ZALESSKIY, A. M.

USSR/Electricity - Personalities

Aug 52

"Professor L. R. Neyman: on His 50th Birthday," A. A. Gorev, P. N. Goryunov, I. A. Zaytsev, A. M. Zalesskiy, M. D. Kamenskiy, M. P. Kostenko, A. G. Lur'ye, M. M. Shatelen, Ye. G. Shramkov

"Elektrichestvo" No 8, pp 92, 93

Reviews Neyman's scientific, administrative, and educational work, and organizational affiliations. Specifies following as principal fields of his scientific activity: investigation of phenomena in nonlinear elec circuits with iron; special problems of elec measurements; electromagnetic processes in converter installations for transmission of high-voltage dc power; and elec modeling of nonlinear processes in aerohydrodynamic systems.

235T48

1. ZAL[illegible] KIY, A. M. Dr.

2. USSR (600)

4. Petrov, Vasilii Vladimirovich, 1761-1802.

7. V. V. Petrov's priority in discovering the electric arc. Elektrichestvo no. 11. '52.

9. **Monthly List of Russian Accessions**, Library of Congress, February 1953. Unclassified.

1. ZALESSKIY, A. M. Prof., SHATELEN, M. A.

2. USSR (600)

4. Electric Engineers

7. Professor A. M. Zalesskiy. On his 60th birthday anniversary. M. A. Shatelen, and others Elektrichestvo No. 2, 1953.

9. Monthly List of Russian Accessions, Library of Congress, June 1953. Unclassified.

USSR/Electricity - Scientists Feb 53

"Professor M. M. Mikhaylov: In Connection with His 60th Birthday and 30th Year of Scientific and Pedagogical Activity," M. A. Shatelen, I. A. Zaytsev, L. P. Neyman, A. M. Zaleesskiy, V. T. Konno, P. P. Kobeko, G. P. Mikhaylov

Elek-vo, No 2, p 95

Gives brief account of professional life of Mikhail Mikhaylovich Mikhaylov, born 21 Aug 1892 in Tbilisi. Specialists in insulating materials, he participated in publication of textbooks and handbooks on elec insulation techniques, was instrumental in training scientists and engineers, and was awarded 2 WWII medals, plus Order of Labor Red Banner and Order of Lenin (1951).

PA 248T30

ZALESSKIY, A.M.
USSR/Electricity - Organizations

Mar 53

"Twenty Years of VNITOE," Prof A. M. Zalesskiy, Dr Tech Sci, and Engr G. O. Levit

"Elektrichestvo", No 3, pp 91-93

Brief account of the history of VNITOE (All-Union Scientific and Technical Society of Power Engineers), including history of associations in power eng field which preceded VNITOE. Notes briefly some of major achievements in different branches of power eng. Present membership of VNITOE over 18,000.

ZALESSKIY, A.M., redaktor; KRASNOGORODTSEV, S.A., redaktor; VORONETS-KAYA, L.V., tekhnicheskiy redaktor.

[Construction of high-voltage equipment; collection of articles] Vysokovol'tnoe apparatostroenie; sbornik statei. Leningrad, Gos. energ. izd-vo, 1954. 303 p. (MLRA 7:10)
(Electric apparatus and appliances)

ZALESSKII, A. M.

AID P - 450

Subject : USSR/Electricity

Card 1/1 Pub. 27 - 13/34

Authors : Zalesskiy, A. M., Prof., Leningrad Polytechnical Institute im. Kalinin, and Bachurin, N. I., Eng., "Elektroapparat"

Title : Method of Computation of Condenser-type Insulation

Periodical : Elektrichestvo, 7, 63-67, Jl 1954

Abstract : Advantages of condenser type insulation are indicated. The method of calculation of paper-and-oil insulation is given. The results of tests with an experimental sample of a current transformer produced in the Plant "Elektroapparat" with such type of insulation are presented. 3 diagrams, 3 tables and 1 Russian reference (1946).

Institutions: Leningrad Polytechnic Institute im. Kalinin and Plant "Elektroapparat"

Submitted : Mr 15, 1954

ZALESSKIY, A.M.

AID P - 654

Subject : USSR/Electricity

Card 1/1 Pub. 27 - 23/34

Author : Zalesskiy, A. M., Dr. of Tech. Sci., Prof., Leningrad

Title : Coefficient of recombination of electrons. (Concerning the article by Ye. M. Tseyrov in Electrichestvo, No. 4, 1953), (Comments)

Periodical : Elektrichestvo, 9, 88, S 1954

Abstract : The author of the letter criticizes the method of determining the coefficient, which Ye. M. Tseyrov proposed in Elektrichestvo, No. 4, 1953. Tseyrov's reply to Zalesskiy's criticism is given.

Institution : None

Submitted : No date

Zalesskiy, A. M.

AID P - 2840

Subject : USSR/Electricity

Card 1/1 Pub. 27 - 29/30

Author : Zalesskiy, A. M., Doc. Tech. Sci., Prof., Leningrad

Title : More about the book High Voltage Technics (This journal, No. 8, 1954) (Book review)

Periodical : Elektrichestvo, 6, 86-87, Je 1955

Author : The author disagrees with the critical review published in No. 8, 1954 of this journal. He devotes his review to the second edition of the book, which was considerably enlarged and improved. The author discusses all nine chapters and concludes that the book should be considered as valuable and useful. The few remaining deficiencies which he points out can be easily corrected in the next edition of the book.

Institution : None

Submitted : No date

AID P - 2949

Subject : USSR/Electricity

Card 1/1 Pub. 27 - 14/15

Author : Zalesskiy, A. M., Prof.

Title : Conference on electric furnace circuit breakers

Periodical : Elektrichestvo, 8, 86, Ag. 1955

Abstract : The conference was held in Leningrad at the end of May 1955. Two reports were presented summarizing operational experience with Soviet and foreign-made circuit breakers used in electric furances. Of the Soviet makes, the VM-22, VMG-133, VG-10, and VMB-10 types were discussed. The author summarized the discussion and resolutions.

Institution : None

Submitted : Not given

ZALESSKIY, A.M.

NARYSHKIN, I.I.; SHATELEN, M.A.; NEYMAN, L.R.; ZALESSKIY, A.M.; DOMANSKIY, B.I.
USOV, S.V.; RENNE, V.T.; ZAYTSEV, I.A.

Professor M.D.Kamenskii. Elektrichestvo no.9:84-85 S'55. (MLRA 8:11)
(Kamenskii, Mikhail Davidovich, 1885-)

AID P - 4115

Subject : USSR/Electricity

Card 1/1 Pub. 27 - 2/33

Authors : Zalesskiy, A. M., Doc. Tech. Sci., Prof., V. S. Ravdonik, Kand. Tech. Sci., Dotsent, and G. I. Stepanov, Eng.

Title : Mikhail Andreyevich Shatelen. On the occasion of his 90th birthday and the 65th anniversary of his engineering, educational, scientific and social activity.

Periodical : Elektrichestvo, 12, 2-6, D 1955

Abstract : The authors give a detailed description of the life and activities of the distinguished scientist and professor. One photograph.

Institution : None

Submitted : O 31, 1955

ZALESSKIY, A.M.

AID P - 4143

Subject : USSR/Electricity

Card 1/1 Pub. 27 - 30/33

Author : Zalesskiy, A. M., Prof.

Title : Problem of voltage distribution on an insulator chain. (Article by A. A. Vorob'yev and V. S. Dmitrevskiy, this journal, No. 10, 1954) (Letters and notes).

Periodical : Elektrichestvo, 12, 78-80, D 1955

Abstract : The author points to a serious error made by A. A. Vorob'yev and V. S. Dmitrevskiy in the method of measurements which resulted in an inaccurate conclusion. The author explains in what the error consisted and how the method of computation should run in order to obtain correct results. Six connection diagrams, 3 references (1921, 1923, 1941). The editors in a note at the end of the article confirm the validity of the author's observations.

Institution : None

Submitted : No date

ZALESSKIY, A.M.

G-2

Category : USSR/Electricity - Dielectrics

Abs Jour : Ref Zhur - Fizika, No 2, 1957, No 4118

Author : Zalesskiy, A.M.
Title : Determination of the Thermal Breakdown Voltage of a Cylindrical Insulator.

Orig Pub : Zh. tekhn. fiziki, 1956, 26, No 6, 1194-1201

Abstract : The thermal breakdown of insulation is calculated using the Fok method (Fok, V.A., Tr. Leningr. fiz.-tekhn. labor., 1928 5, 52). The boundary conditions in this calculation allow for the heat flow from the current-carrying conductor into the first layer of the dielectric. The temperature dependence of the dielectric losses was assumed in the form $p = p_0 \exp a(\vartheta - \vartheta_0)$, where p_0 is the magnitude of the losses at a temperature ϑ_0, and a is a constant factor. First to be solved is the problem for the case of a flat dielectric between flat electrodes, one of which is heated with current, and the other of which delivers heat into the surrounding medium through a layer of another dielectric which is not under voltage. Next, conformal mapping is used to reduce this problem to that of the cylindrical cable with two layers of

Card : 1/2

Category : USSR/Electricity - Dielectrics G-2

Abs Jour : Ref Zhur - Fizika, No 2, 1957, No 4118

insulation, one outside and one inside. Taking the dielectric losses into account in the heat-conduction equation, the author solves the equation and finds the dependence of the voltage between the electrodes on many system parameters, the role of which is evaluated. The breakdown voltage is determined from the condition of the disturbance of the thermal equilibrium in the dielectric -- the amount of heat liberated in the dielectric exceeds the amount of heat dissipated into the surrounding medium. An example is given of the calculation of the breakdown voltage for paper-oil insulation, impregnated with transformer oil.

Card : 2/2

ZALESSKIY, A.M.

Letters to the editor. Vest.elektroprom. 27 no.11:72 N '56.
(MLRA 9:12)

1. Zaveduyushchiy kafedroy elektricheskikh apparatov Leningradskogo politekhnicheskogo instituta.
(Electric engineering--Study and teaching)

ZAIESSKIY, A.M., professor; KOGAN, M.I., inzhener; PTICHKIN, P.N., inzhener; TAYTSEL', G.B., inzhener.

Series of small-size support insulators for inside installation. Vest.elektroprom. 27 no.12:31-33 D '56. (MLRA 10:1)

1. Leningradskiy politekhnicheskiy institut.
(Electric insulators and insulation)

ZALESSKIY, Aleksandr Mikhaylovich; USSER, A.S., redaktor; ZARRODINA, A.A., tekhnicheskiy redaktor.

[High tension electic apparatus] Elektricheskie apparaty vysokogo napriasheniia. Leningrad, Gos.energ.izd-vo, 1957. 540 p. (MIRA 10:5)

(Electric apparatus and appliances)

On the Threshold of Great Reorganizations. Reminiscences of a Delegate to the Conference on the Reform of the Higher Schools. 3-6-9/29

was taken as to the term for which professors should be elected.

