

1. Moskovskiy institut stali i splavov, kafedra tekhniki bezopasnosti.

69892

SOV/137-59-12-27936

Translation from: Referativnyy zhurnal, Metallurgiya, 1959, Nr 12, pp 312 - 313 (USSR)

18.7100

AUTHOR: Ioffe, V.G.

TITLE: Thermal Treatment of Steel by Quenching

PERIODICAL: Tekhn.-ekon. byul. Sovnarkhoz Khersonsk. ekon. adm. r-na, 1958, Nr 3 - 4, pp 27 - 29

ABSTRACT: At the Simferopol' "Sel'khozdetal'" Plant a method was developed for heat-treating high-speed steel cutters. The use of this method raised the strength of cutters of 80%; in segment cutting, labor efficiency was increased by a factor of two. The following heat treatment technology was applied: initial preliminary heating to 500° - 550°C in a flame furnace; then the cutter is covered with borax powder; second preliminary heating to 800° - 850°C in a salt bath; final heating to 1,260° - 1,280°C in the salt bath. Then follows quench-hardening with cooling to 300°C in hot oil; tempering at 560°C in an electric furnace for 1 hour, cold treatment at -78°C (holding time is calculated to last 7 minutes per 1 mm of the cutter

Card 1/2

ACCESSION NR: AP4041133 S/0149/64/000/003/0133/0136

AUTHOR: Ioffe, V. G.

TITLE: The flammability of alloys of the zirconium-silicon system

SOURCE: IVUZ. Tsvetnaya metallurgiya, no. 3, 1964, 133-136

TOPIC TAGS: zirconium silicon alloy, zirconium silicon flammability, spontaneous ignition temperature, particle size, temperature factor, composition factor, liquid phase, oxide dissolution

ABSTRACT: Zirconium-silicon alloys with up to 90% silicon were prepared by fusing (under argon) zirconium tetraiodide with metallic silicon in a vacuum arc furnace with tungsten electrodes. The ingots were comminuted to various particle sizes within a 0-850 μ range and were heated in an electric oven to 253-845C in an air current until spontaneous ignition occurred. The ignition point was determined by a differential-thermal analysis described by N. S. Kurnakov (Sobraniye izbranny*kh trudov, t. 1, ONTI-Khimteorem, L., 1938). A diagram was plotted indicating the relationship between flammability and structural and phase composition of the alloys. It was found that the temperature of spontaneous ignition rose with the increase of silicon content in the alloy and with its higher melting point. The

Card 1/2

ACCESSION NR: AP4041133

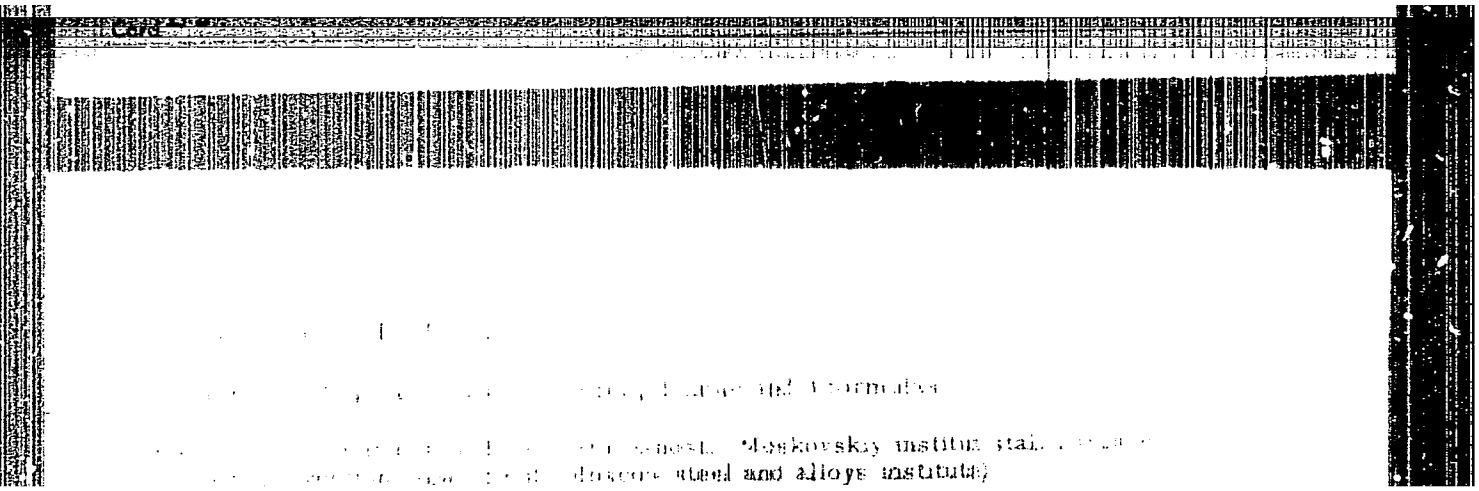
resistance of zirconium and other metals to oxidation is attributed to the presence of a protective oxide film on the metal surface. It was consequently assumed that when this film was dissolved in the molten metal layer held on the sample by surface tension the oxidation of the sample proceeded at an accelerated rate and generated enough heat to cause the ignition. Thus, the liquefaction temperature of a zirconium-silicon alloy assumes great importance in evaluating its potential safety in respect to spontaneous ignition. The present work was carried out under the direction of Professor B. M. Zlobinskiy. Orig. art. has: 3 tables and 3 graphs.

