"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001343

RABKIN, I.Ya.; GRIGORYAN, R.A.

Study of the effectiveness of the results of mitral commissurotomy. Vop. rent. i onk. 7:53-62 '63 (MIRA 17:7)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013438

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001343

RABKIN, I.Kh.; GRIGORYAN, E.A.; NAMAZOVA, A.A.

Method of electrokymography in the study of age characteristics of the functional state of the heart and pulmonary vessels. Kardiologiia 3 no.5:50-54 S-O '63. (MIRA 17:9)

1. Iz gospital'noy khirurgicheskoy kliniki (dir. - deystvitel'nyy chlen AMN SSSR prof. B.V. Petrovskiy) I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M. Sechenova.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013438

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001343

PETROVSKIY, B.V. (Moskva, ul. Gor'kogo, d.56, kv.100); RABKIN, I.Kh.

Diagnosis and indications for surgical treatment of anomalous drainage of the pulmonary veins. Grud.khir. 5 no.1:47-56 Ja-F'63. (MIRA 16:7)

1. Iz Gospital'noy khirurgicheskoy kliniki (dir. -deystvitel'nyy chlen AMN SSSR prof. B.V. Petrovskiy) I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M. Sechenova.

(PULMONARY VEIN--ABNORMITIES AND DEFORMITIES)
(CARDIAC CATHETERIZATION) (ANGIOGRAPHY)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013438

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001343

KANSHIN, N.N.; RABKIN, I.Kh.; MUSAROVA, A.V.; BELYAKOVA, L.I.; ARABLINSKIY, V.M.

X-ray diagnosis of hiatal hernia. Grudn. khir. 5 no.4:67-74 Jl-Ag'63 (MIRA 17:1)

1. Iz kafedry gospital'noy khirurgii (zav. - prof. B.V.Petrovskiy) lechebnogo fakul'teta I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M.Sechenova.

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001343

RABKIN, I.Kh.; GEBEL', G.Ya.

Use of contrast angiopulmography in the study of the effect of different preparations on pulmonary circulation. Eksper. khir. i anest. 8 no.3:45-49 My-Je'63 (MIRA 17:1)

1. Iz gospital'noy khirurgicheskoy kliniki (zav. - deystvitel'nyy chlen AMN SSSR prof. B.V. Petrovskiy) I Moskovskogo ordena Lenina meditsinskogo instituta.

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001343

PETROVSKIY, B.V., prof.; RABKIN, I.Kh., kand.med. nauk

Use of the electron optical transformer and X-ray cinematography in diseases of the heart, and major and peripheral vessels; methodology and technique of examination. Vest. rent.i rad. 28 no.2:3-9 Mr-Ap'63. (MIRA 16-9)

1. Iz gospital'noy khirurgicheskoy kliniki (dir. - deystvitel'nyy chlen AMN SSSR prof. B.V.Petrovskiy) I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M.Sechenova.
(CARDIOVASCULAR SYSTEM--DISEASES) (ANGIOCARDIOGRAPHY)
(MOTION PICTURE PHOTOGRAPHY, MEDICAL)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013438

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001343

KOLYUTSKAYA, O.D.; GEBEL', G.Ya.; DOBRONRAVOV, A.S.; RABKIN, I.Kh.

Use of some pharmacological preparations (aminazine, diprazin, promedol, atropine, euphyllin) on patients with mitral heart defects. Trudy 1-go MMI 33:381-389 '64. (MIRA 18:3)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013438

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001343

RABKIN, I.Kh.; MIKAELYAN, A.L.

X-ray diagnosis of combined aortic-mitral defects of the heart. Vest. rent. i rad. 37 no.5:28-31 S-O '62. (MIRA 17:12)

1. Iz kafedry grudnoy khirurgii i anesteziologii (zaveduyushchiy - prof. Ye.N. Meshalkin) TSentral'nogo instituta usovershenstvovaniya vrachey. Adres avtora: Moskva, ulitsa Vostochnaya, korpus 2, kv.85.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013438

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001343

KULIK, V.I. (Moskva, Ye-266, Semenovskaya naberezhnaya, d.2/1, kv.21); RABKIN, I.Kh.

Significance of an X-ray movie study in studying the functional state of the esophagus following its prosthesis; experimental study. Grud. khir. 6 no.1:86-89 Ja-F '64. (MIRA 18:11)

1. Laboratoriya po peresadke organov i tkaney (zav. - chlen-korrespondent AMN SSSR V.V. Kovanov) AMN SSSR i gospital'naya khirurgicheskaya klinika (zav. - deystvitel'nyy chlen AMN SSSR B.V. Petrovskiy) I Moskovskogo ordena Lenina meditsinskogo instituta imeni Sechenova. Submitted November 10, 1962.

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001343

PETROVSKIY, B.V., prof.; KRYLOV, V.S., doktor med. nauk; ZARETSKIY, V.V., kand. med. nauk; RABKIN, I.Ye., kand. med. nauk

Abdominal aortography. Vest. khir. 89 no.10:3-12 O '62. (MIRA 17:10)

1. Iz gospital'noy khirurgicheskoy kliniki (zav. - prof. B.V. Petrovskiy) 1-go Moskovskogo ordena Lenina meditsinskogo instituta. 2. Deystvitel'nyy chlen AMN SSSR (for Petrovskiy). Adres avtorov: Moskva, G-48, Pirogovskaya d.2/6 1-y Moskovskiy meditsinskiy institut.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013438

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001343

ROZENSHTRAUKH, L.S., prof.; AKIMOCHKINA, Z.Ye., kand. med. nauk; YELASHOV, Yu.G., kand. med. nauk; KAZAKOVA, L.N., kand. med. nauk; KAZANTSEVA, N.S., kand. med. nauk; KISHKOVSKIY, A.N., kand. med. nauk; RABKIN, I.Ye., kand. med. nauk; ALIYEVA, M.S., kand. med. nauk; ASLAMAZOV, E.G., kand. med. nauk; LINDENBRATEN, L.D., prof., red.

[Variations and anomalies in the development of organs and systems in man in X-ray observations] Varianty i anomalii razvitiia organov i sistem cheloveka v rentgenovskom izobrazhenii; nauchno-metodicheskoe posobie. Moskva, Gos. izd-vo med. lit-ry, 1963. 1 v. (MIRA 17:7)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013438

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001343

[illegible], R.M.; RABKIN, I.Ye.

Use of supplementary filters to decrease irradiation doses in ordinary radiography and some special methods of examination. Vest. rent. i rad. 39 no.6:72-74 N-D '64.

(MIRA 18:6)

1. 1-ya kafedra rentgenologii i radiologii (zav. - zasluzhennyy deyatel' nauki prof. S.A.Reynberg) TSentral'nogo instituta usovershenstvovaniya vrachey i gospital'naya khirurgicheskaya klinika (dir. - deystvitel'nyy chlen AMN SSSR prof. B.V.Petrovskiy) I Moskovskogo ordena Lenina meditsinskogo instituta.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013438

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001343

PERESLEGIN, T.A.; RABKIN, I.Ye.; MAMIN, R.G.

The VIII USSR Congress of Roentgenologists and Radiologists.
Vest. rent. i rad. 40 no.1:73-78 Ja-F '65. (MIRA 18:6)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013438

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001343

RABKIN, I.Ye., doktor med. nauk; FEL'DMAN, F.IS.

Single-stage tomography with direct enlargement of the picture in the diagnosis of pulmonary diseases. Vest. rent. i rad. 40 no.3:12-16 My-Je '65. (MIRA 18:7)

1. Rentgenovskoye otdeleniye (zav. - doktor med. nauk I.Ye. Rabkin) Nauchno-issledovatel'skogo instituta klinicheskoy i eksperimental'noy khirurgii Ministerstva zdravookhraneniya RSFSR, Moskva.

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001343

YESIPOVA, I.K., prof.; KAPULIER, L.L.; RABKIN, I.Ye.

Histological and roentgenological manifestations of hypertension in the pulmonary circulation in a mitral defect. Vop. pat. i reg. org. krov. i dykh. no.1:89-98 '61. (MIRA 18:7)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013438

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001343

RABKIN, KH. I.

The following is among dissertations of the Leningrad Polytechnic Institute imeni Kalinin:

"Magnetodielectrics." 1 July 1947. An examination is made of the basic characteristics of the parameters and of the technology of magnetodielectrics -- a group of magnetic materials which are pressed mixtures of ferromagnetic powders with insulating materials.

SO: M-1048, 28 Mar. 56

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001343

RABKIN, KH. I.

Dissertation defended for the degree of Doctor of Physicomathematical Sciences at the Institute of Metal Physics in 1962:

"High-quality Ferromagnetics."

Vest. Akad. Nauk SSSR. No. 4, Moscow, 1963, pages 119-145

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L 24573-66 EWT(1)/EWT(m) IJP(c) JD/JG/JH

ACC NR: AP6009707 SOURCE CODE: UR/0181/66/008/003/0987/0989

AUTHOR: Rabkin, L. M.; Konevskaya, D. S.

ORG: Rostov-on-Don State University (Rostovskiy-na-Donu gosudarstvennyy universitet)

TITLE: Thermoluminescence and capture levels in $CaTiO_3 \cdot Pr$

SOURCE: Fizika tverdogo tela, v. 8, no. 3, 1966, 987-989

TOPIC TAGS: electron capture, thermoluminescence, rare earth element, activated crystal, titanate, luminescence spectrum, luminescence center, electron recombination, praseodymium

ABSTRACT: The method of determining the capture levels by measuring the thermal deexcitation is based on the fact that the duration of luminescence of titanates with rare-earth element additives is several orders of magnitude longer than the luminescence usually observed for rare earths. The Pr-activated $CaTiO_3$ was chosen because it has intense luminescence with a simple spectrum consisting of a group of narrow lines in the region 6000--6500 Å. The spectra obtained with samples prepared in different manners and subjected to different heat treatments exhibited a general common similarity but great differences in the temperature dependence of the luminescence intensity. With decreasing Pr concentration, the maximum at the highest temperature (300K) disappears first, followed by the maximum near 160--170K, and then the maximum at 230--240K. The latter maximum, which has the highest intensity, decreases most rapidly with decrease in concentration. A study of the spectral structure of the thermoluminescence light has shown that the luminescence centers are the Pr^{+3} ions. The mechanism is proposed for the thermoluminescence in $CaTiO_3 \cdot Pr$ on the basis of

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ACC NR: AP6009707

these data, wehrein absorption of an exciting quantum leads to the appearance of an electron, which is subsequently captured by one of the capture centers, and a hole, which is localized near the Pr^{+3} ion. Heating of the sample leads to ionization of the capture center and recombination of the electron and the hole with subsequent transformation of the recombination energy into luminescence energy. Some features of the thermal luminescence curve are attributed to the presence of defects in the crystal. Orig. art. has: 2 figures and 1 table.