ASSOCIATION: The Leningrad Polytechnical Institute imeni M.I.Kalinin (Leningradskiy politekhnicheskiy institut imeni M.I. Kalinina)

AVAILABLE: Library of Congress

Card 2/2

ZALESSKIY, A.M., doktor tekhn.nauk; SERGEYEV, P.V., kand.tekhn.nauk.

Volt-ampere characteristics of d.c. and a.c. electric arcs.
Elektrichestvo no.12:76-77 D '57. (MIRA 10:12)

1.Leningradskiy politekhnicheskiy institut im. Kalinina (for Zalesskiy). 2.Gorno-metallurgicheskiy nauchno-issledovatel'skiy institut AN Kazakhskoy SSSR.
(Electric arc)

ZALESSKIY, A.M., prof.; POGARSKIY, N.A., inzhener.

Using current converters having condenser insulation as combination current and voltage converter. Elek.sta. 28 no.9:66-69 S '57. (MIRA 10:11)

(Electric current converters)

ZALESSKIY, A.M.

Contemporary tendencies in the development of high-voltage electric apparatus. Izv. vys. ucheb. zav.; elektromekh. 1 no.3&3-92 '58. (MIRA 11:8)
(Electric engineering--Equipment and supplies)

105-58-3-24/31

AUTHORS: 1) Zalesskiy, A. M. Professor, Doctor of Technical Sciences
2) Korolev, V. N. , Engineer
3) Abramov, A. I. , Candidate of Technical Sciences

TITLE: On the Selection of Test Voltages for the Winding Insulation in High-Voltage Motors (O vybore ispytatel'nykh napryazheniy vitkovoy izolyatsii v vysokovol'tnykh dvigatelyakh)

PERIODICAL: Elektrichestvo, 1958, Nr 3, pp. 84 - 86 (USSR)

ABSTRACT: This is a comment on the paper by A. I. Abramov in the periodical "Elektrichestvo", 1955, Nr 9 and by Z. G. Kaganov in the same periodical, 1957, Nr 6.
1) A. I. Abramov points to the fact that the test voltage, amounting to 1,3 [illegible] at 50 cycles is insufficient for the interwinding insulation of the machine. This is generally known, and the controversy is only about the problem by which voltage it is to be replaced. The method given by Abramov shows an essential deficiency: The test voltage is by him connected with the limiting of overload voltage, without taking into consideration that the test voltage is destined for a separation of useless or inadequate winding coils.

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105-58-3-24/31

On the Selection of Test Voltages for the Winding Insulation in High-Tension Motors

Zalesskiy consented to a proposal by Z. G. Kaganov to test the winding insulation with a test voltage of 2,5 kV_{max} per winding after the coils have been embedded in the slots.
2) The recommendations by Kaganov for test voltages are unfounded. Just as unfounded is the assumption that the surge front of the cut-off wave is analogous to the surge front of the switch-on wave, and that this wave will act in its totality on the insulation of the winding.
3) Abramov does not agree with the method of the selection of test voltages and with their values as proposed by Kaganov. It is shown that at present no convincing reasons confirmed by experiments can be submitted for an increase of test voltages above 1500 V_{max}. There are 1 table and 2 Soviet references

ASSOCIATION: 1)Leningradskiy politekhnicheskiy institut im. Kalinina (Leningrad Polytechnical Institute imeni Kalinin)
2) Zavod "Elektrosila" im. Kirova ("Elektrosila" Plant imeni Kirov) 3)Moskovskiy energeticheskiy institut (Moscow Institute for Power Engineering)

Card 2/2

SOV/105-58-8-12/21

AUTHOR: Zalesskiy, A. M., Professor, Doctor of Technical Sciences

TITLE: A Determination of the Value of the Flash-Over Voltage Across Support and Suspension Insulators (Opredeleniye razryadnogo napryazheniya vdol' kolonok i girlyand izolyatorov)

PERIODICAL: Elektrichestvo, 1958, Nr 8, pp. 64-69 (USSR)

ABSTRACT: The author tries to develop a method for the calculation of the influence of guard rings on the distribution of the voltage along suspension and support insulators as well as on their flash-over voltage. First the problem of the calculation of the voltage distribution along suspension and support insulators is investigated. For this purpose they are represented as capacitive arrays. Such a calculation can be carried out when the capacities C, C_1 and C_2 (Ref 2) are known. It is sufficient when the two following relations are known: $\alpha = C_1/C$ and $\beta = C_2/C$. It is shown that the distribution of voltage along the insulators is completely determined by the parameters α and β. The use of guard rings reduces the value of α and β considerably. The investigation of the curves of voltage-distribution along insulators of various types shows

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that the magnitude of these parameters, when rings are used, depends mainly on D/H and h/H. D denotes the ring diameter, H the total length of the insulator, h the distance of the ring level from the nearest insulator armature under high voltage. Based on these relations it can be explained in which way the measurements and position of the screens influences the dry flash-over voltage in the case of insulators of various types. The investigations carried out at the Institute of Direct Current showed the possibility to check the method suggested on a wide range of experimental materials. The investigations of the long suspension insulator of the type PF7 and P-8,5 with screens of different size and shape mounted at a different height h from the lower string end showed that their flash-over voltage is determined only by the distance l from the point of suspension to the next screen point. The calculation of the voltage for the lower insulator of the string supplied in all cases a value which was smaller than that of the flash-over voltage of the single insulator. Conclusion: 1.) The method given offers the possibility of calculating the voltage distribution in suspension and support

A Determination of the Value of the Flash-Over Voltage Across Support and Suspension Insulators SOV/105-58-8-12/21

insulators when protective screens are used. 2.- The flash over voltage of suspension umbrella-type insulators is determined by the smallest distance between the screen and the suspension insulator and can be found according to the curve for the flash-over voltage between point and plane. 3.- The flash-over voltage across the column of the pin-type and rod insulators can be determined according to the voltage share of the upper insulator as well as according to the flash-over voltage between the screen and the flange of the upper insulator. The latter is determined according to the given curve (Fig 8). There are 9 figures and 3 references, all of which are Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy institut postoyannogo toka (Scientific Research Institute of Direct Current)

SUBMITTED: March 22, 1958

1. Insulators (Electric)--Mathematical analysis 2. Voltage --Determination

Card 3/3

ZALESSKIY, A.M., doktor tekhn.nauk, prof.

Condition of electric insulation in regions with polluted air.
Elektrichestvo no.10:92-93 O '58. (MIRA 12:1)
(Electric insulators and insulation)

8(0) SOV/105-58-11-21/28

AUTHORS: 1) Zalesskiy, A. M., Professor (Leningrad)
2) Sergeyev, P. V., (Town of Ust'-Kamenogorsk)
3) Guoa, V., Taigolka, Ya. (Czechoslovakia)
4) Aronzon, N. Z., Candidate of Technical Sciences

TITLE: On a Theoretical Motivation of the Principle of Minimum Arc Voltage (O teoreticheskom obosnovanii printsipa minimuma napryazheniya dugi)

PERIODICAL: Elektrichestvo, 1958, Nr 11, pp 85-88 (USSR)

ABSTRACT: This is a comment on the article by N. Z. Aronzon, published in Elektrichestvo, 1958, Nr 3, pp 56-60. Aronzon attempts to prove that the assertion which is to the point that the "minimum principle" of arc voltage as advanced by Shteyenbek does not represent an exact law, but only an approximative rule is erroneous. The solution presented by Aronzon is a substantiation of just the opposite truth. He showed that the exact solution by no means validates this principle. This has moreover been shown by less stringent theoretical derivations and by many experiments. Aronzon wants to prove the correctness of this principle under any circumstances. Hence in some

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On a Theoretical Motivation of the Principle of Minimum Arc Voltage

special cases he introduces evidently unreal assumptions in order to arrive at a substantiation of the "minimum principle". These assumptions are subjected to a detailed critical review. The summary is to the point that the "minimum principle" is no regularity corresponding to the basic nature of facts, but only a rough approximation theory, which is to be discarded. There is no reason to doubt the applicability of the principle of minimum resistance to the electric arc. In a general form the principle of least resistance and of maximum power dissipation can be formulated as follows: All processes in nature proceed in the direction of least resistance to the transformation of energy, or if termed in other words, in the direction of maximum energy consumption. The viewpoint adopted by Aronzon is correct, but he limits his investigation to the special case of the energy balance in the arc. His conclusions do not apply to a power arc. Zalesskiy gives a very indeterminate assertion, that the incorrectness of the minimum principle has been proved long ago. He should have given an exact reference to the paper including this statement. Rompe and Vaytsel' suppose that the minimum principle in application to a stabilized arc proves to hold only due to purely acciden-

On a Theoretical Motivation of the Principle of Minimum Arc Voltage

tal circumstances. In fact it could successfully be proved that this circumstance is not accidental. It follows from the properties of the differential equation describing the arc behaviour. The retorts given by Zalesskiy are studied and then shown to be incorrect. Emphasis is repeatedly placed upon the fact that no method of an accurate calculation has hitherto been developed for the calculation of an arc with preponderating volume cooling and that thus the minimum principle up till now constitutes the only means of calculating such arcs. The fact that this principle applies to this case is substantiated not only in the papers by Kirshteyn and Koppel'man, but also by the well known circumstance that the voltage gradient across the arc is independent of the current.(This latter statement is commented in the book by Zalesskiy as follows: "This result is very interesting and is confirmed by experimental information.") Sergeyev in his comment does not touch the minimum principle itself. He raises the question in what direction the unstable and unsteady arc proceeds to a stable and steady state operation, and he maintains that this always implies a transition to a state with a maximum

On a Theoretical Motivation of the Principle of Minimum Arc Voltage

energy dissipation. This assumption is not true, as, for example, an arc will always try to contract to minimum length, which corresponds to a minimum of energy dissipation. The remarks of Gusa and Tsigelka concerning power arcs are absolutely correct. There are 2 figures and 2 references.

ASSOCIATION: 4) Energeticheskiy institut imeni Krzhizhanovskogo AN SSSR (Institute of Power Engineering imeni Krzhizhanovskiy, AS USSR)

8 (2), 24 (3)

S/105/60/000/02/015/024
B007/B008

AUTHORS: Zalesskiy, A. M., Moiseyev, M. B., Popova, Ye. G.