ASSOCIATION: Moskovskiy institut stali i splavov. Kafedra tekhniki bezopasnosti (Moscow Institute of Steel and Alloys. Chair of Industrial Safety Measures)

SUBMITTED: 030ct63 ENCL: 00

SUB CODE: MM NO REF SOV: 002 OTHER: 003

Card 2/2



IOFFE, V.G. (Moskva)

Articles on psychological problems in the collection "New investigations in pedagogical sciences." Vop. psikhol. 10 no.3:186-190 My-Je '64. (MIRA 17:9)

MAZOKHIN-PORSHNYAKOV, Georgiy Aleksandrovich; BYZOV, A.L., otv. red.; IOFFE, V.G., red.

[Vision in insects] Zrenie nasekomykh. Moskva, Nauka, 1965. 262 p. (MIRA 18:11)

IOFFE, V.G.

Inflammability of metal powders. Porosh.met. 5 no.11:102-107 N '65. (MIRA 18:12)

1. Moskovskiy ordena Trudovogo Krasnogo Znameni institut stali i splavov. Submitted January 16, 1965.

ZAK, M., inzh.; IOFFE, V.I., inzh.

Assembling spherical storage tanks. Mov.tekh.mont.i spets. rab.v stroi. 21 no.11:5-7 N '59. (MIRA 13:2)

1. Kavkazskoye upravleniye tresta Stal'konstruktsiya.
(Building, Iron and steel) (Tanks)

IOFFE, V.I.

Theoretical premises for mud-analysis logging with clay mud. Geofiz. razved. no.8:91-102 '62. (MIRA 15:7)
(Prospecting) (Drilling fluids)

IOFFE, V.I.

"Methods of calculation in shipbuilding" by S.P. Loginov, M.P. Tolkachev. Reviewed by V.I. Ioffe. Sudostroenie 28 no.9:76-77 S '62. (MIRA 15:10)

(Shipbuilding—Costs) (Loginov, S.P.) (Tolkachev, M.P.)

IOFFE, V.I., inzh.; KOBAYLOV, A.P., inzh.

Nozzle for the DSb-54 holder for welding in a carbon dioxide atmosphere. Mont. i spets. rab. v stroi. 25 no.3:26 Mr '63. (MIRA 16:2)

1. Trest Yuzhstal'konstruktsiya.
(Gas welding and cutting—Equipment and supplies)

24.7700

S/181/62/004/007/037/037
B111/B104

AUTHORS: Gurevich, L. E., and Ioffe, V. I.