SUB CODE: 20/ SUBM DATE: 15Jul65/ ORIG REF: 007

Card 2/2 UVR

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013438

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001343

Insulating magnetic powders. L. I. Rabkin. Russ. 42,222, March 31, 1935. Magnetic powder is treated with Bakelite soln., and the solvent evapd. By repeated treatments, several layers may be applied.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013438

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001343

ZAYMOVSKIY, A. S., AL'TGAUZEN, O. N., RABKIN, I. I., and SHEMLEVA, I. N.

"Magneto-dielectric Cores for Radio-Frequencies on the Base of Al'sifer (Aluminum-Silicon-Iron) Alloy." Nos. 10-11, 1945. Iz. Ak. Nauk. SSSr. Otdel. Tekh. Nauk.

BR-52059019.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013438

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001343

RABKIN, L. (Cand Tech Sci.) and EPSHTEYN, B. (Engr.)

"Nonmetallic Magnetic Materials (Soviet Ferrites)", Radio, No. 12, pp 14-17, 1952.

SO: W-27528, 26 Aug 1953

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013438

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001343

RABKIN, L. I.

3

(2) Elec. Abst.

621.318.013

1533. Some properties of thin sheets of permalloy. L. I. RABKIN AND P. I. YUZVINSKAYA. *Elektrichestvo*, 1953, *No.* 10, 63–7. *In Russian.*

To get high permeability and low eddy-current losses in h.f. fields very thin sheets of Mo permalloy are used. Decrease of thickness results in a larger number of grains per mm² of section and in higher magnetic hardness. Optimum magnetic properties were obtained by annealing at 1150°c. Investigation of magnetic hysteresis loops using both ballistic galvanometer with d.c. and dynamic tests with a c.r.o. ferrometer at frequencies of 15–124 kc/s show that to each frequency corresponds an optimum thickness of permalloy. Bridge measurements at 100 kc/s to 4 Mc/s indicate that the fall of permeability is due to a demagnetizing effect of eddy currents.

J. LUKASZEWICZ

Electrical Engineering Abst.
Vol. 57 No. 676
Apr. 1954
Electrical Engineering

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001343

Rabkin, L. I.

USSR.

The effect of some technological factors on the phase composition and the magnetic properties of nickel-zinc ferrites. N. A. Toropov, L. I. Rabkin, E. Zh. Freidenfel'd, and B. Sh. Epshtein. Zhur. Tekh. Fiz. 23, 1541-7 (1953); cf. C.A. 48, 6222g.—Ni-Zn ferrites of equal magnetic properties can be made by (a) a mixt. of NiO, ZnO, and Fe_2O_3 in detd. proportion, (b) copptn. of hydroxides and decompn. to oxides, (c) thermal decompn. of a mixt. of salts. Method a gives the most reactive, c the least reactive product. Longer sintering at 1200° and 1300° leads with the same material to higher permeability and larger losses. The samples sintered at 1180°-1200° do not contain magnetite; those sintered at 1350-1400° contain 0.2-1% magnetite. The limit of solid soln. is shown in a 3-component diagram, and it is compared with the diagram of magnetic permeability. The max. is on the line of 50 mol. % Fe_2O_3 corresponding to a substitutional-type solid soln. At a high content of ZnO the 2 phase

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RABKIN, L.I.

USSR

Phase composition and some ferromagnetic properties of manganese-zinc ferrites. N. A. Toropov, L. I. Rabkin, B. Zh. Freidenfel'd, and B. Sh. Epshtein. J. Appl. Chem. U.S.S.R. 26, 905-11(1953)(Engl. translation).—See C.A. 48, 6222g. H. L. H.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013438

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001343

RABKIN, L.I.

5

(4)

3656* Phase Composition and Certain Ferromagnetic Properties of Manganese-Zinc Ferrites. (Russian.) N. A. Toropov, L. I. Rabkin, E. Zh. Freidenfel'd, and B. Sh. Epshtein. *Zhurnal Prikladnoi Khimii*, v. 26, no. 9, Sept. 1953, p. 982-990.

Describes chemical, microscopic, X-ray, and magnetic studies of synthesized ferrites. Tables, diagrams, graphs. 9 ref.

11/19/54

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001343

USSR/ Physics - Nickel-zinc ferrites

Card 1/2 Pub. 43 - 6/11

Authors : Rabkin, L. I.

Title : Magnetic ferrites in alternating fields

Periodical : Izv. AN SSSR ser. fiz. 18/4, 473-488, Jul - Aug 1954

Abstract : A rather detailed analysis of the properties of artificially made ferromagnetic (ferrites) is presented. Special attention is paid to the study of nickel-zinc ferrites. A dependence of their magnetic constants on temperature and frequency and on the technology of the process of their making is indicated and shown in a series of graphs (three different methods of preparing ferrites are described). A method is discussed for determination of the shape and magnitude of hysteresis loops and of non-linear distortions of the latter (in the third harmonics of the Ralieygh' expression for the B:

$$|B| = |\zeta_1| H_1 \cos\omega t + \frac{8b}{3\pi}\sin\omega t - \frac{8b}{\pi}\cdot\frac{1}{1\cdot3\cdot5}\sin3\omega t - \frac{8b}{\pi}\cdot\frac{1}{3\cdot5\cdot7}\sin5\omega t -,$$

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001343

Card 2/2 Pub. 43 - 6/11 (Additional card)

Izv. AN SSSR ser. fiz. 18/4, 473-488, Jul - Aug 1954

Abstract : as well as the behavior of nickel-zinc ferrites in a pulsating field and along with their dielectric characteristics. Ten USSR references (1955-1952). Diagrams.

Institution : Leningrad Branch of the Central Scientific Research Institute of Communications of the Ministry of Communications of the USSR

Submitted : July 19, 1954

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001343

RABKIN, L. I.

USSR/Physics-Ni-Zn ferrites, properties of FD-1219

Card 1/1 Pub. 153-3/22

Author : Rabkin, L. I., and Epshteyn, B. Sh.

Title : Certain properties of nickel-zinc ferrites

Periodical : Zhur. tekh. fiz., 24, 1568-1578, Sep 1954

Abstract : Magnetic properties of Ni-Zn ferrites of various compositions were tested by analyzing their dependence on potential and frequency of the field and on temperature. Properties of ferrites in pulsating fields were analyzed as affected by the potential of the constant field component. Results are presented in graphs and tables. Indebted to T. P. Silina and L. A. Khavina. Seven references.

Institution :

Submitted : July 25, 1954

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001343

RABKIN, L.I., kandidat tekhnicheskikh nauk; EPSHTEYN, B.Sh., inzhener

Small-sized loading coils. Vest. sviazi 15 no.5:29 My '55. (MLRA 8:6)

1. Nachal'nik laboratorii Leningradskogo otdeleniya nauchno-issledovatel'skogo instituta svyazi (for Rabkin) 2. Mladshiy nauchnyy sotrudnik Leningradskogo otdeleniya nauchno-issledovatel'skogo instituta svyazi (for Epshteyn).
(Telephone lines)

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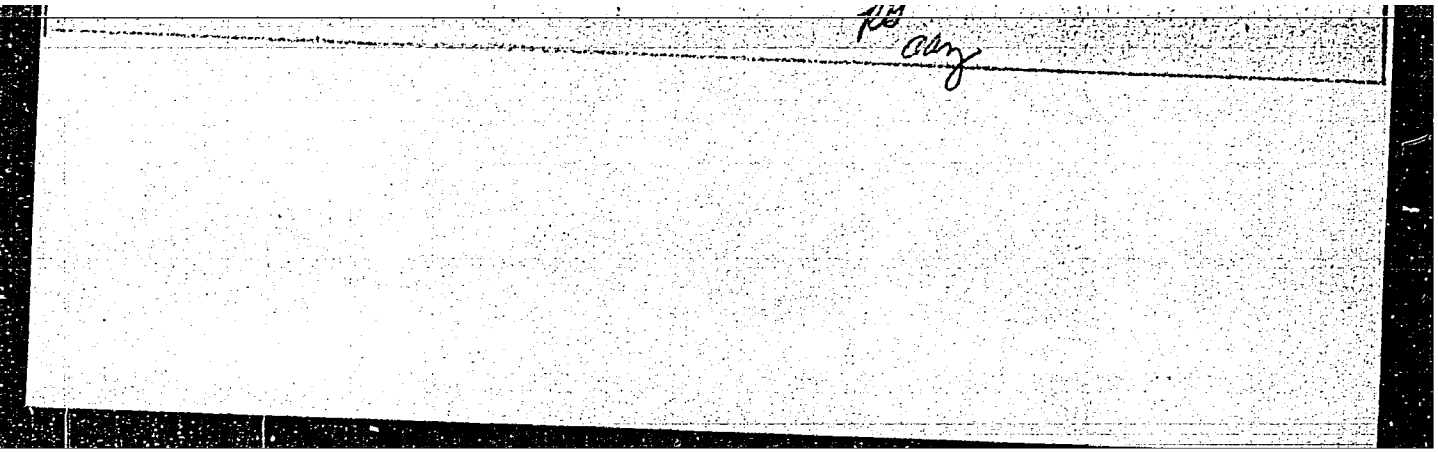

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RABKIN, L. I.

PHASE I BOOK EXPLOITATION 940

Moscow. Nauchno-issledovatel'skiy institut gorodskoy i sel'skoy telefonnoy svyazi

Novyye raboty v oblasti provodnoy svyazi; informatsionnyy sbornik (New Works in the Field of Wire Communication; Collection of Information) Moscow, Svyaz'izdat, [1957] 85 p. (Tekhnika svyazi) 10,500 copies printed.