TITLE: Investigation of the Heating of Current Conductors in Electric Apparatus

PERIODICAL: Elektrichestvo, 1960, Nr 2, pp 73 - 77 (USSR)

ABSTRACT: Generators with 200-300 Mw are being built at present and such with 500-600 Mw are planned. The amperages of such generators, even with split windings, are 10-14 ka and with unsplit windings 16-20 ka. Electric apparatus will therefore be needed in the coming years which are capable of letting pass 11-12 ka. Some results of the investigation of the heating of current conductors in such apparatus are given here. These investigations were carried out at the Leningradskiy politekhnicheskiy institut im. Kalinina (Leningrad Polytechnical Institute imeni Kalinin). The results of the investigation of the heating of current conductors of various shapes shown in figure 2 at a current intensity of 6 ka are given. The current density amounted here to approximately 2 a/mm^2 (Fig 4). The investigations showed that

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the most suitable form of a current conductor for high amperages is one composed of 2 U-shaped conductors with flanges pointing to the inside. For this reason such a type was then tested at 12 ka. A current conductor section as shown in figure 5 (box shape) was selected for technological reasons. Parallel to this investigation of the heating of current conductors of box-type section at approximately 12 ka, the heating of the movable contacts of the circuit breaker edges was also investigated. The fixed contacts and feeder bars were also of the mentioned box-type shape. The testing device is shown schematically in figure 9. A computation of the temperature of the bar conductor samples is given. The results of this computation are compared with the test data. It is shown that both agree. The following is stated in conclusion: At 6-12 ka, the box-shaped profile of the current conductors with flanges pointing to the inside is the most suitable one. The box-type profiles with flanges pointing outward are slightly inferior to this profile. It is appropriate to carry out the investigation of the heating of current conductors at 6-12 ka and more in a symmetrical circuit. The investigation of the box-type profile with a lateral length

of 405 mm and a wall thickness of 6 mm at a current intensity of 12 ka showed that this profile is highly resistant to heating. For such a section the heating of the copper contacts is lower than usually. The heating can be further reduced considerably by silver-plating the contacts. The nomograph shown in figure 11 can be used for the predetermination of the section of box-type current conductors of the apparatus. There are 11 figures and 2 references, 1 of which is Soviet.

SUBMITTED: June 16, 1959

BESSONOV, L.A.; DOMANSKIY, B.I.; DROZDOV, N.G.; D'YACHENKO, N.Kh.; ZHEKULIN, L.A.; ZAYTSEV, I.A.; ZALESSKIY, A.M.; KAMENSKIY, M.D.; KOSTENKO, M.P.; LEBEDEV, A.A.; LOMONOSOV, V.Yu.; MITKEVICH, A.V.; SMIRNOV, V.S.; TOLSTOV, Yu.G.; USOV, S.V.; SHRAMKOV, Ye.G.

L.R. Neiman; on his 60th birthday and the 35th anniversary of his educational work. Elektrichestvo no.6:93-94 Je '62. (MIRA 15:6)
(Neiman, Leonid Robertovich, 1902-)

ZALESSKIY, A.M., doktor tekhn.nauk; POLTEV, A.I., kand.tekhn.nauk

Use of electric insulating gases in electrical engineering.
Vest.elektroprom. 33 no.12:10-13 D '62. (MIRA 15:12)
(Electric insulators and insulation) (Gases)
(Electric switchgear)

L 11549-66

ACC NR: AP6005027 SOURCE CODE: UR/0105/65/000/001/0090/0090

AUTHOR: Aleksandrov, B. K.; Derman, B. A.; Drozdov, N. G.; Dubinskiy, L. A.; Zalesskiy, A. M.; Kamenskiy, M. D.; Kozlov, M. D.; Lisovskiy, G. S.; Sinelobov, K. S.; Trebulev, P. V.; Uspenskiy, B. S.; Kheyfits, M. D.; Shvetsov, M. A.

ORG: none

TITLE: Nikolay Nikolayevich Krachkovskiy

SOURCE: Elektrichestvo, no. 1, 1965, 90

TOPIC TAGS: electric power engineering, electric engineering personnel

ABSTRACT: Brief biography of subject, a senior scientific associate of the Institute of Power Engineering AS USSR, on the occasion of his 75th birthday on 16 Dec 64. He was graduated from the Leningrad Polytechnical Institute in 1916. Worked for a number of years in the planning, surveying, construction and operation of the first HV transmission lines and substations. From 1922 to 1926, participated in the planning and construction of the first Soviet hydroelectric station (Volkov GES im. Lenin) and 110 kv transmission line. In 1927-1932, designed transmission lines at the GET (State Electrical Engineering Trust) and the Leningrad branch of Dneprostroy. Chief of electric power and transmission section at Sverdlovsk, Volgostroy and Leningrad Energoproyekt (1932-1936); simultaneously studied 100-cycle current for AS USSR and participated in planning the Kuybyshev GES - Moscow transmission line. Worked at Leningrad Gidroproyekt until 1947, and at Moscow Gidrenergoproyekt until 1955. Among the first to propose

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UDC: 621.31

L 11549-66

ACC NR: AP6005027

converting the Kuybyshev - Moscow line from 400 to 500 kv. An ardent advocate of d-c for HV and EHV transmission. Authored over 75 scientific and technical articles, and two inventions. Awarded the Order of the Red Banner of Labor and other decorations. Orig. art. has: 1 figure. [JPRS] 14

SUB CODE: 09 / SUBM DATE: none

HW

Card 2/2

L 22593-66

ACC NR: AP6013000 SOURCE CODE: UR/0105/65/000/006/0091/0091

AUTHOR: Bamdas, A. M.; Bol'sham, Yu. M.; Borcharinov, G. S.; Glazunov, A. A.; Zalesskiy, A. M.; Konstantinov, B. A.; Livshits, D. S.; Lychkovskiy, V. L.; Miller, G. R.; Petrov, I. I.; Pleskov, V. I.; Samover, M. L.; Syromyatnikov, I. A.; Chilikin, M. G.

ORG: none

TITLE: Professor Yu. L. Mukoseyev (on the occasion of his 60th birthday)

SOURCE: Elektrichestvo, no. 6, 1965, 91

TOPIC TAGS: scientific personnel, electric power production

ABSTRACT: Professor Yuriy Leonidovich Mukoseyev, 60, chairman of the department "Elektrosnabzheniye promyshlennykh predpriyatiy i gorodov (Electrical Supply of Industrial Enterprises and Cities)" of the Gor'kovskiy politekhnicheskiy institut (Gor'kiy Polytechnic Institute) began his studies at the Gorkiy (Nizhegorod) University. After several years at the "Krasnoye Sormovo" plant he joined in 1935 the Glavelektromontazh system where in 27 years he advanced to the position of chief engineer of the Gorkiy section of the designing institute Elektroproyekt. In 1951 he published his book "Voprosy elektrosnabzheniya promyshlennykh predpriyatiy (Problems of Electrical Supply of Industrial Enterprises)"; in 1956 at the Moskovskiy energeti-

Card 1/2 UDC: 621.311

L 22593-66

ACC NR: AP6013000

cheskiy institut (Moscow Power Institute) he defended his thesis "Distribution of Alternating Currents in Current Conductors". He became professor in 1960. From 1939 he has been continously the vice-president of the Gorkiy board of the Scientific-Engineering Society of Power Engineers (NTO energetikov). Recently, Yu. L. Mukoseyev participated in the work of the Uchebno-metodicheskaya komissiya MV (Pedagogical-Methodological Commission of the Ministry of Armament) and of the SSO [?] USSR for the Electrical Supply of Industrial Enterprises and of Cities." Orig. art. has: 1 figure. [JPRS]

SUB CODE: 10 / SUBM DATE: none

Card 2/2 Hw

L 22149-66

ACC NR: AP6012968 SOURCE CODE: UR/0143/65/000/007/0130/0131

AUTHOR: Smirnov, V. S.; Kostenko, M. P.; Neyman, L. R.; Kostenko, M. V.; Domanskiy, B. I.; Zalesskiy, A. M.; Usov, S. V.; Ayzenberg, B. L.; Dubinskiy, L. A.; Aleksandrov, G. N.; Gribov, A. N.; Gruzdev, I. A.; Levinshteyn, M. L.; Mikirtichev, A. A.; Mikhaylova, V. I.; Ruzin, Ya. L.; Stefanov, K. S.; Khoberg, V. A.; Shcherbachev, O. V.

ORG: none

TITLE: Honoring the 80th birthday of Mikhail Davidovich Kamenskiy

SOURCE: Izvestiya vysshikh uchebnykh zavedeniy. Energetika, no. 7, 1965, 130-131

TOPIC TAGS: electric power engineering, electric engineering personnel, hydroelectric power plant, thermoelectric power plant

ABSTRACT: On 19 April 1965 Prof. Dr. Techn. Sci. Mikhail Davidovich Kamenskiy celebrated his 80th birthday and the 55th anniversary of his active work as a power expert. Mikhail Davidovich is a 1909 graduate of the Petersburg Polytechnic Institute - since his graduation he has been associated with this institue, now renamed Leningrad Polytechnic Institute, as an instructor. He is a major scientist and specialist in electric power grids and systems. He has been a major contributor to the establishment of the Leningrad Power Grid and various large thermal and hydro-

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ACC NR: AP6012968

electric power stations and an active participant in the design and construction of high- and low-voltage power systems in many cities of the Soviet Union. During the Siege of Leningrad in World War II he was a member of the Municipal Party Defense Committee. Since the war Mikhail Davidovich has been head of the Chair of Electric Power Grids and Systems at the Leningrad Polytechnic Institute and has been working on the methods of calculating the economic regimes of power system operation and on the problems of the present-day development of urban power systems. M.D. Kamenskiy has published more than 80 works, including both original studies as well as textbooks that are popular in the Soviet Union and abroad. He is the chairman of the Section on Power Systems and Grids under the Leningrad Division of the Scientific and Technical Division of the Power Industry and organizer of and participant in many scientific-technical conferences and meetings. His merits as an educator of a new school of Soviet power engineers are equally large. Orig. art. has: 1 figure. [JPRS]

SUB CODE: 10 / SUBM DATE: none

Card 2/2 dla

L 22429-66 EWT(d)/EWP(k)/EWP(l)

ACC NR: AP6013617 SOURCE CODE: UR/0105/65/000/011/0086/0086

AUTHOR: Vol'dek, A. I.; Domanskiy, B. I.; Drannikov, V. S.; Zalesskiy, A. M.; Kamenskiy, M. K.; Kantan, V. V.; Kashkarov, G. Ye.; Kizevetter, Ye. I.; Klimov, A. N.; Kovalev, N. N.; Kostenko, M. P.; Kostenko, M. V.; Neyman, L. R.; Pavlov, G. M.; Ravdonik, V. S.; Ruzin, Ya. L.; Sidorov, M. M.; Shremkov, Ye. G.

49
47
B

ORG: none

TITLE: Professor Sergey Vasil'yevich Usov, on his 60th birthday

SOURCE: Elektrichestvo, no. 11, 1965, 86

TOPIC TAGS: academic personnel, electric engineering personnel, electric power plant

ABSTRACT: The noted Soviet power specialist Professor S. V. USOV, who was 60 years old last September, graduated from the Leningradskiy elektrotekhnicheskiy institut (Leningrad Electrotechnical Institute) in 1930 and then, for the next twenty years, worked for the Lenenergo power system of which he became chief engineer in 1939. During the blockade of Leningrad he was head of the group which in 45 days managed to connect the beleaguered city with the Volkhovskaya hydroelectric station across the frozen Ladoga lake. He also carried out the adaptation of the boilers of the Leningrad thermal power plant to consume the locally available fuel. In 1949 he became professor and head of the Department of Electric Stations

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UDC: 621.311.1

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L 22429-66

ACC NR: AP6013617

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of the Leningradskiy politekhnicheskiy institut (Leningrad Polytechnic Institute) im. Kalinin. In addition to his fruitful pedagogical endeavors, he published 50 scientific papers. From 1955 to 1958 he was a deputy director for scientific work. In 1964 he was elected Dean of the Electromechanical Faculty of the Institute. He joined the Party in 1942; from 1943 to 1955 was deputy president of the central board of the NTOEP [Nauchno-tekhnicheskoye obshchestvo energeticheskoy promyshlennosti; Scientific Engineering Society of Power Industries], president of the section of power systems of NTOEP, and member of numerous scientific-engineering councils. For many years he was a member of the editorial board of the journal Elektricheskiye stantsii (Electric Stations). For his contributions in the field of power engineering S. V. USOV was awarded the Order of Lenin, Order of Red Banner of Labor, Order of Red Star, Badge of Distinction, and the medals: "For the Defense of Leningrad" and "For Distinguished Service During the Patriotic War." Orig. art. has: 1 figure. [JPRS]

SUB CODE: 10 / SUBM DATE: none

Card 2/2 BLG

ZALESSKIY, Aleksandr Mikhaylovich, prof.