TITLE: The effect of current instability in semiconductors

PERIODICAL: Fizika tverdogo tela, v. 4, no. 7, 1962, 1979-1981

TEXT: Two solutions corresponding to the frequencies ω_1 and ω_2 are derived by linearization according to $n_1 = n - n_0$, $E_1 = E - E_0$ of the equations

$$\frac{\partial n_\pm}{\partial t} + \operatorname{div} \mathbf{j}_\pm = 0, \quad \operatorname{div} \mathbf{E} = \frac{4\pi e}{\varepsilon}[n_+ - n_-], \qquad (1),$$

$$\mathbf{j}_\pm = -D_\pm \left(\nabla n_\pm \pm \frac{e n_\pm \mathbf{E}}{T}\right) - D'_\pm \left[\left(\nabla n_\pm \mp \frac{e n_\pm \mathbf{E}}{T}\right)\frac{\mathbf{H}}{H}\right] \qquad (2)$$

on the assumption that $\alpha \ll 1$ and $j_x = 0$

Card 1/3

The effect of current instability ...

$$\omega_1 = \alpha(D_- + D_+)\left[\nabla n_0 \frac{k_x}{k^2} + in_0\right] N^{-1} d^{-2};\ \omega_2 = \frac{D_- D_+}{D_- + D_+} d^{-2} \times$$
$$\times \left[n_0^2 + \frac{\nabla n_0 k_x^2}{k^2}\right]^{-1} \left[\frac{\nabla n_0 k_x}{k^2} - in_0\right] \left\{\frac{\nabla n_0}{k^2}\left(\frac{D'_-}{D_-} - \frac{D'_+}{D_+}\right) \times \right.$$
$$\left. \times \frac{eE_x d}{T}(h_x k_x k_z + h_y k_x^2 - h_y k_z^2)\right\}.$$

N is the equilibrium concentration; $\pm$ ev = $\pm \varepsilon E/2\pi$ is the surface charge density on the basis of the Hall field, $n_0(x) = N\alpha e^{\alpha x/d}/2\mathrm{sh}(\alpha/2)$, $\alpha = H_y eEd(D'_-/D_- - D'_+/D_+)/HT$, d is the thickness of the plate considered (small compared with the other dimensions). The first solution decreases continuously, whereas the second increases continuously for real k. A complex criterion is established, stating when vibrations of frequency ω increase and when they do not. A formula is given for the case where vibrations of frequency ω arise, the surface of the plate is irradiated and the space charge is neglected, as it always can be in practice. The four most important English-language references are:

Card 2/3

The effect of current instability ...

R. Larrbee, M. Steele, Appl. Phys., 31, 1519, 1960; M. Kikuchu, J. Phys. Soc. Japan, 17, 240, 1962; M. Kikuchu, J. Abe. J. Phys. Soc. Japan, 17, 241, 1962; R. Cardona, J. App. Phys., 33, 1826, 1962.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe AN SSSR Leningrad (Physicotechnical Institute imeni A. F. Ioffe AS USSR Leningrad)

SUBMITTED: April 3, 1962

Card 3/3

L 33014-66 EWT(1)/EWP(m)/T-2 LIP(c)
ACC NR: AP6015084 SOURCE CODE: UR/0020/66/168/001/0065/0067

61
B

AUTHOR: Gurevich, L. E.; Ioffe, V. I.

ORG: None

TITLE: Instability of nonuniform current and field distribution

SOURCE: AN SSSR. Doklady, v. 168, no. 1, 1966, 65-67

TOPIC TAGS: MHD instability, electric field, external magnetic field

ABSTRACT: It is shown that magnetohydrodynamic instability may be produced not only by a gradient in the concentration of current carriers, but also by a mobility gradient or instability in the external electric and magnetic fields. Gradient instability in semiconductors is considered. This type of instability (in an electric field at a frequency much lower than the collision frequency) requires conditions opposite to those necessary for "drift" instability: a temperature gradient or pronounced nonisothermicity in the plasma, a strong external magnetic field with no electric field and a low collision index. It is assumed that the nonhomogeneities are of such a nature that the Wentzel-Kramers-Brillouin approximation may be used. Expressions are given for longitudinal and transverse instability with respect to current. Calculations show that instability of this type is possible only in materials with a low carrier concen-

UDC: 537.311

Card 1/2

L 33014-66

ACC NR: AP6015084

tration. Specific cases of gradient instability are considered with respect to critical electric fields and electron temperatures. Orig. art. has: 6 formulas.