Resp. Ed.: Golubtsov, I.Ye.; Ed.: Bogacheva, G.V.; Tech. Ed.: Shefer, G.I.

PURPOSE: This brochure is addressed to specialists interested in recent developments in the field of wire communication.

COVERAGE: The monograph is a collection of five articles written by members of the staff of NIITS--Nauchno-issledovatel'skiy institut gorodskoy i sel'skoy telefonnoy svyazi (Scientific Research Institute of Urban and Rural Telephone Communications) of the Ministry of Communications of the USSR. The articles discuss new, contactless devices for telephone switching and triode transistor amplifiers for use in telephone networks. They conduct calculations for optimal dimensions of A-F coils with a toroidal core and offer formulas and a nomogram for quick calculation of the operating phase constant of complex circuits, which can be represented in the form of cascaded, relatively simple four-pole networks.

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There are 20 references, of which 16 are Soviet (including 4 translations), 3 English, and 1 German. The references appear at the end of each article.

TABLE OF CONTENTS:

Preface 3

1. Koblents, Ya.G. and Yakovenko, D.A. Contactless Ferroresonance Devices 4
The article discusses experimental research and new developments in contactless automatic telephone switching devices and reviews the defects of earlier contactless ferroresonance devices. NIITS has developed new contactless ferroresonance devices in which attempts were made to eliminate these defects. The authors discuss the basic ferroresonance circuit and the effect of harmonic current and voltage components on voltage gradient. Some of the merits of these devices consist in their high-speed operation, small size, high voltage gradient, very long service life, and the fact that cheap semiproducts can be used in their fabrication, thus making them much cheaper than similar devices based on vacuum tubes or transistors. They have the disadvantage of requiring a high-frequency a-c power supply, they are dependent on supply-current frequency, and have a relatively high energy consumption.

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The devices presented can also be used in other branches of communications, automation and remote control.

2. Kaufel'dt, K.T., and Mel'nikov, N.I. Bidirectional Series-type Transistorized Triode Amplifier for Urban and Suburban Telephone Networks 22

The authors describe a bidirectional transistorized amplifier circuit (with no differentiation system), which acts as a negative impedance in correcting communication line attenuation. The amplifier circuit together with the transmission channel form a positive feed-back system. Tests of such equipment made over a period of ten months on the Moscow and Leningrad telephone networks have given favorable results and demonstrated the advantages of using transistors. However, a serious defect of this method of correcting line attenuation consists in the impossibility of matching a series-type amplifier with the line. The authors suggest the use of quadripole circuits consisting of negative impedance to make the matching possible.

3. Rabkin, L.I., and Novikova, Z.I. Design of Coils With Shell-type and Toroidal Cores 40

This article explains the calculation of optimal dimensions of coils with toroidal cores designed for operation in the audio-frequency range,

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and offers a method for calculating minimum volume (for a given Q-factor and inductance) of a coil with shell-type and toroidal cores. As the basis for their calculations the authors assumed a constant ratio of the inner and outer coil diameters. The article discusses the following specific phases of the problem: the principle of calculating induction coil Q-factor; calculation by the H.A. Stone method of optimal ratio of dimensions of shell-type cores for audio-frequencies; calculation of the optimal ratio of dimensions of toroidal cores for audio frequencies; method of calculating the Q-factor of a coil, taking into account winding hysteresis eddy-current and initial losses. Examples of these calculations are given.

4. Gel'mont, Z.Ya. Narrow-band Quartz Filters for the 1 to 10 MC Range 65

NIITS has developed narrow-band quartz filters for the 1 to 10 mc range for cable multiplexing. These filters are needed for separating the currents of the control frequencies which actuate the automatic level control, and the currents of the group converter carrier frequencies. Formulas are given for designing the filter elements, the adapters, and for calculating circuit parameters. This method of designing filters has been tested experimentally.

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5. Shtager, V.V. Nomogramic Method of Calculating the Operating Phase Constant 76

The author proposes a nomographic method for calculating with a minimum loss of time, the operating phase constant of complex networks which can be represented as relatively simple, stage-connected quadripoles. This method would supplement the M.G. Tsimbalistiy method. After explaining the calculation of the transmission phase constant, the author provides a formula for constructing the nomogram shown in Fig. 4. The author explains how this nomogram is used and gives an example of actual calculation of the operating phase constant for a network of stage-connected low-frequency filters.

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001343

AUTHOR: RABKIN, L.I., NOVIKOVA, Z.I. 109-6-9/17

TITLE: Calculation of Ring Coils with Ferrite Core Operating in the Range of Sonic Frequencies (Raschet kol'tsevykh katushek s ferritovym serdechnikom, rabotayushchikh v oblasti zvukovykh chastot, Russian)

PERIODICAL: Radiotekhnika i Elektronika, 1957, Vol 2, Nr 6, pp 762-768 (U.S.S.R.)

ABSTRACT: Calculation of the optimum measurements of a ring core of oval cross section is carried out by taking the constant ratio between the outer and inner diameter of the coil into account. The optimum inverse amplification factor warranting a minimum volume of the coil in the case of a given quality is calculated. First calculation of the quality of the coil with core is carried out, and it is shown that the derived formula cannot be solved in a general form. Therefore further simplification is necessary and calculation must be carried out for two special cases:

1.) For the case in which Ohm's resistance and the resistance of initial and frequency losses predominate,

2.) For the case in which Ohm's resistance and the resistance of the hysteresis losses predominate. (With 1 Table, 3 Illustrations and 3 Slavic References).

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001343

8(5) SOV/105-58-11-14/28

AUTHORS: Rabkin, L. I., Candidate of Technical Sciences, Epshteyn, B. Sh., Engineer, Koblents, Ya. G., Engineer

TITLE: Ferrites With a Rectangular Hysteresis Loop (Ferrity s pryamougol'noy petley gisterezisa)

PERIODICAL: Elektrichestvo, 1958, Nr 11, pp 59-68 (USSR)

ABSTRACT: This is a survey of the method of production, of the principal parameters and characteristics of some domestic ferrites with a rectangular hysteresis loop, and of their applications in industry. This survey also takes into account the development abroad. Concerning the method of production it is assumed that the principal feature is not the maintenance of the metastable ferrite structure, but a prevention of manganese oxidation. This can be achieved by annealing in a protective atmosphere or in air with subsequent rapid cooling. The requirements placed upon the magnetic parameters of ferrites are listed. The principal parameters of some ferrites developed in the Nauchno-issledovatel'skiy institut gorodskoy i sel'skoy telefonnoy svyazi (Scientific Research Institute of Municipal and Rural Telephone Communications) with a rectangular

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hysteresis loop are given. Two circuit diagrams for pulse operation developed in the USSR for use with ferrites with a rectangular hysteresis loop are mentioned: 1) a matrix memory circuit (Ref 14), which was developed by the Laboratoriya elektromodelirovaniya AN SSSR (Laboratory of Electric Modeling, AS USSR) in 1955 and which was applied in the computer of the BESM ITM VT, AS USSR. 2) Among step-by-step circuits the choke coil circuit developed by N. V. Korol'kov and V. S. Gavrilov, collaborators of the same laboratory, is the most recent advance (Ref 30). There are 16 figures, 1 table, and 32 references, 12 of which are Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy institut gorodskoy i sel'skoy telefonnoy svyazi (Scientific Research Institute of Municipal and Rural Telephone Communications)

SUBMITTED: May 26, 1958

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001343

AUTHORS: Rabkin, L. I., Soskin, S. A. Epshteyn, B. Sh. SOV/48-22-10-11/23

TITLE: Synthesis and Magnetic Properties of Ferrites Exhibiting a Rectangular Hysteresis Loop (Sintez i magnitnyye svoystva ferritov s pryamougol'noy petley gisterezisa)

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1958, Vol.22, Nr 10, pp 1217 - 1224 (USSR)

ABSTRACT: The magnetic properties of ferrites are influenced not only by their chemical composition but also by the presence of pores and by the shape, size, and position of the impurities contained. These factors depend on the conditions of production, on the initial mixture, and on the synthesis. In the present paper the authors investigated the production of the samples, the method of measuring, the influence of the dispersing medium and of the synthetization medium, the influence of the duration of cooling, and the influence of the chemical composition upon the magnetic properties of ferrites showing a rectangular hysteresis loop. On the base of these investigations several types of ferrites were developed. The basic parameters of these ferrites are given

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in table 3. In the selection of the prescriptions some compositions worked out under the supervision of Kosarev (Ref 9) were considered. The magnetic properties of ferrites were examined under dynamical conditions by means of measuring the amplitude, frequency, and temperature characteristics. As the amplitude characteristics of the ferrites ПП-2 (Fig 6) show, the relative remanent magnetization exhibits a maximum at a certain amplitude of the field strength. The coercive force increases considerably faster with increasing amplitude of the field strength than the maximum magnetization. Considering these properties it is useful to employ ferrites with a rectangular hysteresis loop in the case of comparatively low field strengths if the remanent magnetization has its maximum. For the frequency dependence of B_m, B_r/B_m, and H_c (Fig 7) of the ferrites PP-24 a weak dependence of the maximum and of the remanent magnetization in the frequency range of from 10 to 100 kilocycles is characteristic. The temperature characteristics of the ferrite PP-24 in the temperature range of -70 to +120° are represented in figure 8. The curves show that B_m, B_r/B_m,

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and H_c decrease with increasing temperature. The curves of the dependence of τ and $1/\tau$ (τ denotes the duration of remagnetization) on the field strength for PP-1, PP-5, and PP-24 are represented in figure 9. It can be seen that the quantity $1/\tau$ increases linearly with increasing strength of the magnetic field. The ferrites PP-1 and PP-5 which distinguish themselves from PP-24 by a higher coercive force, exhibit a longer duration of remagnetization. There are 9 figures, 3 tables, and 9 references, 3 of which are Soviet.

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001343

SOV/48-22-10-22/23

AUTHOR: Rabkin, L. I.