[Electrical apparatus; summary of a special course] Elektricheskie apparaty; konspekt spetsial'nogo kursa. Leningrad, Leningr. politekhn. in-t. Pts.1-2. 1964. 2 v.
(MIRA 18:4)

BORISENKO, N.I.; BUTKEVICH, G.V.; VORONETSKIY, B.B.; VASIL'YEV, D.V.; DROZDOV, N.G.; DUBINSKIY, L.A.; ZALESSKIY, A.M.; KASATKIN, A.S.; KOSTENKO, M.P.; KUZNETSOV, P.I.; KULEBAKIN, V.S.; MAMIKONYANTS, L.G.; MEL'NIKOV, N.A.; NEYMAN, L.P.; PETROV, I.I.; RABINOVICH, S.I.; SAMOKHVALOV, V.A.; SOLODOVNIKOV, V.V.; STEKLOV, V.Yu.; SIROMYATNIKOV, I.A.; FEDOSEYEV, A.M.; CHILIKIN, M.G.; SHATALOV, A.S.; ZHEKULIN, L.A.

Petr Ivanovich Voevodin, 1884- ; on his 80th birthday. Elektrichestvo no.9:92 S '64. (MIRA 17:10)

AYZENBERG, B.L.; ALEKSANDROV, G.N.; GRIBOV, A.N.; GRUZDEV, I.A.; DOMANSKIY, B.I.; DUBINSKIY, L.A.; ZALESSKIY, A.M.; KOSTENKO, M.P.; KOSTENKO, M.V.; LEVINSHTEYN, M.L.; MIKIRTICHEV, A.A.; MIKHAYLOVA, V.I.; NEYMAN, L.R.; RUZIN, Ya.L.; SMIRNOV, V.S.; STEFANOV, K.S.; USOV, S.V.; KHOBERG, V.A.; SHCHERBACHEV, O.V.

Professor M.D.Kamenskii; on his 80th birthday. Elektrichestvo no.7: 92-93 Jl '65. (MIRA 18:7)

AYZENBERG, I.S.; ARONOVICH, I.S.; AFANAS'YEV, V.V.; BRON, O.B.; BUTKEVICH, G.V.; GOLUBEVA, V.P.; GURVICH, V.V.; ZALESSKIY, A.M.; ZAKHAROV, S.N.; KAPLAN, V.V.; KOCHENOVA, A.I.; KUKEKOV, G.A.; LYSOV, N.Ye.; MEDVEDSKIY, I.K.; MESSERMAN, G.T.; PETROVA, T.G.; FILIPPOV, Yu.A.; KHOLYAVSKIY, G.B.; SHERAUD, M.Ye.; SHKLYAR, B.N.

L.K. Greiner. Elektrotekhnika 35 no.2:p.3 of cover F '64. (MIRA 17:3)

KOSTENKO, M.P.; MEIENT'YEV, L.A.; KAMENSKIY, M.D.; ZALESSKIY, A.M.; BRIL', R.Ya.; GORSHKOV, A.S.; SAVASHINSKAYA, V.I.; DOVGAL', S.A.; KOVALEV, N.N.; BOLOTOV, V.V.; USOV, S.V.; GERASIMOV, V.N.; SIVAKOV, Ye.R.; AVRUKH, A.Ya.; STARIKOV, V.G.; MIKHALEVICH, A.I.

I.V. Gofman; obituary. Elek. sta. 34 no.6:95 Je '63. (MIRA 16:9)
(Gofman, Igor' Valentinovich, 1903-1963)

ZALESSKIY, Aleksandr Mikhaylovich; BRON, O.B., prof., retsenzent;
KUKEKOV, G.A., red.; ZHITNIKOVA, O.S., tekhn. red.

[Electric arc in switching] Elektricheskaia duga otkliucheniia.
Moskva, Gosenergoizdat, 1963. 265 p. (MIRA 16:7)
(Electric arc) (Electric switchgear)

KOSTENKO, M.V.; NEYMAN, L.R.; MELENT'YEV, L.A.; KAMENSKIY, M.D.; BOLOTOV, V.V.; ZALESSKIY, A.M.; USOV, S.V.; SHCHEDRIN, N.N.; GERASIMOV, V.N.; DUBINSKIY, L.A.

B.L.Aizenberg; on his 60th birthday. Elektrichestvo no.11:94 N '62. (MIRA 15:11)

(Aizenberg, Boris L'vovich, 1902-)

SMIRNOV, V.S.; KAMENSKIY, M.D.; PODPORKIN, V.G.; DUKEL'SKIY, A.I.; NEYMAN, L.R.; ZALESSKIY, A.M.; KOSTENKO, M.V.; RAVDONIK, V.S.; SHCHERBACHEV, O.V.; LOPATIN, I.A.; MANCHINOVA, A.N.; FILARETOV, S.N.; KRYUKOV, K.P.; SINELOBOV, K.S.; BOSHNYAKOVICH, A.D.; BURGSDORF, V.V.; NOVGORODTSEV, B.P.; GOKHBERG, M.M.; STEFANOV, K.S.

Nikolai Pavlovich Vinogradov; obituary. Elektrichestvo no.10: 91-92 O '61. (MIRA 14:10)
(Vinogradov, Nikolai Pavlovich, 1886-1961)

KRZHIZHANOVSKIY, G.M.; SHATELEN, M.A.; VINTER, A.V.; KOSTENKO, M.P.; POPKOV, V.I.; NEYMAN, L.R.; BOLOTOV, V.V.; KAMENSKIY, M.D.; ZALESSKIY, A.M.; USOV, S.V.

A.A. Morozov; obituary. Elektrichestvo no.12:88-89 D '56. (MIRA 11:3)
(Morozov, Aleksandr Aleksandrovich, d. 1956)

BELOV, N.N.; BOL'SHAM, Ya.M*; GORDEYEV, A.N.; GRACHEV, V.A.; YERMILOV, A.A.; ZALESSKIY, A.M.; KIZEVETTER, Ye.N.; KNORRING, G.M.; KONSTANTINOV, B.A.; KOPYTOV, N.V.; LEVIT, G.O.; MILLER, G.P.; NAYFEL'D, M.P.; PRINTSEV, A.A.; SERBINOVSKIY, G.V.; SOKOLOV, B.A.; STASILOYTS, A.B.; TAYTS, A.A.; KHRAMUSHIN, A.M.

Mikhail Konstantinovich Kharchev; obituary. Belov and others. Prom. energ. 12 no.12:33 D '57. (MIRA 10:12)
(Kharchev, Mikhail Konstantinovich, 1896-1957)

AUTHOR: Zalesskiy, A.M., Professor, Doctor of Technical Scienes

SOV/105-58-10-23/28

TITLE: Insulation in Areas With a Contaminated Atmosphere (Izolyatsiya v rayonakh s zagryaznennoy atmosferoy)

PERIODICAL: Elektrichestvo, 1958, Nr 10, pp 92-93 (USSR)

ABSTRACT: This is a survey of papers in German and English language published in the following periodicals (Refs 1 - 5):
1. H. Glöyer, T. Vogelsang, ETZ, 1957, Nr 7, p 252
2. G. Reverey, Deutsche El., 1958, Nr 2, p 38
3. B. Koske, Deutsche El., 1958, Nr 3, p 78
4. H. von Aron, ETZ, 1957, Nr 23, p 866
5. H. von Kron, CIGRE, 1956, Nr 203
There are 1 table and 5 references.

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ALEKSANDROV, B.K.; DERMAN, B.A.; DROZDOV, N.G.; DUBINSKIY, L.A.; BAIESSKIY, A.M.; KAMENSKIY, M.D.; KOZLOV, M.D.; LISOVSKIY, G.S.; SHISHLOBOV, K.S.; TREBULEV, P.V.; USPENSKIY, B.S.; KHEIFITS, M.D.; SHVETSOV, M.A.

Nikolai Nikolaevich Krachkovskii, 1889- ; on his 75th birthday. Elektrichestvo no.1:90 Ja '65. (MIRA 18:7)

SMIRNOV, V.S.; KOSTENKO, M.P.; NEYMAN, L.R.; KOSTENKO, M.V.; DOMANSKIY, B.I.; ZALESSKIY, A.M.; USOV, S.V.; AYZENBERG, B.L.; DUBINSKIY, L.A.; ALEKSANDROV, G.N.; GRIBOV, A.N.; GRUZDEV, I.A.; LEVINSHTEYN, M.L.; MIKIRTICHEV, A.A.; MIKHAYLOVA, V.I.; RUZIN, Ya.L.; STEFANOV, K.S.; KHOBERG, V.A.; SHCHERBACHEV, O.V.

M.D. Kamenskii; on his 80th birthday. Izv. vys. ucheb. zav.; energ. 8 no.7:130-131 Jl '65. (MIRA 18:9)

MEDVEDEV, S.K., inzh.; KOSTENKO, M.V., prof.; ALEKSANDROV, G.N., kand.tekhn. nauk, dotsent; KUCHINSKIY, G.S., kand.tekhn.nauk, dotsent; ZALESSKIY, A.M., prof.

Some critical remarks on IU.G.Esikov's article "Distribution of the intensity of an electric field in a cylindrical condenser." Elektrichestvo no.10:89-92 O '65. (MIRA 18:10)

1. Chlen-korrespondent AN SSSR (for Kostenko).

ZALESSKIY, Aleksandr Mikhaylovich, doktor tekhn. nauk, prof.; BACHURIN, Nikolay Ivanovich; ARONOVICH, I.S., inzh., retsenzent; GREYNER, L.K., inzh., retsenzent; GREYSUKH, M.A., inzh., retsenzent; KOCHENOVA, A.I., inzh., retsenzent; MESSERMAN, G.T., inzh., retsenzent; KHOLYAVSKIY, G.B., inzh., retsenzent; SHKLYAR, B.N., inzh., retsenzent; AFANAS'YEV, V.V., red.; SOBOLEVA, Ye.M., tekhn. red.