SUB CODE: 20/ SUBM DATE: 09Aug65/ ORIG REF: 007/ OTH REF: 002

Card 2/2 pla

[redacted]

"The 'Localization' of Bacterial Antigen in the Serum of an Infected Animal," Zhurn. mikrobiol., 12, 12-14, 1943

[redacted]. V. I.

"Khimiya v bor'be s infektsionnymy zabolevaniyami (Chemistry in the Control of Infectious Diseases), published by Vo Military Medical Academy, 1944

IOFFE, V. I.

USSR

Manager, Division Children's Diseases, Pasteur Inst., Leningrad, (-1944-)

"Microbiology of scarlet-fever and streptococcal infections of the pharynx from the point of view of epidemiology inquire"

Zhur. Mikrobiol., Epidemiol., i Immunobiol, No. 1-2, 1944

OCT 22, 1951

IOFFE, V. I.

USSR

Manager, Pasteur Inst2, Leningrad, Division Children's Diseases, (-1944-)

"The problems of scarlet-fever serology and immunology."

Zhur. MIkrobiol., Epidemiol., i Immunobiol, No. 1-2, 1944.

OCT 22 1951

IOFFE, V. I.

"Immunological and Epidemiological Characterization of Scarlatina, and Its Specific Prophylaxis," Zhurnal mikrobiol., 2, 39, 244, 1944

IOFFE, V. I.

USSR

Pasteur Inst., Leningrad, (-1944-)

"On the immunological and epidemiological characteristics and specific prophylaxis of scarlet-fever."

Zhur. Mikrobiol., Epidemiol, i Immunobiol., No. 3, 1944.

OCT 22 1951

IOFFE, V. I.

USSR

Manager, Dept. Children's Diseases, Pasteur Inst., (-1944-)

Leningrad Branch VIEM, All-Union Inst. Exptl. Med., (-1944-)

"On microbes "indications of the state" and their role in the microbiological analysis of infectious process."

Zhur. Mikrobiol., Epidemiol., i Immunobiol., No 3, 1944

Oct 22 1951

IOFFE, V. I.

USSR/Medicine - Microbiology Nov 1947
Medicine - Epidemiology

"Work in the Field of Microbiology, Immunology and Episemiology in Leningrad for Thirty Years of the Soviet State," V. I. Ioffe, I. M. Ansheles, Corresponding Members of the Academy of Medical Sciences of the USSR, 8½ pp

"Zhur Mikrobiol, Epidemiol i Immunobiol" No 11

The main questions which have occupied the attention of Leningrad microbiologists and immunologists for the past 30 years are: the gtowth and multiplication of microbes, fermentative activity of microbes, the problems of phage and viruses, serology, the process of infection; endotxins, intestinal infection, and anaerobic infection. Each of these are discussed briefly.

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IOFFE, V.I.
25865

O Nekotorykh Ocherednykh Zadachakh V Izuchenii Infektsionnykh Protsessov I O Putyakh Ikh Razresheniya. Trudy 2-y Sessii Otd-Niya Gigiyeny, Mikrobiologii I Epidemiologii, Posvyashch. Pamyati Mechnikova (Akad. Med, Nauk SSSR.) M., 1948, s. 37-62

SO: LETOPIS NO. 30, 1948

IOFFE, V. I.

Ioffe, V. I. "Immunology of scarlet fever," Trudy VI Vsesoyus. s'yezda det. vrachey, povyashch. pamyati prof. Filatova, Moscow, 1948, p. 293-300

SO: U-3264, 10 April 1953, (Letopis 'Zhurnal 'nykh Statey, No. 3, 1949)

IOFFE, V. I.

USSR/Medicine - Infectious Diseases Apr 50

"Immunological Research in the Study of Pathological Processes," V. I. Ioffe, Corr Mem, Acad Med Sci USSR

"Trudy 5-oy Sessii, Ak Med Nauk SSSR" pp 45-67.

Conference held 23 - 27 Dec 48, in Moscow, on problems of immunity and influenza.