TITLE: Some Problems in the Physics of Diamagnetics (Nekotoryye voprosy fiziki magnetodielektrikov)

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1958, Vol 22, Nr 10, pp 1276 - 1281 (USSR)

ABSTRACT: In the present work the author for a number of ferromagnetic powders determined the dependence of the initial permeability $\hat{\mu}$ upon the size of the particles and the thermal treatment. These dependences are represented for 80-permalloy powder in figure 1 and for iron-silicon-aluminium alloy (Alsifer) in figure 2. The powders used for the production of the diamagnetic samples are heterogeneous with respect to the size of the ferroparticles. The permeability of these heterogeneous powders can be determined by means of the Lichteneker (Likhteneker) formula (Ref 1):

$$\lg\hat{\mu} = \lg\hat{\mu}_1^{p_1} + \lg\hat{\mu}_2^{p_2} + \ldots + \lg\hat{\mu}_n^{p_n}$$

$$p_1 + p_2 + \ldots + p_n = 1$$

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The dependence of the permeability of the diamagnetic samples on the space factor p is not a single-term function as it depends on the distribution of the ferromagnetic and non-ferromagnetic phases in the dielectric substance. The less direct contacts exist between the ferroparticles and the more regularly the insulating substance is distributed between the ferroparticles, the smaller will be the permeability of the dielectric. On the condition that the permeability of the dielectric at p = 1 is assumed to be the permeability of the particles formula (3) as already mentioned (Ref 5) agrees well with experimental data for dielectrics on the basis of the Alsifer powders. Formula (3) was also controlled with diamagnetics of nitrided carbonyl-iron and of permalloy powders consisting of flaky particles. Measuring results (Table 1) show that the values for anisotropic diamagnetics computed according to the Lichteneker formula differ only in an insignificant degree from the experimental values. The permeability of the multicomponent diamagnetics consisting of m powders which differ in the kind of their particles, in their permeability $\hat{\mu}_n$, and in the space factor p can be computed according to the generalized Lichteneker formula

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(Ref 6):

$$\lg\bar{\mu} = \sum_{k=1}^{n} p_k \lg \hat{\mu}_k$$

For two-component diamagnetics this formula assumes the following form:

$$\ln\bar{\mu} = p_1 \lg\bar{\mu}_1 + p_2 \lg\hat{\mu}_2$$

This formula was checked with a considerable number of compositions. Finally the loss factors of the diamagnetics were measured. Comparative data for the factors of the initial and the hysteresis losses are given for permalloy in table 2 and for Alsifer in table 3. The experiments showed that the inhomogeneity of the field depends on the shape of the particles and on the space factor p. There are 4 figures, 3 tables, and 6 references, 3 of which are Soviet.

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8(2) SOV/105-59-2-19/25

AUTHOR: Rabkin, L. I., Candidate of Technical Sciences

TITLE: Magnetodielectrics (Magnitodielektriki)

PERIODICAL: Elektrichestvo, 1959, Nr 2, pp 78-84 (USSR)

ABSTRACT: A short review is given. At first the classification: three groups of high frequency ferromagnetics - metallic fine crushed ferrites and magnetodielectrics of a width of some microns. The latter consist of pulverized ferromagnetics and insulation particles. The production method is similar to that of plastics and of powder metallurgy. 4 groups are distinguished (Ref 2): 1) "Ferroplasts" - solid magnetodielectrics with low coercivity. A review on their development is given. At present, the USSR industry produces the "Ferroplast" developed in the NIITS MS on the base of Alsifer (iron alloy of 9 - 11% Si and 5 - 7% Al) with increased permeability (80 - 100 gauss/oersted) the Alsifer TCh-90. The insulating intermediate layer between the Alsifer particles of this magnetodielectric contains a fine ferrite powder (Ref 4) and represents for its part a magnetodielectric of 7 - 8 gauss/oersted and a very high electric resistivity of 10^7 - 10^8 ohm.cm.- A further "Ferroplast" is the "Ferroebonite K-8"on the base of rubber and iron carbonyl which can easily be worked by

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lathes and milling machines. 2) "Ferroelasts". The groups of elastic magnetodielectrics with little coercivity suggested by the author (Ref 2) are destined for the production of flexible magnetic parts. At these, powders of Alsifer, iron carbonyl, Permalloy-ferrites are used for the magnetic phase, and caoutchouc, special resins as polychlorvinyl, as dielectric phase. The magnetic properties of the ferroelastics depend essentially upon the properties of the magnetic powder and, to a lower degree, on those of the dielectric phase. P-20 has the highest permeability. This material is based on Permalloy powder with scaly particles. The ferroelast TMF-10/40 is used for compensating the instability of the inductivity caused by the temperature variations, at coil cores. 3) "Magnetoplasts" are solid, magnetically hard magnetodielectrics. They are used for manufacturing stamped magnets and often consist of powders of magnetic hard alloys of high coercivity and can easily be ground. 4) "Magnetoelasts" are elastic, magnetically hard magnetodielectrics and often have a larger magnetic force than tungsten or chromium steel. They are cheap, easily to be assembled and need not be polished. Apt for sound tapes. A cylindrical magnetoelastic sound carrier is built in into the "speaking watch" of the telephone network of Moscow (Ref 11). - The further outlooks for development are

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indicated. The foliated metallic ferromagnetics enable the production of iron cores for transformers and induction coils with largest permeability in the frequency range up to some hundred of kilocycles. A drawback is the intricate manufacture. The ferrites are widely used at present, but have a low saturation induction. The ferroplasts are apt for the production of cores of intricate shape with precise dimensions and can be used at higher inductions than the ferrites. In the weak fields of the supersonic frequency, the quality of the coils made of them is less than of those of the ferrites. The successes achieved by the ferrites and by the foliated metallic ferromagnetics mean no danger to the further development of the "ferroelasts" and of the "magnetoelasts" as those have by virtue of their specific properties a determined range of application where it would be unsuitable or impossible to get them replaced by ferrites. There are 9 figures, 2 tables, and 12 references, 8 of which are Soviet.

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PA (2)

AUTHOR: Rabkin, L. I. SOV/48-23-3-9/34

TITLE: High-frequency Ferromagnetics (Vysokochastotnyye Ferromagnetiki)

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya fizicheskaya, 1959, Vol 23, Nr 3, pp 318-323 (USSR)

ABSTRACT: For many years scientists have searched for magnetic substances that are suited for high-frequency application. **Three types** of high-frequency ferromagnetics were developed. They differ from each other as to their structure, their properties, and the technology of their production. According to their hysteresis loop ferromagnetics of each individual class may be divided into 6 types - 3 low coercive and 3 highly coercive types. The first type (Fig 1a) with a narrow, inclined loop and a relatively low residual induction is characterized by the fact that its permeability is only little changed in the change of the field potential. The second type (Fig 1b) with a narrow, steep loop has a high permeability. The third type (Fig 1c) with a narrow rectangular loop can be easily magnetized and remains magnetic for any time. Metals, metalloids and magnetodielectrics with different values of the residual induction may be highly coercive ferromagnetics

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(Fig 1 d, e, f) with wide loops. Metalloid and magneto-dielectric highly coercive ferromagnetics which may be used in high-frequency fields owing to a strong electric resistance are of special importance in high-frequency engineering. In the case of acoustic and supersonic frequencies metallic ferromagnetics surpass all others by their high permeability. Besides, they have high values of saturation induction. In high-frequency engineering it was found since long that the angular tangent of the magnetic losses is not only determined by the eddy currents and the hysteresis but also by a number of by-processes. In the case of an increase in frequency the frequency characteristics of the loss angles become more complicated. For this reason the losses according to Jordan cannot be classified. Figure 2 shows the scheme applied by the author for the classification of the losses in the case of high frequency. Although the initial loss angle of high frequency ferromagnetics is low in the case of acoustic frequencies it often surpasses other components by many times in weak fields (Fig 3). The assumption that the forming of the boundary layer on certain conditions causes an aligned shifting of the particles makes

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it possible to explain some properties of the ferromagnetics as e.g. the Perminvar effect. In the case of magnetization in strong fields the boundary layers disappear. If they occur again after the decrease of the magnetising field they do no longer pass completely through the band in which the particles of the defective phase accumulate. For this reason the Perminvar effect is also somewhat weakened. The distribution process of disperse phase under the action of the boundary layer at high temperatures may explain some phenomena which are in connection with properties of the Permalloy as well as their dependence on the thermal processing. There are 3 figures and 9 references, 3 of which are Soviet.

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24(3)

AUTHORS: Rabkin, L. I., Novikova, Z. I. SOV/48-23-3-20/34

TITLE: Electric Properties of Magnetodielectrics and Ferrites (Elektricheskiye svoystva magnetodielektrikov i ferritov)

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959, Vol 23, Nr 3, pp 388-396 (USSR)

ABSTRACT: The present paper deals with the investigation of the dielectric properties of a number of nickel-zinc-ferrites with different initial permeability. Table 1 gives the names of the investigated ferrites, their compositions and the conditions of sintering. In all investigated ferrites the existence of a range of relaxation, the phase angle tangent line and the dielectric constant were determined. Figure 1 gives the dependence of the $tg\delta'$ in the frequency range of 2.10^2 to 2.10^7 cycles on the frequency of the investigated ferrite samples NTs-I, II, II and IV (Table 1) at room temperature. Only in the case of the sample with an initial permeability of 1,500 gauss oe^{-1} a maximum is observed at room temperature in the frequency dependence of the dielectric phase angle tangent line, which shifts into the range of higher frequencies and increases as soon as temperature rises (Fig 2). The maximum

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of the phase angle tangent line was also observed in other ferrite samples at higher temperatures (Figs 3, 4 and 5). The dielectric constant of the investigated polycrystalline ferrites increases considerably with temperature in the range where tg δ has a maximum (Fig 6). In the case of high frequencies the dielectric constant depends but little on temperature (Figs 7 and 8). At low temperatures, however, it changes with the frequency in the investigated temperature- and frequency range. In figure 9 frequency dependences of the phase angle tangent line and of the dielectric constant of nickel-zinc- and manganese ferrites are compared with practically equal values of magnetic permeability ($\mu \approx 2,000$). Table 2 gives the parameters of dielectric- and magnetic characteristics of a slowly and rapidly cooled ferrite sample NTs-III on a frequency of 60 kilocycles. Modern magnetically soft magnetodielectrics may be divided into two groups: ferroplastic substances - mechanically strong magnetodielectrics with weak coercive force, and ferroelastic substances - elastic magnetodielectrics, also with weak coercive force (Ref 1). The authors investigated magnetodielectrics of