[Insulation of high-voltage apparatus] Izoliatsiia apparatov vysokogo napriazheniia. Moskva, Gos energ. izd-vo, 1961. 258 p. (MIRA 14:9)

1. Zavod "Elektroapparat" (for Aronovich, Greyner, Greysukh, Kochenova, Messerman, Kholyavskiy, Shklyar).
(Electric insulators and insulation)

ZALEVSKIY, A., agronom; DEVYATISIL'NYY, Ye., ekonomist

Efficient method for the mechanized cultivation of sugar beets. Nauka i perod.op.v sel'khoz. 9 no.9:9-11 S '59. (MIRA 13:2)

1. Opornyy punkt Vsesoyuznogo nauchno-issledovatel'skogo instituta ekonomiki sel'skogo khozyaystva pri Kotovskoy remontno-tekhnicheskoy stantsii.
(Sugar beets)

ZALESSKIY, A. (g.Ryl'sk, Kurskaya oblast')

Operation of Czechoslovak diesel engines at the Ryl'sk electric power plant. Zhil.-kom. khoz. 8 no.12:21-22 '58.
(MIRA 13:1)

1.Direktor Ryl'skoy elektrostantsii.
(Ryl'sk--Diesel electric power plants)

ZALESSKIY, A.V.

188T51

USSR/Geophysics - Magmatic Petrography Jul/Aug 51

"Concerning the Ideas of P. I. Lebedev in the Field of Magmatic Petrography," B. V. Zalesskiy, A. P. Lebedev

"Iz Ak Nauk SSSR, Ser Geol" No 4, pp 127-129

Authors discuss briefly the main theoretical views of P. I. Lebedev in the fld of petrogenesis. They show how widely and diversely Lebedev has conducted his investigations into many very important problems of theoretical petrography using as his example the most diverse petrographic and mineral-petrographic assocns of many different rayons in the USSR.

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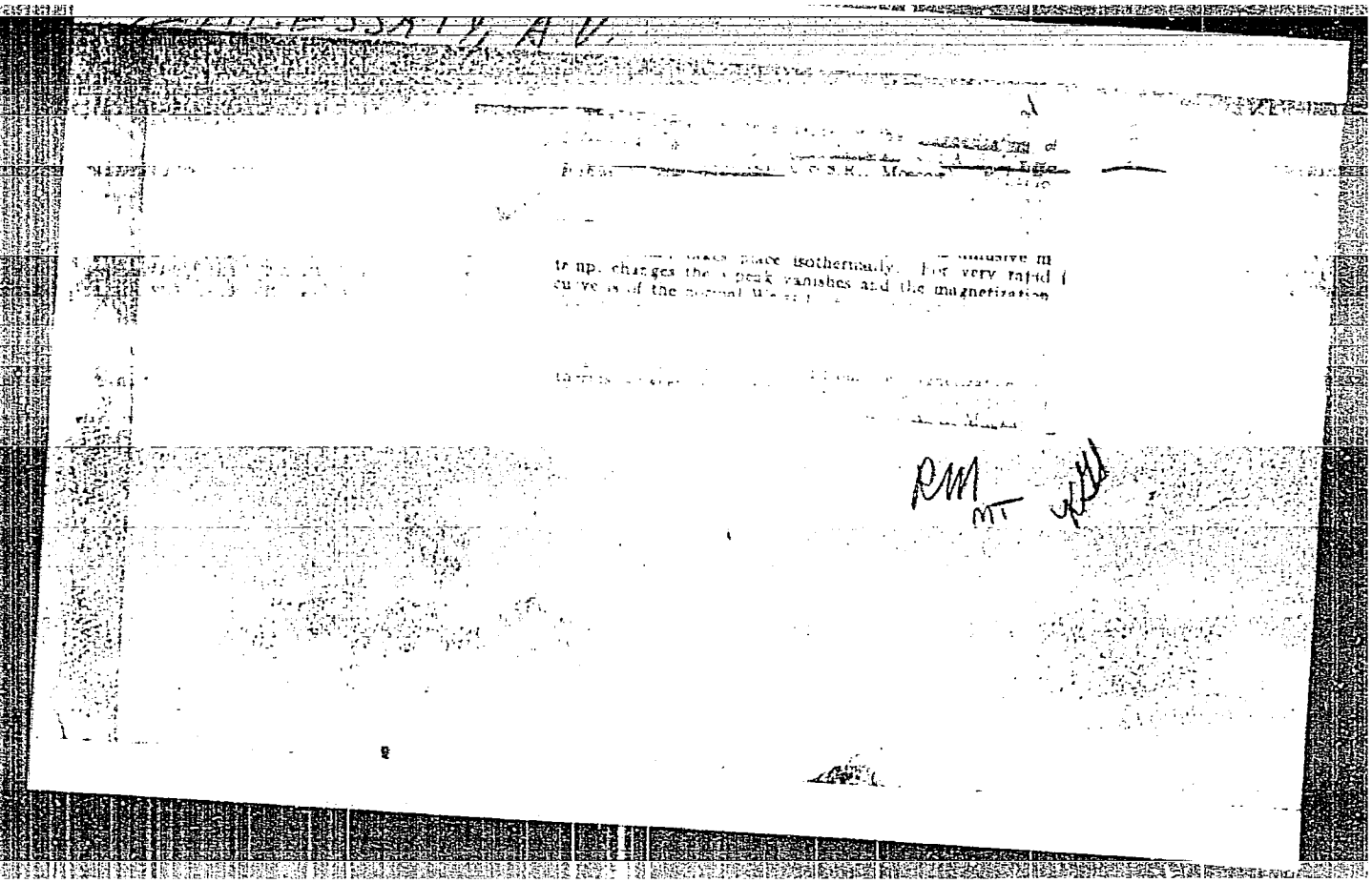

ZALESSKIY, A.V.

24(3)

Authors: D'yakov, G.P., Candidate of Physical-Mathematical Sciences

SOV/55-58-2-34/35

TITLE: Survey of Papers Read by Scientists of Moscow University at the All-Union Congress on the Physics of Magnetic Materials (Obzor dokladov uchenykh Moskovskogo universiteta na vsesoyuznom soveshchanii po fizike magnitnykh materialov)

PERIODICAL: Vestnik Moskovskogo Universiteta. Seriya matematiki, mekhaniki, astronomii, fiziki, khimii, 1958, Nr 2, pp 247-250 (USSR)

ABSTRACT: From December 6 - 11, 1957 there took place the fourth Union Congress on physics of magnetic materials in Leningrad. (The first two meetings took place 1946 and 1951 in Sverdlovsk, the third meeting 1956 in Moscow). The congress was organized by : Academy of Sciences of the USSR, Department of Physical-Mathematical Sciences, Scientific Council on Fundamental Problems of Magnetism, Institute for Semiconductors of the Academy of Sciences, USSR and Committee for Magnetism. There were more than 300 participators, 59 lectures were given, among them the following lectures of the representatives of the Moscow State University :

1. Professor R.V. Telesnin, Ye.P. Kuritsyna, Lecturer "On the Velocity of Magnetic Reversal of the Ferromagnetics".
2. Professor R.V. Telesnin, Ye.V. Karzhagina, Assistant "On Magnetic Viscosity of Ferrites".
3. Professor R.V. Telesnin, I.G. Shishkov, Aspirant "Effect of Magnetic Viscosity on the Frequency Characteristics of Ferrites".
4. E.V. Dedyar, Lecturer "Variations of Structure and Anti-Ferromagnetic Properties of Ni_3Fe".
5. M.A. Grabovskiy, Lecturer, S.Yu. Brodskaya, Junior Scientific Assistant "Magnetic Properties of Anisotropic Stones".
6. G.P. D'yakov, Lecturer "Magnetostriction Properties of Binary Alloys".
7. Professor Ye.I. Kondorskiy, L.V. Sobolev, Assistant "Electric Properties of Ni-Zn-Ferrites".
8. N.Z. Miryasov, Senior Scientific Assistant, A.P. Parsanov, Aspirant "Magnetic Properties and Structure of Manganese - Boron - Alloys".
9. N.A. Smol'kov, Senior Scientific Assistant, K.P. Belov "Some Properties of Ferrites".
10. N.A. Smol'kov, Senior Scientific Assistant, Yu.P. Simanov, Lecturer "Properties of Ni Fe_2O_4 - Mg Fe_2O_4 ".
11. N.A. Smol'kov and Ye.I. Fomenko, Engineer "Properties of Ferrites in the High-Frequency Range".
12. Professor K.P. Belov, K.M. Bol'shova, Lecturer, T.A. Yelkina, Lecturer, and M.A. Zaytseva, Junior Scientific Assistant "Ferrites With Compensation Point".
13. K.P. Belov, Ye.P. Svirina, Assistant "Electric and Galvanomagnetic Properties of the Manganese-Ferrites".
14. V.A. Timofeyeva, Junior Scientific Assistant, A.V. Zalesskiy "Production of Monocrystals of Ferrites".
15. Professor K.P. Belov, A.V. Ped'ko, Junior Scientific Assistant "On Galvanomagnetic Properties of Ferromagnetic Alloys Near the Absolute Zero of Temperature".

The participators of the meeting visited a laboratory of the Institute of Semiconductors of the Academy of Sciences of the USSR (Professor [illegible]).
The meeting was [illegible] by Professor [illegible], Corresponding Member, Academy of Sciences, USSR with the [illegible] to the following [illegible] Congress planned for 1959.

1. Magnetic Resonance and Galvanomagnetic Effects in Kazan',
2. Ferromagnetic [illegible] (Ferrites) [illegible] in [illegible],
3. [illegible] Structure of the Ferromagnetics and Para-[illegible] Effects [illegible] in [illegible].

SOV/120-58-4-15/30

AUTHOR: Zalesskiy, A. V.

TITLE: Using a Demountable Strain Gauge in Measuring Magnetostriction and Thermal Expansion (Primeneniye vynosnogo tenzodatchika dlya izmereniya magnitostriktsii i teplovogo rasshireniya)

PERIODICAL: Pribory i tekhnika eksperimenta, 1958, Nr 4, pp 71-75 (USSR)

ABSTRACT: In recent years magnetostrictive effects have been measured, using thin wire strain gauges (Ref 1). One of the main disadvantages of this method is that such strain gauges cannot be used in a wide temperature interval. At the present time, strain gauges glued to specimens cannot be used above 200°C. This is due to the fact that when the temperature changes, the properties of the adhesive and the support change and this affects the 1:1 correspondence between the deformation of the specimen and of the strain gauge. A further development of the thin wire strain gauges in application to measurements of magnetostriction, is the so-called demountable thin wire strain gauge (Refs 2, 3 and 4). In this method the thin wire strain gauge is connected to the specimen through a mechanical link, e.g., an intermediate rod. This eliminates the effect of heating on the

gauge. Experiment has shown that this method may be used to measure not only magnetostrictive effects but also thermal expansion in a wide temperature interval. This method is very sensitive in measurement of relative changes of length and the sensitivity may reach 10^{-8}. In the present paper a detailed description is given of the experimental procedure employed with demountable strain gauges. The author has attempted to preserve the simplicity of design of the gauge described in Refs (2) and (3) and at the same time correct some of the defects which are as follows: 1) strong sensitivity to external effects such as vibrations in the air, temperature changes, shocks, etc., 2) instability of the bridge circuit in time and the necessity for prolonged "heating" of the bridge, high sensitivity to changes in current flowing through the bridge, 3) insufficient sensitivity for measuring small magnetostrictive effects (of the order of 10^{-8}). A cut-away, cross sectional drawing of the entire assembly is shown in Fig 1 and a general drawing is shown in Fig 2. A special feature of the tensometric head is that all the four arms of the Wheatstone bridge are of constantan wire (15 to

Using a Demountable Strain Gauge in Measuring Magnetostriction and Thermal Expansion

30 μ in diameter). Two of these are in opposite arms and are mechanically connected with the specimen and the other two are placed in the immediate neighbourhood of the former and are fixed. The two pairs of wires are kept in oil which increases the stability of the bridge and eliminates the effects of external stimuli. The changes in the resistance of the strain wire are measured by the usual off-balance current method. There are 6 figures and 6 references, of which 5 are Soviet and 1 English.