Describes method of investigating virus infections by the method of antigenic curves on animals which are not susceptible to the disease in question. Illustrates technique by citing results obtained on mice and rabbits with the following viruses:

206T84

USSR/Medicine - Infectious Diseases (Contd) Apr 50

measles, Crimean hemorrhagic fever, sandfly fever. Attenuated virus suitable for preventive inoculations can be isolated from unsusceptible animals or chicken embryos. This includes measles and infectious jaundice. Discusses immunological investigation of infection processes in the surgical and therapeutic clinic as well as immunological analysis of noninfectious pathologies (i.e., tumors).

206T84

IOFFE, V.I.

Present state of prevention of measles and future tasks of investigation. Gig. sanit., Moskva no. 2:39-43 Feb 1953. (CIML 24:2)

1. Of the Department of Microbiology and Immunology of the Institute of Experimental Medicine of the Academy of Medical Sciences USSR.

USSR/Medicine - Scarlet Fever FD-1636

Card 1/1 : Pub. 148-16/28

Author : Ioffe, V. I.

Title : Concerning the etiology of scarlet fever

Periodical : Zhur. mikro. epid. i immun. 7, 57-67, Jul 1954

Abstract : Negative attempts to discover a virus form of the scarlet fever causing microorganism, Streptococcus scarletinae, are described in detail. A new method for determining the presence of a virus is discussed. L. I. Fal'kovich's scarlet fever virus is shown to be merely the virus of infectious ectromelia, a mouse disease having no connection with scarlet fever. No connection between SK cultures and scarlet fever could be established. Filterable forms of hemolytic streptococci could not be found. The results of the investigations are presented on seven charts. No references are cited.

Institution : Division of Microbiology, Institute of Experimental Medicine, Academy of Medical Sciences USSR and Institute of Children's Infections, Institute imeni Pasteur

Submitted : October 17, 1953.

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000618630004-3"

IOFFE, V.I., redaktor; RAVKIND, B.M., redaktor; KHARASH, G.A., tekhnicheskiy redaktor

[Problems in the immunology and epidemiology of scarlet fever and streptococcus infections] Voprosy immunologii i epidemiologii skarlatiny i streptokokkovykh infektsii. Pod red. V.I.Ioffe. [Leningrad] Gos. izd-vo med. lit-ry, Leningradskoe otd-nie, 1956. 226 p. (MLRA 10:3)

1. Akademiya meditsinskikh nauk SSSR, Moscow. Institut eksperimental'noy meditsiny.
(SCARLET FEVER) (STREPTOCOCCUS)

USSR/General Problems of Pathology. Allergy U-2

Abs Jour : Ref Zhur - Biol., No 13, 1958, No 60976

Author : Ioffe V.I., Kopytovskaya L.P.
Inst : -
Title : The Problem of an Isolation of Tissue Antigens. Report I. The Relation Between Sensitivization and Shock Doses of Antigens in Anaphylaxia.

Orig Pub : Byul. eksperim. biol. i meditsiny. 1957, 44, No 7, 82-84

Abstract : A state of sensitivization was established in guinea pigs by means of "strong" and "weak" antigens, and accordingly by heterogeneous serum and nucleoproteins of normal tissues. When sensitivization was established by small doses of serum (0.001 milliliters per 100 grams) in order to obtain a shock reaction, the introduction of a dose by 30-50 times larger was required. When the sensitivization dose was 0.0001, milliliters per 100 grams, the resolvent dose producing shock must be by 500 times larger. A similar increase of a resolvent dose is necessary in a sensitivization by nucleoproteins as well.

Card : 1/1

Dept. Microbiology
19 Inst. Exptl. Medicine AMS USSR

<u>Specific Prevention of Pertussis</u>, published by MEDGIZ, MOSCOW, 1958
ed. by N. N. Zakharova, Dir. Lab. of Specific Prophylaxis of Pertussis, Inst. Epidem. and Microbiol. im. N.F.Gamaleya, Acad. Medical Sci. USSR

At the scientific conference on the specific prophylaxis of pertussis conducted by the Institute of Epidemiology and Microbiology im. N. F. Gamaleya, Acad. Medical Sci. USSR, together with other Institutes and medical establishments, papers were read by the following: (See Table of Contents)