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natural rubber and Alsifer powders and nickel-zinc-ferrites with magnetic permeability of 250 gauss oe^{-1} and 1,000 gauss oe^{-1}. The results of measurement are shown in figures 10 and 11. It may be seen that the dielectric constant increases with increasing amount of ferromagnetic and decreases with constant concentration of the latter in the case of increasing frequency (Fig 10). The phase angle tangent line increases also with increasing amount of ferromagnetic. The frequency dependence of the ferroelastic substances on ferrite basis on $tg\,\delta$ is due to the $tg\,\delta$ of ferrites themselves which are dependent on frequency. The frequency dependence of the ferroelastic substances with 90 % ferrite NTs-III on $tg\,\delta$ has, in the case of higher temperature, a $tg\,\delta$ maximum (Fig 12) on the same frequency as NTs-III in figure 6. The electric field in the core does not only depend on its electric parameters but also on the form of the core and the kind of the coiling. Figure 13 gives the scheme of a toroid coil according to calculations made by Kornetskiy and Veis (Ref 2). The effect of the thickness of the insulating layer between core and coiling upon the quality of the coil is shown in figure 14 and the

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Electric Properties of Magnetodielectrics and Ferrites SOV/48-23-3-20/34

dependence of the coil resistance upon frequency in figure 15. There are 15 figures and 2 references, 1 of which is Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy institut telefonnoy svyazi (Scientific Research Institute of Telephone Communication)

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PHASE I BOOK EXPLOITATION SOV/4873

Rabkin, Lev Izrailevich.

Vysokochastotnyye ferromagnetiki (High-Frequency Ferromagnetic Materials). Moscow, Fizmatgiz, 1960. 528 p. Errata slip inserted. 10,000 copies printed. (Series: Fiziko-matematicheskaya biblioteka inzhenera)

Ed.: V. Ya. Dubnova; Tech. Ed.: S. S. Gavrilov.

PURPOSE: This book is intended for scientific and technical personnel concerned with the development and use of ferromagnetic materials.

COVERAGE: According to the author, the book makes generalizations concerning a large number of problems related to magnetic materials and, as a consequence, may contain inaccuracies and errors. Certain terms such as "magnetodielectric", "ferrite", "ferrodielectric", and others which are variously applied by different Soviet authors are used in conformity with the prevailing terminology. Special attention is paid to ferrites and

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magnetodielectrics [ferromagnetic powders] and, among ferromagnetic materials, to ferronickel and ferronickel-cobalt alloys specially developed for high-quality engineering. Fundamentals of the theories of ferromagnetism and of thermal and electrical phenomena in ferromagnetic materials are presented. The author thanks N. N. Shol'ts, K. P. Morozov, K. A. Pisparev, A. S. Zaymovskiy, O. N. Al'tgauzen, G. A. Smolenskiy, B. Sh. Epshteyn, and Z. I. Novikova with whom he collaborated at various times. There are 425 references: 272 Soviet, 86 English, 44 German, 22 French, and 1 Dutch.

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PHASE I BOOK EXPLOITATION SOV/4893

Vsesoyuznoye soveshchaniye po fizike, fiziko-khimicheskim svoystvam ferritov i fizicheskim osnovam ikh primeneniya. 3d, Minsk, 1959

Ferrity; fizicheskiye i fiziko-khimicheskiye svoystva. Doklady (Ferrites; Physical and Physicochemical Properties. Reports) Minsk, Izd-vo AN BSSR, 1960. 655 p. Errata slip inserted. 4,000 copies printed.

Sponsoring Agencies: Nauchnyy sovet po magnetizmu AN SSSR. Otdel fiziki tverdogo tela i poluprovodnikov AN BSSR.

Editorial Board: Resp. Ed.: N. N. Sirota, Academician of the Academy of Sciences BSSR; K. P. Belov, Professor; Ye. I. Kondorskiy, Professor; E. M. Polivanov, Professor; R. V. Telesnin, Professor; G. A. Smolenskiy, Professor; N. N. Shol'ts, Candidate of Physical and Mathematical Sciences; E. M. Smolyarenko; and L. A. Bashkirov; Ed. of Publishing House: S. Kholyavskiy; Tech. Ed.: I. Volokhanovich.

PURPOSE: This book is intended for physicists, physical chemists, radio electronics engineers, and technical personnel engaged in the production and use of ferromagnetic materials. It may also be used by students in advanced courses in radio electronics, physics, and physical chemistry.

COVERAGE: The book contains reports presented at the Third All-Union Conference on Ferrites held in Minsk, Belorussian SSR. The reports deal with magnetic transformations, electrical and galvanomagnetic properties of ferrites, studies of the growth of ferrite single crystals, problems in the chemical and physicochemical analysis of ferrites, studies of ferrites having rectangular hysteresis loops and multicomponent ferrite systems exhibiting spontaneous rectangularity, problems in magnetic attraction, highly coercive ferrites, magnetic spectroscopy, ferromagnetic resonance, magneto-optics, physical principles of using ferrite components in electrical circuits, anisotropy of electrical and magnetic properties, etc. The Committee on Magnetism, AS USSR (S. V. Vonsovskiy, Chairman) organized the conference. References accompany individual articles.

Ferrites (Cont.) SOV/4893

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Ivanenko, V. I., and A. M. Gordina. New Ferrites for the 100-1000mc Frequency Range 142

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Vsesoyuznoye soveshchaniye po fizike, fiziko-khimicheskim svoystvam ferritov i fizicheskim osnovam ikh primeneniya. 3d, Minsk, 1959

Ferrity; fizicheskiye i fiziko-khimicheskiye svoystva. Doklady (Ferrites; Physical and Physicochemical Properties. Reports) Minsk, Izd-vo AN BSSR, 1960. 655 p. Errata slip inserted. 4,000 copies printed.

Sponsoring Agencies: Nauchnyy sovet po magnetizmu AN SSSR. Otdel fiziki tverdogo tela i poluprovodnikov AN BSSR.

Editorial Board: Resp. Ed.: N. N. Sirota, Academician of the Academy of Sciences BSSR; K. P. Belov, Professor; Ye. I. Kondorskiy, Professor; K. M. Polivanov, Professor; R. V. Telesnin, Professor; G. A. Smolenskiy, Professor; N. N. Shol'ts, Candidate of Physical and Mathematical Sciences; Z. M. Smolyarenko; and L. A. Bashkirov; Ed. of Publishing House: S. Kholyavskiy; Tech. Ed.: I. Volokhanovich.

PURPOSE: This book is intended for physicists, physical chemists, radio electronics engineers, and technical personnel engaged in the production and use of ferromagnetic materials. It may also be used by students in advanced courses in radio electronics, physics, and physical chemistry.

COVERAGE: The book contains reports presented at the Third All-Union Conference on Ferrites held in Minsk, Belorussian SSR. The reports deal with magnetic transformations, electrical and galvanomagnetic properties of ferrites, studies of the growth of ferrite single crystals, problems in the chemical and physicochemical analysis of ferrites, studies of ferrites having rectangular hysteresis loops and multicomponent ferrite systems exhibiting spontaneous rectangularity, problems in magnetic attraction, highly coercive ferrites, magnetic spectroscopy, ferromagnetic resonance, magneto-optics, physical principles of using ferrite components in electrical circuits, anisotropy of electrical and magnetic properties, etc. The Committee on Magnetism, AS USSR (S. V. Vonsovskiy, Chairman) organized the conference. References accompany individual articles.

Ferrites (Cont.) SOV/4893

Belov, K. P., M. A. Zaytseva, and L. A. Malevskaya. Magnetic and Resonance Properties of Ferrite Garnets of Yttrium Substituted by Aluminum, Chromium, and Neodymium 205

Belov, K. P., M. A. Zaytseva, and A. B. Ped'ko. Some Characteristic Features of the Magnetic Behavior of Ferrite Garnets of Gadolinium 212

Rabkin, L. I., Z. I. Novikova, and Yu. D. Lebedev. Magnetic and Electrical Properties of Ferrite Powders 219

Syrkin, L. N. On Magnetomechanical Nonlinearity in Ferrites 226

Annayev, R. G., and K. Y. Kariyev. Magnetostriction of Ferrites of Complex Composition 233

Piskarev, K. A. Temperature Dependence of the Initial Magnetic Permeability of Ferromagnetic Oxide M-2000 [of the System $MnO-ZnO-Fe_2O_3$] 236

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RABKIN, L.I.

PHASE I BOOK EXPLOITATION SOV/4893

Vsesoyuznoye soveshchaniye po fizike, fiziko-khimicheskim svoystvam ferritov i fizicheskim osnovam ikh primeneniya. 3d, Minsk, 1959

Ferrity; fizicheskiye i fiziko-khimicheskiye svoystva. Doklady (Ferrites; Physical and Physicochemical Properties. Reports) Minsk, Izd-vo AN BSSR, 1960. 655 p. Errata slip inserted. 4,000 copies printed.

Sponsoring Agencies: Nauchnyy sovet po magnetizmu AN SSSR. Otdel fiziki tverdogo tela i poluprovodnikov AN BSSR.

Editorial Board: Resp. Ed.: N. N. Sirota, Academician of the Academy of Sciences BSSR; K. P. Belov, Professor; Ye. I. Kondorskiy, Professor; K. M. Polivanov; Professor; R. V. Telesnin, Professor; G. A. Smolenskiy, Professor; N. N. Shol'ts, Candidate of Physical and Mathematical Sciences; E. M. Smolyarenko; and L. A. Bashkirov; Ed. of Publishing House: S. Kholyavskiy; Tech. Ed.: I. Volokhanovich.

PURPOSE: This book is intended for physicists, physical chemists, radio electronics engineers, and technical personnel engaged in the production and use of ferromagnetic materials. It may also be used by students in advanced courses in radio electronics, physics, and physical chemistry.