ASSOCIATION: Institut kristallografii AN SSSR (Institute of Crystallography of the Academy of Sciences, USSR)

SUBMITTED: October 2, 1957.

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70-3-3-33/36

AUTHORS: Belov, K.P. and Zalesskiy, A.V.

TITLE: The Thermal Expansion and Magnetostriction of Pyrrhotite (Teplovoye rasshireniye i magnitostriktsiya pirrotina)

PERIODICAL: Kristallografiya, 1958, Vol 3, Nr 3, pp 388 - 390 (USSR).

ABSTRACT: Measurements of the thermal expansion of pyrrhotite (of composition about Fe_7S_8) were made by a method already described (Zh.Tekh.Fiz., 1953, Vol 23, p 1 and PTE, 1958, Vol 4). Simultaneously, as a control, the magnetostriction was measured by a ponderometric method. Curves are reproduced. Four variables were measured against temperature-specific magnetisation s in a field of 4760 Oe, magnetostriction λ in a field of 1880 Oe, relative extension dL/L and coefficient of linear expansion α. The curve of the temperature dependence of λ, $\lambda(T)$, is very similar to that of s(T); the magnetostriction is positive and small. In the region of the Curie point in the $\lambda(T)$ curve the characteristic maximum or minimum corresponding to the volume magnetostriction paraprocess is absent. The magnetostriction paraprocess is also not apparent in the curve of $\lambda(H)$ as the field of 2000 Oe is still insufficient. Hence it is

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70-3-3-33/36

The Thermal Expansion and Magnetostriction of Pyrrhotite

impossible to estimate the sign and magnitude of the ferromagnetic anomaly in the thermal expansion at the Curie point, ϑ_C. The maximum of the magnetostriction, at the corresponding point ϑ_H = 220 °C, can be observable or not observable, depending on the rates of heating and cooling. In the dL/L there is a sharp jump and in the $\alpha(T)$ curve a sharp maximum at 320 °C. This temperature corresponds to ϑ_V and ϑ_C. $\alpha(T)$ shows no anomaly in the 330-340 °C region. It is concluded that the energy of the disordering of the vacancies is much greater than the energy of spin disordering. Thence all anomalies in the curves $\alpha(T)$ and $\lambda(T)$ and in the magnetisation/temperature curve are due to the energy of disordering the vacancies. Because of the small energy of the spin disordering the latter cannot substantially influence the ordering of the vacancies and there is no mutual influence between the processes of the ordering of spins and vacancies as Lotgering believed (Philips Res. Rep., Vol 11, pp 190-249, 1956). There are 2 figures and 5 references, 2 of which are Soviet, 2 English and 1 French.

ASSOCIATION: Institut kristallografii AN SSSR (Institute of Crystallography, Ac.Sc.USSR)
Card2/2
SUBMITTED: October 1, 1957

24.2200

S/196/62/000/009/005/018
E114/E184

AUTHORS: Timofeyeva, V.A., and Zalesskiy, A.V.

TITLE: Crystallization of ferrites from fluid and gaseous phases

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika, no.9, 1962, 1, abstract 9 B6. (Rost kristallov, v .2, M., AN SSSR, 1959, 88-94)

TEXT: Various ferrite crystals were grown from melts and some of their magnetic characteristics were studied. The use of some fluorides and borax as solvents was tried. Single crystals were grown from seed crystals in molten borax in two ways: 1) from the liquid phase, by lowering the temperature of the melt; 2) from the gaseous phase by evaporating the solvent at constant temperature. Crystals obtained in these two ways have very similar characteristics. Crystals from the gaseous phase attained 15-20 mm. The structure of the grown crystals was investigated. Curves are given for different ferrite crystals grown from liquid phase relating specific intensity of magnetisation of the crystals

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Crystallization of ferrites from... S/196/62/000/009/005/018
E114/E184

to temperature. All curves show good reversibility during repeated heating and cooling, while the general shape of the curve indicates absence of impure ferro-magnetic phases. A comparison is made of Θ, for the polycrystalline samples and single crystals. The observed divergences are explained by the presence in the specimens of certain quantities of Fe^{2+} and Mn^{3+}.

[Abstractor's note: Complete translation.]

Card 2/2

18 9500,

S/058/62/000/009/022/069
A006/A101

AUTHORS: Timofeyeva, V. A., Zalesskiy, A.V.

TITLE: Ferrite crystallization from liquid and gaseous phases

PERIODICAL: Referativnyy zhurnal, Fizika, no. 9, 1962, 10, abstract 9Ж73 (In collection: "Rost kristallov. T. 3", Moscow, AN SSSR, 1959, 88 -94)

TEXT: The authors investigated the growth of various ferrite crystals. It is shown that besides molten borax, molten fluorides of some metals can be used as solvents. However, on account of their intensified evaporation at high temperatures, mainly molten borax was used. From this solvent single crystals of plain (cobalt and manganese) and mixed ferrites (zinc-manganese and zinc-nickel) were grown. A seed was placed into the upper section of the melt-containing vessel, and then a temperature gradient between the upper and lower sections of the container was developed. The grown crystals were octahedral-shaped with 6 - 7 mm long edges. The growth of the seed was also caused by evaporating the solvent. The dissolved substances evaporated together with the sol-

JB

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Ferrite crystallization from liquid and gaseous phases S/058/62/000/009/022/069
A006/A101

vent; as a result crystals from the gaseous phase grew on the crystallizer walls. Their length attained sometimes 15 - 20 mm. For the purpose of checking the composition of the crystals obtained and of studying structural changes during heating, the temperature dependence of their specific magnetization was investigated and the Curie point determined. In some cases magnetization isotherms were plotted to evaluate magnetization and saturation. The reversibility of temperature dependence curves at repeated heating and cooling indicates the absence of changes in the structure and composition.

1/3

Yu. Krishtal

[Abstracter's note: Complete translation]

Card 2/2

24.2130

77110
SOV/70-4-6-11/31

AUTHOR: Zalesskiy, A. V.

TITLE: Anisotropy of the Even Galvanomagnetic Effect in a Single Crystal of Manganese Ferrite

PERIODICAL: Kristallografiya, 1959, Vol 4, Nr 6, pp 867-872 (USSR)

ABSTRACT: A number of Soviet scientists such as A. P. Komar, V. V. Klyushin, K. P. Belov, Ye. V. Talalayeva, A. A. Popova, and S. V. Vonsovskiy have studied galvanomagnetic effects at various temperatures in polycrystalline Mn-ferrite and in its single crystals. They found that polycrystalline ferrites do not obey the second rule of even effects, and exhibit negative effects both longitudinally and transversely at indoor temperatures; but also exhibit positive effects at elevated temperatures. A single crystal showed positive effect at the range from indoor temperature to the Curie point. The author studied anisotropy of galvano-magnetic effects in an artificially grown ferrite single crystal of $MnFe_2O_4$ composition, i.e., with

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6% Mn_3O_4 but no FeO in excess. Three discs parallel to (100), (110), and (111) respectively, each 2.76 mm thick, were prepared from the single crystal; their orientations were controlled by taking X-ray diffraction photographs. Then the discs were attached to a galvanometer by silver wire, and silver contacts were welded into the discs. The magnetic field intensity H reached maximum 14,000 oersted, and the applied current was 2 milliamperes. $\Delta R/R$ ratio was determined by unbalanced-bridge method and comparing R with the resistance of a standard. Longitudinal specific resistivities of the discs parallel to (100), (110), and (111) proved to be 1,220, 1,400 and 1,620 ohm/cm, respectively. Other experimental data is compiled in the table and figures below. The data proved that

PLANE OF SAMPLE	EFFECT SYMBOL	EXPRESSION FOR CALCULATION	COMPUTED VALUE OF $\frac{\Delta R}{R} \cdot 10^3$	EXPERIMENTAL VALUE OF $\frac{\Delta R}{R} \cdot 10^3$
(100)	$\frac{\Delta R}{R_{\parallel[100]}}$	h_{100}	—	+4,25
(100)	$\frac{\Delta R}{R_{\perp(100)}}$	$-\frac{h_{100}}{2}$	−2,125	−2,1
(111)	$\frac{\Delta R}{R_{\parallel[111]}}$	h_{111}	—	+0,9
(111)	$\frac{\Delta R}{R_{\perp(111)}}$	$-\frac{h_{111}}{2}$	−0,45	−0,45
(110)	$\frac{\Delta R}{R_{\parallel[110]}}$	$\frac{h_{100}}{4}+\frac{3}{4}h_{111}$	+1,735	+1,9
(110)	$\frac{\Delta R}{R_{\perp(110)H\parallel[110]}}$	$\frac{h_{100}}{4}-\frac{3}{4}h_{111}$	+0,385	+0,5
(110)	$\frac{\Delta R}{R_{\perp(110)H\parallel[100]}}$	$-\frac{h_{100}}{2}$	−2,125	−2,1

anisotropy of even galvanomagnetic effects is well described by:

$$\frac{\Delta R}{R} = \frac{3}{2} h_{100}\left(\alpha_1^2\beta_1^2 + \alpha_2^2\beta_2^2 + \alpha_3^2\beta_3^2 - \frac{1}{3}\right) + \\ + 3h_{111}(\alpha_1\alpha_2\beta_1\beta_2 + \alpha_2\alpha_3\beta_2\beta_3 + \alpha_3\alpha_1\beta_3\beta_1).$$

derived by N. S. Akulov (Ferromagnetizm, ONTI, 1939) for cubic ferromagnetics. The constants are $h_{100} = 4.25\ 10^{-3}$ and $h_{111} = 0.9\ 10^{-3}$. The author found that violation of the second rule of even effects can not be generalized for all ferrites. The help of A. A. Popova and K. P. Belov is acknowledged. There are 5 figures; 1 table; and 6 Soviet references.