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(DIPHTHERIA, epidemiology,
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(DIPHTHERIA, epidemiology,
in Russia, dynamics of change of epidemiol. & comparison with scarlet fever (Rus))
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(ALLERGY, experimental,
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1133. DETECTION OF TISSUE ANTIGENS. III. COMPARATIVE SENSITIVITY OF ANAPHYLACTIC REACTION AND SEROLOGICAL INVESTIGATION FOR DETECTION OF SMALL DOSES OF ANTIGEN (Russian text) - Ioffe V. I., Anatoly S. A. and Kopitovskaya L. P. - BJULL. EKSP. BIOL. MED. 1958, 45/3 (80-85) Tables 3

Sensitivities of the general methods were compared by determination of the following: (1) the minimal dose of the antigen to which guinea-pigs passively sensitized by various doses of the corresponding immune serum would react and (2) the quantity of the antigen which could be detailed with the same immune serum in vitro. Anaphylactic reaction was found to be more advantageous in experiments with low doses of immune serum. Sensitivity of the serological method could be increased by making use of the 'rectangular' scheme, which takes the law of optimal ratios into consideration,' or by using the method of large volumes of antibodies. To identify the components of the complex antigen, use should be made of the method of passive anaphylaxis by sensitization of animals with immune sera in which the antigens of the normal tissues have been previously exhausted in vitro. The problems which are next to be investigated are the methods of differentiation of antigenic components, which possess common antigenic groups and the problem of tumour antigens with consideration of conceptions on auto-antigens.

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(Continued on next card)

NESTEROV, A.I.----(continued) Card 2.

2. Chleny-korrespondenty AMN SSSR (for Dolgo-Saburov, Chumakov, Zhdanov, Biryukov, Sokolova-Ponomareva, Batkis, Shmelev, Molchanova, Blokhin, Ioffe, Bogdanov). 3. Direktor Instituta gerontologii AMN SSSR (for Gorev). 4. Direktor Instituta farmakologii i khimioterapii AMN SSSR (for Zakusov). 5. Deystvitel'nyy chlen Vsesoyuznoy akademii sel'skokhozyaystvennykh nauk imeni V.I.Lenina (VASKhNIL); direktor Instituta epidemiologii i mikrobiologii imeni Gamalei AMN SSSR (for Muromtsev). 6. Direktor Instituta po izucheniyu poliomiyelita AMN SSSR (for Chumakov). 7. Direktor Instituta eksperimental'noy meditsiny AMN SSSR (for Biryukov). 8. Direktor Instituta obshchey i kommunal'noy gigiyeny AMN SSSR (for Litvinov). 9. Direktor Instituta pediatrii AMN SSSR (for Sokolova-Ponomareva). 10. Direktor Instituta virusologii AMN SSSR (for Kosyakov). 11. Direktor Instituta tuberkuleza AMN SSSR (Shmelev). 12. Direktor Instituta grudnoy khirurgii AMN SSSR (for Busalov). 13. Direktor Instituta pitaniya AMN SSSR (for Molchanova). 14. Direktor Instituta eksperimental'noy i klinicheskoy onkologii AMN SSSR (for Blokhin). 15. Direktor Instituta khirurgii AMN SSSR (for Vishnevskiy).

NESTEROV, A.I.---- (continued) Card 3.

16. Direktor Instituta fiziologii AMN SSSR (for Chernigovskiy). 17. Direktor Instituta terapii AMN SSSR (for Myasnikov). 18. Direktor Gosudarstvennogo izdatel'stva meditsinskoy literatury (for Mayevskiy). 19. Vitse-prezident AMN SSSR (for Davydovskiy). 20. Ministr zdravookhraneniya SSSR (for Kurashov). 21. Direktor Instituta infektsionnykh bolezney AMN SSSR (for Bogdanov). 22. Chlen-korrespondent AN BSSR: predsedatel' Uchenogo meditsinskogo soveta Ministerstva zdravookhraneniya BSSR (for Bronovitskiy). 23. Predsedatel' Uchenogo meditsinskogo soveta Ministerstva zdravookhraneniya USSR (for Chebotarev).
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