COVERAGE: The book contains reports presented at the Third All-Union Conference on Ferrites held in Minsk, Belorussian SSR. The reports deal with magnetic transformations, electrical and galvanomagnetic properties of ferrites, studies of the growth of ferrite single crystals, problems in the chemical and physicochemical analysis of ferrites, studies of ferrites having rectangular hysteresis loops and multicomponent ferrite systems exhibiting spontaneous rectangularity, problems in magnetic attraction, highly coercive ferrites, magnetic spectroscopy, ferromagnetic resonance, magneto-optics, physical principles of using ferrite components in electrical circuits, anisotropy of electrical and magnetic properties, etc. The Committee on Magnetism, AS USSR (S. V. Vonsovskiy, Chairman) organized the conference. References accompany individual articles.

Ferrites (Cont.) SOV/4893

Soboleva, L. P., and Ya. N. Kolli. Dynamics of the Reversal of Magnetization of a Ferrite Bar With a Rectangular Cross Section 364

Brin, I. A., G. P. Lisitsyn, and Yu. N. Shamayev. The Surface Effect in a Ferrite Plate With Rectangular Hysteresis Loop 377

Shamayev, Yu. N. Stability of Particular Cycles and "Accomodation" During Pulsed Reversal of Magnetization of Ferrites With Rectangular Hysteresis Loop 386

Shamayev, Yu. N., A. I. Pirogov, and V. P. Belyavskiy. Pulsed Reversal of Magnetization of Ferrites With Rectangular Hysteresis Loop 391

Rabkin, L. I., and B. Sh. Epshteyn. Ferrites With Rectangular Hysteresis Loop in Weak Fields 401

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001343

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S/048/61/025/011/026/031
B102/B108

15 2640

AUTHORS: Rabkin, L. I., and Novikova, Z. I.

TITLE: Comparison of electrical and magnetic properties of nickel-zincferrites

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 25, no. 11, 1961, 1413-1418

TEXT: In earlier publications (e.g., Izv. AN SSSR. Ser. fiz., 23, No. 3, 388 (1959)) the authors had shown that the properties of ferrites are strongly affected by Fe^{2+} ions. Now they have studied the effect of the Fe^{2+} concentration in Ni-Zn ferrites upon resistivity, ρ, dielectric constant, ε, magnetic permeability, μ, activation energy of conduction E_ρ, and upon the conduction loss angle, tan δ_ρ, dielectric loss angle, tan δ_ε, and magnetic loss angle tan δ_μ. Results are summarized as follows: At low frequencies, electrical conductivity and dielectric constant increase monotonically with rising Fe^{2+} concentration. μ as a function of the FeO

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Comparison of electrical ...

content, X, exhibits a high, narrow peak at $< 0.5\%$ by weight of FeO. The conduction activation energy increases with rising ρ and is inversely proportional to the FeO concentration: $E_\rho = A/\log X$. In addition, E_ρ increases exponentially with ρ. In most cases, the temperature and frequency characteristics of $\tan \delta_\mu$ and $\tan \delta_\varepsilon$ exhibit one or two peaks in the range of 1-100 kc/sec, one near the Curie point, and the other at low temperatures. The position of the latter peak is both frequency- and temperature-dependent, and is shifted to higher temperatures as the frequency increases. The maximum value of $\tan \delta_\varepsilon$ increases with rising X. At a given frequency, the maximum of $\tan \delta_\mu$ is at lower temperatures than that of $\tan \delta_\varepsilon$ for one and the same sample. The maximum value of $\tan \delta_\mu$ is by one or two orders of magnitude less than that of $\tan \delta_\varepsilon$. E_ρ is about as high as the activation energy of dielectric relaxation. For both magnetic and dielectric relaxation processes the relation $\tau = \tau_0 e^{E/kT}$ is valid, where E = activation energy, and τ = relaxation time. This indicates that both magnetic and dielectric processes are

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Comparison of electrical ...

due to the same factor and that the electromagnetic properties of the ferrites in question depend on a) electron transitions between neighboring Fe^{2+} and Fe^{3+} ions, and b) on transitions between Fe^{2+} ions near one and Fe^{3+} ions near another lattice defect. This means that electron migration will occur in the direction of the field, resulting in polarization of the ferrite. The higher the Fe^{2+} content, the more transitions and the higher the dielectric constant. The effect of a variable field will vanish at a certain frequency which depends on the distance between the vacancies, and the dielectric constant will decrease simultaneously. The fact that tan δ_ε is shifted to higher frequencies with growing X is attributed to an increase in the electron transition frequency which is known to take place with diminishing distance between the vacancies. The simultaneous decrease in activation is further proof of this assumption. The different relaxation times τ_0 of elementary processes involved in magnetic and dielectric relaxation are ascribed to the fact that electron diffusion is due to different factors. There are 5 figures, 1 table, and 10 references: 7 Soviet and 3 non-Soviet. The two references to English-language publications read as follows: Smit J., Wijn H., Advances in Electronics and Electron Phys., 6, 69, 1954; Kan-ichi Kamiyoschi, Phys. Rev. 84, no. 2,

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001343

RABKIN, Lev Izrailevich; SOSKIN, Semen Aronovich; EPSHTEYN, Boris Shayevich; KAZARNOVSKIY, D.M., red.; SOBOLEVA, Ye.M., tekhn. red.

[Technology of ferrites]Tekhnologiia ferritov. Moskva, Gosenergoizdat, 1962. 358 p. (MIRA 15:9)
(Ferrates)

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001343

RABKIN, L.I.; GORYACHEV, N.P.

Pulse testing of ferromagnetic materials. Trudy inst. Kom.stand.mer i izm.prib no.64:228-232 '62. (MIRA 16:5)
(Ferromagnetism--Testing) (Cathode ray oscillograph)

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85867

S/048/60/024/011/003/036
B006/B056

24.7500 (1043, 1145, 1160)

AUTHORS: Yatsenko, A. F. and Rabkin, L. M.

TITLE: Sounding of the Crystal Field of the $BaTiO_3$ Lattice by Rare-earth Ions

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1960, Vol. 24, No. 11, pp. 1314 - 1317

TEXT: The present paper is a reproduction of a lecture delivered on the 3rd Conference on Ferroelectricity which took place in Moscow from January 25 to 30, 1960. As it is of great importance for clearing up the nature of ferroelectricity to know the lattice field acting upon a single ion, the authors suggest a method by means of which it is possible to sound these fields. This method may, at the same time, be used for the purpose of detecting the lattice vibration frequencies from observed electron-vibrational transitions. The authors used rare-earth elements (denoted by TR), which are added in small quantities (< 0.5 mole%), and served as "voltmeter probes". For this purpose the fact was made use of that the TR furnish linear luminescence spectra also in the solid state.

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Sounding of the Crystal Field of the $BaTiO_3$ Lattice by Rare-earth Ions

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From the level splitting observed from the decrease of all terms and the displacement toward infrared of the entire spectrum resulting herefrom, conclusions may be drawn with respect to the lattice field. The distortions due to introduction of the impurity ions are discussed in the introduction; the experimental observations indicate that the TR-ions occupied lattice nodes with the point symmetry O_h (above Curie point); during passage through Curie point the symmetry decreases from O_h to C_{4v}, and the inversion centrum is lost. For the statistical potential a formula is given (expansion in series with respect to spatial harmonics), in which terms from the 6-th order on are neglected; the quantities necessary for calculating this potential may be determined from the spectrum. Fig. 1 shows luminescence spectra of Ba-, Sr-, and Ca-titanates activated with Sm and Pr. As may be seen herefrom, the general shape of the spectra of Ba- and Sr-titanate remains conserved, but intensity changes and line shifts are found to occur; the brightness of the former is a multiple of the latter. A multiple of details of the observed spectra is given; the following summary may be given of the results obtained: 1) By means of the method of rare earth probes it is possible to

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Sounding of the Crystal Field of the $BaTiO_3$ Lattice by Rare-earth Ions

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determine the potential function of the crystal field (with respect to amount and symmetry). 2) The existence of a distinct luminescence spectrum is a good criterion for the formation of a solid solution $Ba(TRTi)O_3$. 3) Also qualitative considerations make it possible to compare the fields in $BaTiO_3$, $SrTiO_3$, and $CaTiO_3$, and to observe changes in phase transitions. Among other things, it was found that above Curie point the electron cloud of the central ion of the octahedron is considerably polarized. 4) This method may be used for the purpose of solving technological problems as well as, together with X-ray structural analysis or similar methods for studying crystal structures. There are 3 figures and 7 references: 6 Soviet and 1 Hungarian.

ASSOCIATION: Fiziko-matematicheskiy fakul'tet Rostovskogo-na-Donu gos. universiteta (Department of Physics and Mathematics of Rostov-na-Donu State University)

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L 19679-63 EWP(q)/EWT(m)/EWP(B)/BDS AFFTC/ASD JD

ACCESSION NR: AR3006974 S/0058/63/000/008/D055/D055

SOURCE: RZh. Fizika, Abs. 8D402

AUTHOR: Rabkin, L. M.

TITLE: Temperature changes in a luminescence spectrum of samarium in some perovskite lattices

CITED SOURCE: Sb. Materialy* 3-y Nauchn. konferentsii aspirantov. Rostovsk. un-t. Rostov-na-Donu, 1961, 124-130

TOPIC TAGS: barium titanate, calcium titanate, samarium spectrum, perovskite lattice, low temperature, multiplet splitting

TRANSLATION: The luminescence and absorption spectra of Sm^{3+} ions introduced as activators in polycrystalline specimens of $CaTiO_3$ and $BaTiO_3$ have been investigated at -72 and -106°C. The energy level

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ACCESSION NR: AR3006974

scheme of Sm^{3+} in $CaTiO_3$ has been constructed under the assumption that the excited level $6P_{3/2}$ and the levels of the main multiplet $^6H_{5/2}$, $^6H_{7/2}$, and $^6H_{9/2}$ are split in the crystal field into three, four, and five components, respectively. The absence of considerable realignment of the spectrum in the phase transition near -80°C, in which the orthorhombic modification goes over into the rhombohedral one and the symmetry drops from C_{3v} to C_{2v}, offers evidence that the degeneracy of the Sm^{3+} levels is completely lifted even for C_{3v}. The literature data are critically reviewed on the basis of the results obtained.