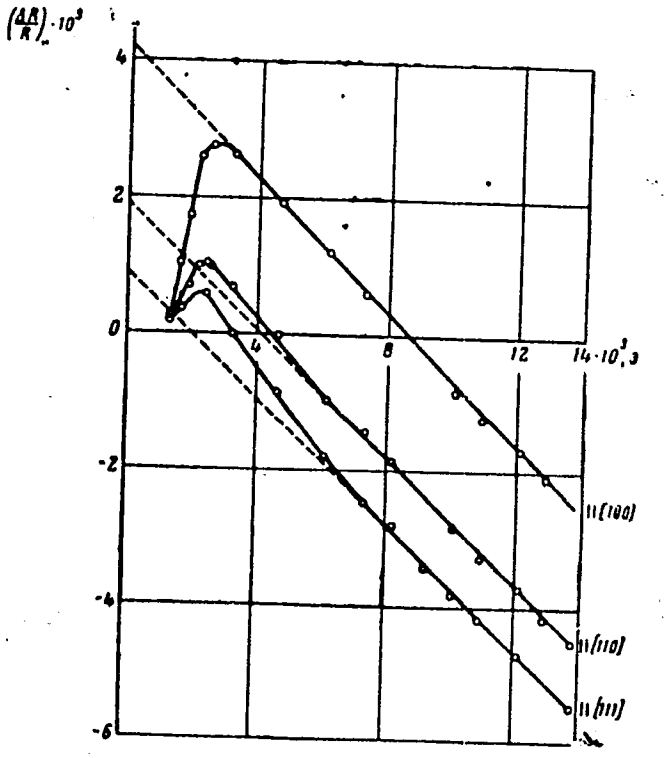

Fig. 1. Principal longitudinal galvanomagnetic effects in the single crystal of $MnFe_2O_4$.

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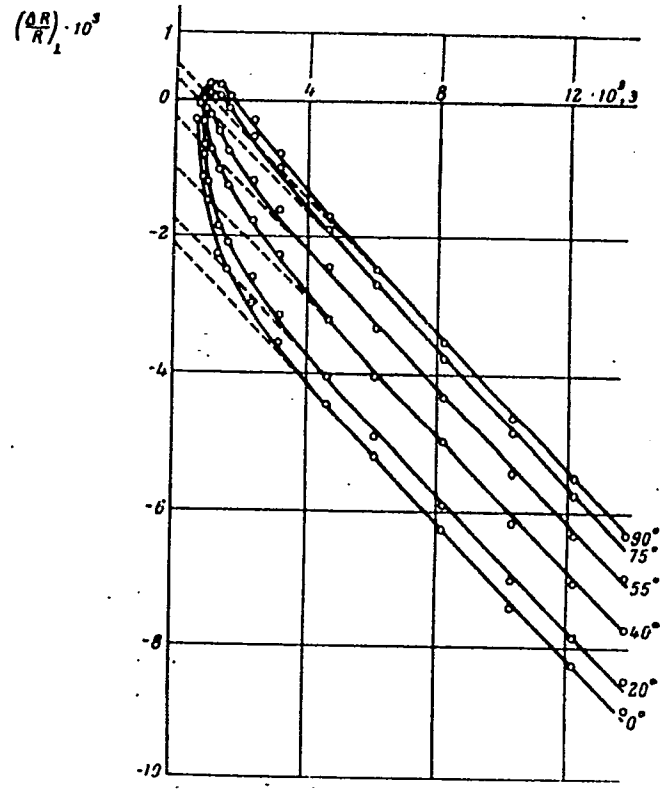

Fig. 3. Transverse galvanomagnetic effect as the function of magnetic intensity H, at various angles between H and the direction (100) at sample rotation around (110).

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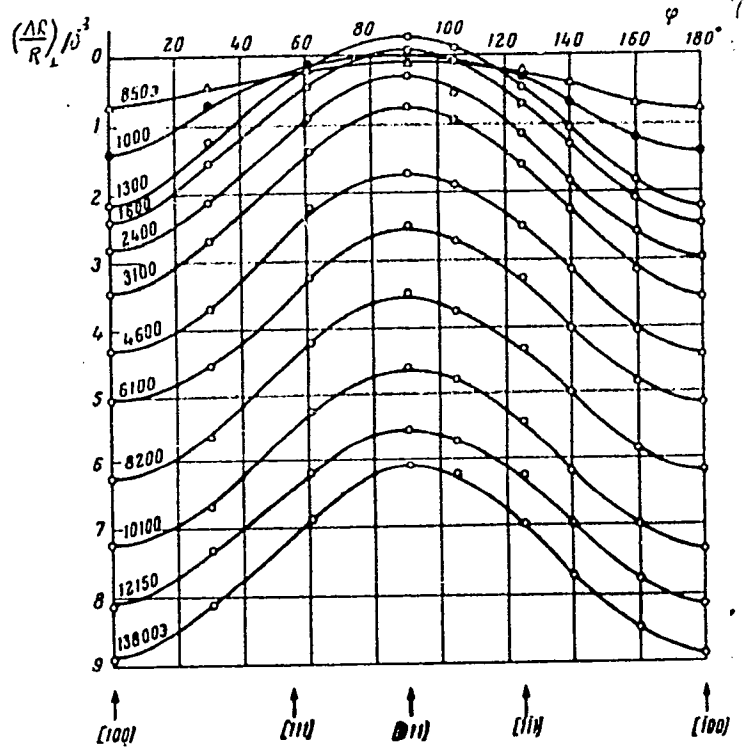

Fig. 4. Transverse galvanomagnetic effect as the function of the angle between H and direction (100) rotating around (110) at fixed field intensities.

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Anisotropy of the Even Galvanomagnetic Effect in a Single Crystal of Manganese Ferrite

77110
SOV/70-4-6-11/31

ASSOCIATION: Crystallographical Institute of the Academy of Sciences of the USSR (Institut kristallografii AN SSSR)

SUBMITTED: January 3, 1959

Card 8/8

ZALESSKIY, A.V.

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.: M. N. Sirota, Academician of the Academy of Sciences BSSR; K. P. Belov, Professor; Ye. I. Kondorskiy, Professor; L. M. Pal'tanyy, Professor; R. V. Telesnin, Professor; G. A. Smolenskiy, Professor; N. N. Sholkin, 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.

Card 1/18

84127

9.6/80

S/070/60/005/005/016/017
E132/E360

AUTHORS: Tikhomirova, N.A., Zalesskiy, A.V. and Tambovtsev, D.A.

TITLE: The Application of Strain Gauges for Measuring the Compressibility of Solid Bodies at High Hydrostatic Pressures

PERIODICAL: Kristallografiya, 1960, Vol. 5, No. 5, pp. 823 - 825

TEXT: X-ray and thermographic methods of detecting phase transitions under very high pressures are technically very complicated and it has been shown that it is sufficient for the detection of first- and second-order phase transitions to measure compressibility as a function of pressure. The difficulty is then to provide a sufficiently sensitive pressure gauge. Here, a method of measuring the changes in the linear dimensions of a specimen is described. A strain gauge is cemented to the specimen in the pressure chamber which is filled with isopentane or benzol B-70 and changes in length of 0.0001% can be detected. The high pressure in the bomb is supplied by a multiplier and may reach 20 000 kg/cm^2. The pressure is read from a manganin pressure gauge to an accuracy of 100 kg/cm^2. The

Card 1/2

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E132/E360

The Application of Strain Gauges for Measuring the Compressibility of Solid Bodies at High Hydrostatic Pressures

/the two gauges is measured with simple Wheatstone bridges. Only three electrical lead-throughs into the pressure vessel are required. The pressure dependence of the resistance of the strain gauge and the other leads in the absence of a specimen has to be determined by a separate calibration. The correction amounts to about 4 ohms in 100. Compressibility curves for CsI, NaCl, LiF, Fe and a low-compressibility alloy T15K6 are reproduced and compared with Bridgman's figures. The accuracy appears to be high. It is intended to apply the method further for measuring anisotropic compressibilities which could not be studied by Bridgman's technique. There are 3 figures and 9 references: 5 Soviet and 4 English.

ASSOCIATION: Institut kristallografii AN SSSR (Institute of Crystallography of the AS USSR)

SUBMITTED: February 16, 1960

Card 2/2

84128
S/070/60/005/005/017/017
E132/E360

9.4300 (1035, 1138, 1143)

AUTHORS: Zalesskiy, A.V. and Fonton, S.S.

TITLE: An Apparatus for Orienting and Marking Ferromagnetic Single Crystal Spheres

PERIODICAL: Kristallografiya, 1960, Vol. 5, No. 5, pp. 825 - 827

TEXT: It is often required to orient a ground ferromagnetic crystal sphere so that its direction of greatest magnetic susceptibility is known. This is usually done with a universal joint which permits the crystal to turn in any direction in a strong orienting magnetic field. The method is, however, insufficiently sensitive for small crystals. An improvement is described. A small polished brass stage is fitted with a heater enabling its temperature to be raised to 90 °C and the sphere is embedded in a low m.p. wax on its surface. The stage with the sphere stuck on it is placed between the poles of a magnet providing a uniform field of some 20 000 Oe. The wax is melted, allowing the crystal to set itself in the field and is then cooled, thus giving the orientation. The stage is then removed and placed on the stage of an optical microscope.

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84128

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E132/E360

An Apparatus for Orienting and Marking Ferromagnetic Single Crystal Spheres

Using the normal lens system the centre of the crystal sphere is brought to the axis of the microscope tube; the latter is then replaced with a device carrying a glass tube which is used to place a very small spot of paint on the top of the sphere. The sphere can then be removed from the wax for use elsewhere. Ferrite specimens of 1/2 g can be oriented with an accuracy of 3-4°.

There are 2 figures and 1 Soviet reference.

ASSOCIATION: Institut kristallografii AN SSSR
(Institute of Crystallography of the AS USSR)

SUBMITTED: January 21, 1960

Card 2/2

ZALESSKIY, A.V.

Anisotropy of the magnetoresistance effect in the magnetization of magnetite crystals. Kristallografiia 6 no.2:231-238 Mr-Ap '61. (MIRA 14:9)

1. Institut kristallografii AN SSSR.
(Magnetoresistance) (Magnetite crystals)

S/048/61/025/012/001/C22
B137/B108

AUTHORS: Belov, K. P., and Zalesskiy, A. V.

TITLE: Variation of resistivity on magnetization and the magnetic anisotropy of $Mn_xFe_{3-x}O_4$ ferrite single crystals

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 25, no. 12, 1961, 1434-1436

TEXT: The anisotropy constant K_1 of solid solutions of magnetite and manganese ferrite ($Mn_xFe_{3-x}O_4$) is positive only in the range $0.6 < x < 0.8$ at room temperature. This can be attributed to the change in ion distribution on transition from the inverted spinel (magnetite) to the normal one (manganese ferrite). The magnetite has the magnetostriction constants $\lambda_{100} = -19 \cdot 10^{-6}$ and $\lambda_{111} = 81 \cdot 10^{-6}$, and the manganese ferrite $Mn_{0.98}Fe_{1.86}O_4$ has the constants $\lambda_{100} = -14 \cdot 10^{-6}$ and $\lambda_{111} = -1 \cdot 10^{-6}$. On transition from the manganese ferrite to the magnetite, the magneto-

Variation of resistivity on...

striction along the [111] axis changes its sign. According to A. Braginskiy (Chekhosl. fiz. zh., 9, no. 6, 755 (1959)), this change is observable in the range $1.00 \leqslant x \leqslant 1.06$. The anisotropy in the variation of resistivity of magnetite on magnetization is characterized by the constants $h_{100} = 13 \cdot 10^{-4}$ and $h_{111} = -6 \cdot 10^{-4}$; in the case of manganese ferrite with $x = 1.12$, these constants are $h_{100} = 4.25 \cdot 10^{-3}$ and $h_{111} = 0.9 \cdot 10^{-3}$. For this reason, a change in sign is also to be expected for the longitudinal galvanomagnetic effect along the [111] axis. Results of measurements of the temperature dependence of the constant K_1 from room temperature upward, as well as of the dependence of the constant of the galvanomagnetic effect on the composition at room temperature are presented. The single crystals were grown (Verneuil method) by A. A. Popova at the Institut kristallografii AN SSSR (Institute of Crystallography AS USSR), who also carried out the chemical analyses. The specimens were thick disks, ground along a certain crystallographic plane. The sharp dependence of the constant K_1 on the composition around the isotropic point entails high sensitivity of this quantity to inhomogeneities and other crystal defects.

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The longitudinal galvanomagnetic effect was positive in the [100] direction for all compositions, but a change in sign occurred in the [111] direction at such compositions at which the magnetic anisotropy constant exhibits a dip. A definite relationship between magnetostriction and the variation in resistivity on magnetization can be observed. λ_{111} changes its sign opposite to h_{111}; λ_{100}, however, remains always negative. In the range $0.87 < x < 1.55$, the constant K_1 is negative at all temperatures and decreases continuously with rising temperature. In the range $0.69 < x < 0.85$, K_1 is positive at room temperature. At higher temperatures, it first increases somewhat and then decreases almost linearly. In the range $0.43 < x < 0.69$, K_1 is negative at room temperature. At higher temperatures, a change in sign occurs. If x decreases from 0.69 to 0.43, the isotropic point is shifted to higher temperatures and the positive component of the anisotropy constant becomes smaller. The constants h_{100} and h_{111} decrease linearly with temperature and remain unchanged at those temperatures at which the sign of K_1 changes. A. A. Popova is thanked for preparation and

Variation of resistivity on...

S/048/61/025/012/001/022
B137/B108

chemical analysis of the ferrite single crystals. There are 2 figures and 9 references: 3 Soviet-bloc and 6 non-Soviet-bloc. The four most recent references to English-language publications read as follows: Smit, J., Wijn, H. P. J., Ferrites, Eindhoven, 1959; Penoyer, R. F., Shafer, M. W., J. Appl. Phys., suppl., 30, no. 4, 315 (1959); Bozorth, R. M., Tilden, E. F., Williams, A. J., Phys. Rev., 99, no. 6, 1788 (1955); Yager, W. A., Galt, J. K., Merrit, R. F., Phys. Rev., 99, 1203 (1955)

ASSOCIATION: Institut kristallografii Akademii nauk SSSR (Institute of Crystallography of the Academy of Sciences USSR)

Card 4/4

31184
S/076/61/035/012/004/008
B101/B138

24.2200

AUTHORS: Shapovalova, R. D., Belova, V. I., Zalesskiy, A. V., and Gerasimov, Ya. I.

TITLE: Some physical properties of tungstates. III. Magnetic properties of tungstates

PERIODICAL: Zhurnal fizicheskoy khimii, v. 35, no. 12, 1961, 2713 - 2716

TEXT: The authors studied the magnetic properties of 12 tungstates (Table 1). Magnetic susceptibility, χ, was determined by the Gouy Sucksmith method. The absence of ferromagnetic impurities was indicated by the fact that χ was independent of field strength. Table 1 shows the χ values obtained at 293°K. On the basis of these data, the diamagnetic susceptibility of the WO_4^{2-} ion was calculated to be $-(28.4 \pm 1.9)\cdot 10^{-6}$ which is in good agreement with published data. For paramagnetic tungstates, the temperature dependence of χ was studied at 290 - 700°K and field strengths between 4500 and 7600 oersteds. All substances followed

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31184
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B101/B138

the Curie-Weiss law. Θ and C of the Curie-Weiss equation $\chi = C/(T - \Theta)$ were determined graphically. The authors found: $MnWO_4$: Θ = -53.6, C = 0.01233; $FeWO_4$: Θ = +42.0, C = 0.01031; $CoWO_4$: Θ = +9.57, C = 0.00963; $NiWO_4$: Θ = -66.1, C = 0.00407; $CuWO_4$: Θ = +18.0, C = 0.00086. Table 4 gives the magnetic moments calculated according to Gouy (1) and Sucksmith (2), and the theoretical moment for Me^{2+}. There are 1 figure, 4 tables, and 6 non-Soviet references. The three references to English-language publications read as follows: Mata Prasad, C. R. Kanekar, G. Scient. and Industr. Res., 11A, 183, 1952; Venkateswarlu, Ramanathan, Current Sci., 24, 83, 1955; R. S. Nyholm, Quart. Rev., I, 377, 1953.

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

SUBMITTED: March 24, 1960

24.7100

S/070/62/007/002/020/022
E132/E160

AUTHOR: Zalesskiy, A.V.

TITLE: The anisotropy of the change in electrical resistance on magnetisation for a single crystal of nickel ferrite

PERIODICAL: Kristallografiya, v.7, no.2, 1962, 321-322

TEXT: The anisotropy of the even-power galvanomagnetic effect in a crystal of composition $Ni_{0.78}Fe^{++}_{0.12}Fe^{+++}_{2.07}O_4$ at room temperature has been studied. Five discs (6 mm diameter) were cut from a single crystal. From measurements on these, the constants in Becker and Döring's equation, which describes only the anisotropic part of the effect, were determined. An isotropic term must be added. Professor K.P. Belov directed the work. There are 1 figure and 1 table.

ASSOCIATION: Institut kristallografii AN SSSR
(Institute of Crystallography, AS USSR)

SUBMITTED: June 3, 1961

Card 1/1

ACCESSION NR: AP4042556 S/0056/64/046/006/1985/1989

AUTHORS: Perekalina, T. M.; Zalesskiy, A. V.

TITLE: Magnetocrystalline anisotropy in single crystals of hexagonal ferrites of the $BaCo_xFe_{2-x}W$ system

SOURCE: Zh. eksper. i teor. fiz., v. 46, no. 6, 1964, 1985-1989

TOPIC TAGS: crystal anisotropy, ferrite crystallization, polycrystal, crystal structure, single crystal

ABSTRACT: A study was made of the influence of Co ions on magnetic crystalline anisotropy of ferrite single crystals of the $BaCo_xFe_{18-x}O_{27}$ system ($0 < x < 1.5$) at room temperature and at 77K. The only existing similar investigation is that of L. R. Bickford (Phys. Soc. Japan, Supplement B-1, v. 17, 272, 1962) and concerned textured polycrystals and one single crystal. The present paper deals only with single crystals. The direction of easy magnetization

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ACCESSION NR: AP4042556

changes from the c axis to directions that form a cone with a vertex angle that increases with the increase of the Co content and with decreasing temperature. The magnetic anisotropy energy was measured by the torque method in a field of 19,000 Oe. The strong anisotropy observed in the basal plane at 77K indicates that the energy along the cone generators is not constant but has a minimum with a period of 60°, depending on the angle φ in the basal plane. The swing of the periodic variation reaches the relatively high value of 27 x $\times 10^3$ erg/cm^3. Orig. art. has: 2 figures, 8 formulas, and 1 table.

ASSOCIATION: Institut kristallografii Akademii nauk SSSR (Institute of Crystallography, Academy of Sciences SSSR)

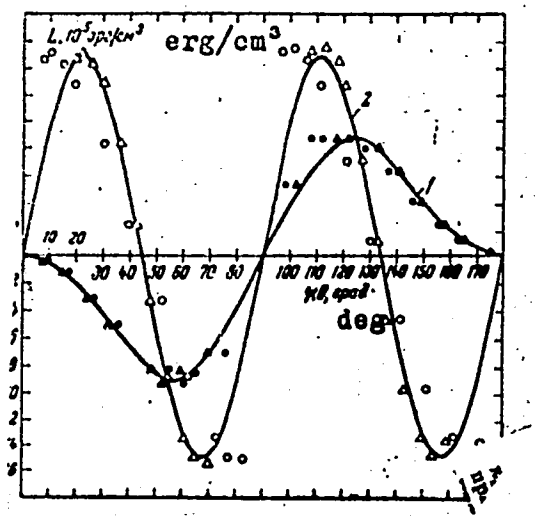
SUBMITTED: 04Jan64 DATE ACQ: ENCL: 02

SUB CODE: SS NR REF SOV: 000 OTHER: 003

Card 2/4

ACCESSION NR: AP4042556

ENCLOSURE: 01

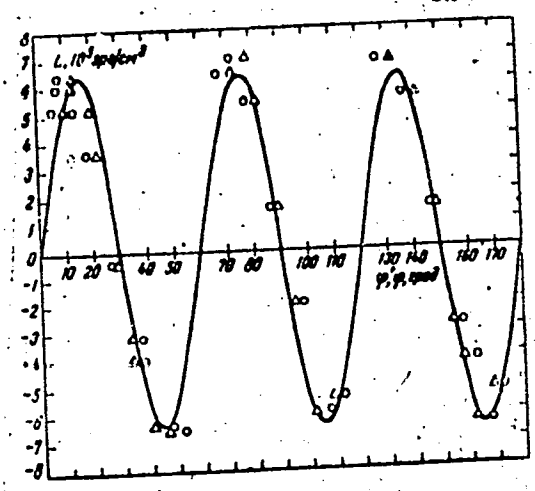


Rotational moments for single-crystal $BaCO_{1.0}Fe_{1.0}W$ in the (10$\bar{1}$0) plane at 290K (full points) and 77K (light points).

Card 3/4

ACCESSION NR: AP4042556

ENCLOSURE: 02



Rotational moments for single-crystal $BaCO_{1.0}Fe_{1.0}W$ in the basal plane at 77K

Card 4/4

L 31970-65 EWT(l)/EWI(m)/EWP(w)/EWA(d)/T/EWP(t)/EED-2/EWP(b) JD
ACCESSION NR: AP5004379 S/0056/65/048/001/0094/0102

33
32
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AUTHOR: Zaleskiy, A. V.; Perekalina, T. M.

TITLE: Induced magnetic anisotropy in a single crystal of the hexagonal ferrite $BaCo_{1.5}Fe_{16.5}O_{27}$

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 48, no. 1, 1965, 94-102

TOPIC TAGS: thermomagnetic effect, ferrite, anisotropy, magnetic annealing, thermomagnetic treatment, cobalt ferrite, activation energy

ABSTRACT: The influence of thermomagnetic treatment on the magnetic anisotropic [illegible] of the induced anisotropy effect, to check the validity of a [illegible] the activation energy, and to explain certain features observed in the study of the magnetic anisotropy energy. Single-crystal hexagonal barium ferrites of so-called W structure, grown by the Verneuil method, were used in the investigation. The magnetic anisotropy energy of a spherical sample 4 mm in diameter, was meas-

Card 1/3