DATE ACQ: 06Sep63 SUB CODE: PH ENCL: 00

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S/181/62/004/003/020/045
B125/B108

AUTHORS: Yatsenko, A. F., Kulyupin, Yu. A., and Rabkin, L. M.

TITLE: Discrete structure of the self-absorption edge of sodium nitrite

PERIODICAL: Fizika tverdogo tela, v. 4, no. 3, 1962, 692-696

TEXT: The authors studied the discrete structure of the self-absorption edge in a ferroelectric sodium nitrite crystal in polarized light of 3250-3900 Å for the three crystallographic directions a, b, and c by means of ДФС-4 (DFS-4) and ИСП-28 (ISP-28) spectrographs. For low-temperature measurements, the samples were directly immersed in liquid nitrogen. The crystals were prepared by evaporating the aqueous solution, by pricking the crystal out of the solidified melt, or by solidifying a film of melt on a backing or between two transparent backings. At room temperature and with very thick crystals (d~1 mm), the edge of the transmission curve is in the region of 4000, 3950, and 4050 Å for the axes a, b, and c, respectively. With decreasing concentration, the longwave edge of the

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transmission curve of the band of the first electron transition of the aqueous $NaNO_2$ solution shifts toward ultraviolet. Similar observations have been made also for thinner crystals. Fig. 2 shows the transmission curves for thin crystals (d = 10-20μ) and for an aqueous solution of low concentration at room temperature. In the spectrum along the a axis, the absorption ranges from 3850 to 3250 Å with a distinct vibrational structure with $\nu \sim 630$ cm^{-1}; this consists of the series $\nu = \nu_{oo} + n\nu_2$, $\nu'_n = \nu_{oo} + \nu_1 + n\nu_2$, and $\nu'' = \nu_{oo} + n\nu_1$. The spectrum for the b axis has no structure. The absorption which increases more slowly with increasing frequency attains its maximum at $\lambda \sim 3000$ Å. The b-spectrum of thick crystals (d ~ 0.5 mm) contains no 0-0 band and no vibrational bands caused by electrons, but it shows a distinct series $\nu'_n = \nu_{oo} + n\nu_2 + \nu$ with $\nu = 56\pm2$; 104 ± 2; 204 ± 2, and 515 ± 10 cm^{-1}. The c-spectrum is similar to the a-spectrum, but the relative intensities of its bands differ from the a-spectrum. The weak low-frequency lines are caused by lattice vibrations. There are 4 figures, 1 table, and 13 references: 4 Soviet and 9 non-Soviet. The four most recent references to English-language publications read as

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001343

follows: S. Sawada, et al. Phys. Rev. Lett. 1, 320, 1958; J. W. Sidman. J. Amer. Chem. Soc., 78, 2911, 1956; J. W. Sidman. J. Amer. Chem. Soc., 79, 2669, 1957; W. D. Trawick, W. H. Eberhardt, J. Chem. Phys., 22, 1462, 1954.

ASSOCIATION: Rostovskiy-na-Donu gosudarstvennyy universitet (Rostov-na-Donu State University)

SUBMITTED: March 27, 1961 (initially) November 9, 1961 (after revision)

Fig. 2. Transmission curves at room temperature. Legend: (1) along the a-axis, (2) along the b-axis, (3) along the c-axis, (4) $NaNO_2$ aqueous solution, (5) transmission, %.

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L 33585-66 EWT(m)/EWP(t)/ETI IJP(c) JD/JG

ACC NR: AR6016211 SOURCE CODE: UR/0058/65/000/011/D059/D059

58

AUTHORS: Yatsenko, A. F.; Rabkin, L. M.

B

TITLE: Luminescence spectra of rare earth elements in perovskite lattices

27

SOURCE: Ref. zh. Fizika, Abs. 11D454

REF SOURCE: Tr. Komis. po spektroskopii. AN SSSR, t. 3, vyp. 1, 1964, 552-562

TOPIC TAGS: luminescence spectrum, line spectrum, ferroelectric material, titanate, rare earth element, spectral analysis, nuclear energy level

ABSTRACT: The authors discuss the possibility of using line luminescence of rare earth ions for the study of the crystalline field in the ferroelectric $BaTiO_3$, and also in $CaTiO_3$ and $SrTiO_3$. The luminescence spectra and absorption spectra of Pr, Sm, Eu, Tb, Dy, He, and Er were investigated in the indicated lattices at room, liquid-nitrogen, and liquid-hydrogen temperatures. The structure of the luminescence center and the energy level scheme are considered. From an analysis of the structure of the spectra, certain conclusions are drawn regarding the symmetry and magnitude of the crystalline field in perovskite lattices. [Translation of abstract]

SUB CODE: 20, 07/

Card 1/1 90

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RABKIN, M. A.
A. V. PAMFILOV, ZhPKh 1938, 11, 398-402

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CA

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X-ray study of cotton fiber. I. X-ray study of cottons of different strengths. A. A. Morozov and M. A. Rabkin. *Colloid J.* (U. S. S. R.) 5, 135-41 (1939).—The degree of orientation of micelles within cotton fibers as revealed by x-ray patterns increases with increasing tensile strength of the fibers. The strength varied between 32 and 40 kg. per sq. mm.

J. J. Bikerman

A50-1LA METALLURGICAL LITERATURE CLASSIFICATION

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RABKIN, M. A.

USSR/Chemistry - Nitrocellulose Sep 1946
Chemistry - Viscosity

"The Viscosity of Nitrocellulose and Cellulose Solutions," A. V. Panfilov, A. A. Morozov, M. A. Rabkin, 11 pp

"Zhur Prik Khim" Vol XIX, No 9

The role of the structure-forming processes in the phenomena of transformation of nitrocellulose solutions, in connection with the problem of classifying lyophile colloids.

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SOV/137-58-9-18541

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 51 (USSR)

AUTHORS: ~~Rabkin, M. A.~~, Torgovitskaya, S. B., Ratner, Yu. Z., Shishatskiy, F. Ye., Fishteyn, B. M.

TITLE: Prevention of Corrosion in Cooling-system Components of a Blast Furnace (Zashchita detaley sistemy okhlazhdeniya domennoy pechi ot korrozii)

PERIODICAL: Sb. nauchn. tr. Zhdanovsk. metallurg. in-t, 1957, Nr 4, pp 222-232

ABSTRACT: The corrosion destruction of cooling-system components (CSC) of the "Azovstal'" plant blast furnaces employing sea water as a coolant was investigated. It has been established that the water-pipe system of a furnace begins to fail as early as 2.5 months after a general overhaul of the furnace, and that, on the average, approximately 4000 m of the 10,000 m of water pipes must be replaced within a one-year period. The following factors contribute to the destruction of the components: Electro-chemical corrosion (C) (formation of macrogalvanic couples at the junctions of steel pipes with bronze, copper, cast-iron, and other CSC); destruction of

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SOV/137-58-9-18541

Prevention of Corrosion in Cooling-system Components of a Blast Furnace

metal and its protective film by erosion caused by hard particles suspended in the water; chemical C due to sulfur-dioxide and carbon-dioxide gases present in blast-furnace shops at elevated temperatures. Threaded areas and their adjoining zones suffer the greatest destruction, also steel Tees and cast-iron elbows in which the oxide film composed of the C products is destroyed by impact as the water jet is forced into a turn. The investigation revealed the following: The inefficiency of electrochemical protection of the CSC by Zn protectors; the inefficiency of the employment of Al-Zn alloys which become overgrown with barnacles and other impurities contained in the water; the ineffectiveness of the method whereby pipes and fittings are internally coated with cadmium and enamel. In order to prevent C, it is recommended that components made of different metals be joined together by means of 50-300 mm long connecting pipes made of Cr-Ni stainless steel (utilizing for this purpose the waste products of the pipe-rolling industry) and that all fittings be coated internally with asbestos cement (85% cement and 15% asbestos).

1. Blast furnaces--Performance 2. Blast furnaces--Equipment 3. Corrosion--Control

L. Kh.

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001343

RABKIN, M.A.

USSR/Physical Chemistry - Electrochemistry. B-12

Abs Jour : Referat Zhur - Khimiya, No 1, 1958, 553

Author : M.A. Rabkin.
Inst : -
Title : Electrolytic Transfer of Carbon in Liquid Iron-Carbon Alloys.

Orig Pub : Zh. prikl. khimii, 1957, 30, No 5, 791-794

Abstract : Electrolitic transfer of C in liquid Fe-C alloys containing 0.72% of Mn, 1.88% of Si, 0.052% of S and 0.074% of P was studied at 1300 to 1400°. The content of C varied from 2.74 to 0.008% in different experiments. It is established that a noticeable drop of concentration of C and S from the anode to the cathode took place, when a current of 0.08 to 0.1 a per sq.mm was passing through at a voltage of 2.3 to 3 v. The greater the duration of the action of the electric field is, the greater the concentration differencies. The author arrives to the conclusion

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USSR/Physical Chemistry - Electrochemistry. B-12

Abs Jour : Ref Zhur - Khimiya, No 1. 1958, 553

that C and S are present in the studied alloys in the form of positively charged ions.

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S/137/62/000/003/163/191
A160/A101

18.8310

AUTHORS: Rabkin, M. A.; Dorofeyev, D. S.; Torgovitskaya, S. B.; Pogrebnaya, Ye. S.

TITLE: The protection of low-carbon steel by a metallized layer from stainless chrome-nickel steel

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 3, 1962, 13, abstract 3E69. (Sb. nauchn. tr. Zhdanovsk. metallurg. in-t, 1960, vyp. 6, 262 - 274)

TEXT: To ascertain the protective action of a stainless steel sprayed on a non-alloyed low-carbon steel, determined were the corrosion rate and the electronic potentials of test pieces made from СТ3 (St.3) steel and metallized with 1x18Н9Т (1x18N9T) steel. Plates from St.3 steel, each measuring 80x40x3 mm, were used as samples. Before spraying-on the stainless-steel layer, the pieces were etched in HCl and degreased with CCl_4. Then the samples were coated with the stainless 1x18N9T steel. The whole surface of the sample, including its ends, were metallized. The protective action of the coating on the rate of dissolving of the plates was determined in aqueous solutions of H_2SO_4, HNO_3 and HCl with

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different concentrations. The electrode potentials of the pieces were measured in H_2SO_4 and HNO_3 solutions. The experiments yielded the following results: (1) The resistance of the metallized samples in HCl is lower than the resistance of a low-carbon steel. (2) The resistance of metallized samples in H_2SO_4 depends on the concentration of the latter. The maximum corrosion rate of metallized pieces is observed, in contrast to the samples made from St.3 steel, in a 15 % solution of H_2SO_4, i.e., the passivation of metallized pieces appears at a lower concentration of acid as compared to non-metallized samples. (3) The electrode potential of the metallized steel in H_2SO_4 is more positive than the electrode potential of the non-metallized steel, and grows with an increase in the concentration of acid. (4) The resistance of the metallized steel in HNO_3 is 3,000 times higher than the resistance of a non-metallized steel. (5) The higher the concentration of HNO_3 and the longer the duration of its action, the lower the corrosion rate of metallized samples. Compared to a low-carbon steel which passivates in a 60 - 80 % solution of HNO_3, the metallized pieces undergo passivation in a 30 % solution of HNO_3.

V. Tarisova

[Abstracter's note: Complete translation]

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RABKIN, M.A.; KOSOGOV, G.F.; CHERNYSHOV, I.S.; KISSEL', N.N.

Possibility of desulfurizing pig iron by the reduction of certain active metals. Izv.vys.ucheb.zav.; chern.met. no.7:18-23 '60. (MIRA 13:8)

1. Zhdanovskiy metallurgicheskiy institut i Zhdanovskiy metallurgicheskiy zavod im. Il'icha.
(Cast iron--Metallurgy)
(Desulfuration)

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RABKIN, M.A.; KISSEL', N.N.; KOSOGOV, G.F.; CHERNYSHEV, I.S.

Effect of technological factors on the desulfuration of cast iron by the reduction of certain active metals. Izv. vys. ucheb. zav.; chern. met. 4 no.7:36-43 '61. (MIRA 14:8)

1. Zhdanovskiy metallurgicheskiy institut i Metallurgicheskiy zavod im. Il'icha.
(Cast iron—Metallurgy)
(Desulfuration)

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RABKIN, M.A.; CHERNYSHEV, I.S.; KISSEL', N.N.; KOSOGOV, G.F.

Desulfuration of cast iron outside blast furnaces by the reduction of magnesium oxide by aluminum. Izv. vys. uchob. zav.; chern. met. 6 no.9:28-32 '63. (MIRA 16:11)

1. Zhdanovskiy metallurgicheskiy institut i Zhdanovskiy metallurgicheskiy zavod im. Il'icha.

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ATLASOV, I.P.; DEMOKIDOV, K.K.; DIBNER, V.D.; EGIAZAROV, B.Kh.; IVANOVA, A.M.; LOBANOV, M.F.; MARKOV, F.G.; RABKIN, M.I.; RAVICH, M.G.; SAKS, V.N.; SOKOLOV, V.N.; TKACHENKO, B.V.; USTRITSKIY, V.I.; NALIVKIN, D.V., nauchnyy red.; VASIL'YEV, R.P., red.; SOLOV'YEV, L.D., red.; NEKHOROSHEV, A.P., red.; DOLGONOS, L.G., tekhn. red.

[Geological map of the Soviet Arctic] Geologicheskaia karta Sovetskoi Arktiki. Sost. I.P.Atlasov [i dr.] Glav. red. F.G. Markov. ....Nauchn. red. D.V. Nalivkin. [Moskva] 1957. ..Col. map 89 x 131 cm. no. 4 sheets 51 x 72 cm. .. Scale 1:2,500,000. ..Inset: [Geological map of Wrangel Island] Geologicheskaia karta Ostrova Vrangelia, 1:1,500,000. (MIRA 11:8)

(Arctic regions--Geology--Maps)
(Wrangel Island--Geology--Maps)

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TKACHENKO, B.V.; RABKIN, M.I.; DEMOKIDOV, K.K.; VAKAR, V.A.; GROZDILOV, A.L.; BUTAKOVA, Ye.L.; STRIKOV, S.A.

Geology of the northern part of the Central Siberian Pateau. Trudy Nauch.-issl. inst. geol. Arkt. 81:133-242 '57. (MIRA 11:5)

1. Sotrudniki instituta geologii Arktiki.
(Central Siberian Plateau--Geology)

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RABKIN, M.I.

Crystalline schists, gneisses, and charnockite granitoids in the Mirnyy area. Trudy Nauch.-issl.inst.geol.Arkt. 95:80-103 '57. (MIRA 12:1)
(Antarctic regions--Rocks, Crystalline and metamorphic)

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RABKIN, M.I.

Ultrabasic rocks of the Anabar Shield. Trudy NIIGA 80:118-133 '58. (MIRA 14:11)

(Anabar Shield—Rocks, Igneous)

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RABKIN, M.I.

Absolute age of the metamorphic complex and granite intrusions in the Anabar Shield. Trudy nauch.-issl. inst. geol. Arkt. 85: 67-69 '58. (MIRA 12:8)
(Anabar Shield--Rocks, Crystalline and metamorphic)
(Anabar Shield--Granite)

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RABKIN, M.I.; YELISEYEV, N.A., red.; GOROKHOVA, T.A., red.izd-va; GUROVA, O.A., tekhn.red.

[Geology and petrology of the Anabar crystalline shield] Geologiia i petrologiia Anabarskogo kristallicheskogo shchita. Moskova, Gos. nauchno-tekh.izd-vo lit-ry po geol.i okhr. nedr. 1959. 157 p. (Leningrad. Nauchno-issledovatel'skii institut geologii Arktiki. Trudy, vol.87) (MIRA 12:7)

1. Chlen-korrespondent AN SSSR (for Yeliseyev).
(Anabar shield--Geology) (Anabar shield--Petrology)

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RABKIN, M.I.; KLIMOV, L.V.

Anorthosites in the Anabar Shield. Trudy NIIGA 96:116-129 '59. (MIRA 13:5)

(Anabar Shield--Anorthosite)

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RABKIN, M.I. and RAVICH, M.G.

"The pre-Cambrian of the Soviet Arctic."

report presented at the First International Symposium on Arctic Geology, Calgary, Canada, 11-13 Jan 1960.

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RABKIN, M.I.; MILASHEV, V.A.

Kimberlite volcanism in the northern Siberian Platform. Trudy NIIGA 114:126-134 '60. (MIRA 13:11)
(Siberian Platform--Kimberlite)

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RABKIN, M.I.; KRUTOYARSKIY, M.A.; MILASHEV, V.A.

Classification of kimberlite rocks in Yakutia and their nomenclature. Trudy NIIGA 121:154-164 '62. (MIRA 15:9)
(Yakutia--Kimberlite--Classification)

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DZEVANSKIY, Yu.K.; DODIN, A.L.; KONIKOV, A.Z.; KRASNYY, L.I.; MAN'KOVSKIY, V.K.; MOSHKIN, V.N.; LYATSKIY, V.B.; NIKOL'SKAYA, I.P.; SALOP, L.I.; SALUN, S.A.; RABKIN, M.I.; RAVICH, M.G.; POSPELOV, A.G.; NIKOLAYEV, A.A.; IL'IN, A.V.; BUZIKOV, I.P.; MASLENNIKOV, V.A.; NEYELOV, A.N.; NIKITINA, L.P.; NIKOLAYEV, V.A.[deceased]; OBRUCHEV, S.V.; SAVEL'YEV, A.A.; SEDOVA, I.S.; SUDOVIKOV, N.G.; KHIL'TOVA, V.Ya.; NAGIBINA, M.S.; SHEYNMANN, Yu.M.; KUZNETSOV, V.A.; KUZNETSOV, YU.A.; BORUKAYEV, R.A.; LYAPICHEV, G.F.; NALIVKIN, D.V., glav. red.; VERESHCHAGIN, V.N., zam. glav. red.; MENNER, V.V., zam. glav. red.; OVECHKIN, N.K., zam. glav. red.[deceased]; SOKOLOV, B.S., red.; SHANTSER, Ye.V., red.; MODZALEVSKAYA, Ye.A., red.; CHUGAYEVA, M.N., red.; GROSSGEYM, V.A., red.; KELLER, B.M., red.; KIPARISOVA, L.D., red.; KOROBKOV, M.A., red.; KRASNOV, I.I., red.; KRYMGOL'TS, T.Ya., red.; LIBROVICH, L.S., red.; LIKHAREV, B.K., red.; LUPPOV, N.P., red.; NIKIFOROVA, O.I., red.; POLKANOV, A.A., red.[deceased]; RENGARTEN, V.P., red.; STEPANOV, D.L., red.; CHERNYSHEVA, N.Ye., red.; SHATSKIY, N.S., red.[deceased]; EBERZIN, A.G., red.; SMIRNOVA, Z.A., red.izd-va; GUROVA, O.A., tekhn. red.

[Stratigraphy of the U.S.S.R. in fourteen volumes. Lower Pre-Cambrian] Stratigrafiia SSSR v chetyrnadtsati tomakh. Nizhnii Dokembrii. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po geologii i okhrane nedr. t. 1 (Asiatic part of the USSR) 1963. 396p.

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MILASHEV, V.A.; KRUTOYARSKIY, M.A.; RABKIN, M.I., kand.geol.-mineral.nauk; ERLIKH, E.N.; BASHMAKOVA, Z.I., red.izd-va; IYERUSALIMSKAYA, Ye. S., tekhn.red.

[Kimberlite rocks and picrite pophyries in the northeastern part of the Siberian Platform.] Kimberlitovye porody i pikritovye porfiry Severo-Vostochnoi chasti Sibirskoi platformy. Moskva, Gosgeoltekhizdat, 1963. 214 p. (Leningrad. Nauchno-issledovatel'skii institut geologii Arktiki. Trudy, vol.126). (MIRA 17:2)

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