

BELOV, K.P.; ZAYTSEVA, M.A.; KADOMTSEVA, A.M.

Magnetic properties of the lanthanum and praseodymium orthoferrites
in the partial substitution of the Fe^{3+} ions for Al^{3+} ions. Zhur.
eksp. i teor. fiz. 39 no.4: 1148-1150 0 '60. (MIRA 13:11)

1. Moskovskiy gosudarstvennyy universitet.
(Rare earth ferrates--Magnetic properties)

152660

242200

1121 1160 1137, 1144

30073
S/048/61/025/011/019/031
B117/B102

AUTHORS: Belov, K. P., Zaytseva, M. A., Kadomtseva, A. M., and Timofeyeva, V. A.

TITLE: Magnetic anisotropy and hysteresis properties of rare-earth orthoferrites

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 25, no. 11, 1961, 1389-1392

TEXT: Magnetic anisotropy was examined on single crystals of La, Pr, Nd, Sm, Eu, Gd, and Yb orthoferrites. The crystals were grown by spontaneous crystallization from their solution in a melt of lead compounds, lead oxide, and lead fluoride. The torque of the resulting crystals as a function of their angle of rotation with respect to an external magnetic field of up to 20 koe was measured with an anisometer. The torque curves drawn at room temperature resembled one another in the examined single crystals, and showed that the orientation of the magnetic moment in the axis of easiest magnetization is very stable against rotation of the outer field. This points to an exceedingly strong magnetic anisotropy of these

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Magnetic anisotropy and ...

orthoferrites. If the temperature is increased to the Curie point, the anisotropy of weak ferromagnetism is virtually not reduced. The characteristic phenomena of hysteresis and thermal remanence effects appearing in rare-earth orthoferrites can be explained also by the strong magnetic anisotropy. Thermal remanence phenomena were observed on polycrystalline La, Pr, and Yb orthosilicates (Ref. 5: Belov, K. P., Zaytseva, M. A., Kadomtseva, A. M., Zh. eksperim. i teor. fiz., 37, 1877 (1958); Ref. 6: Watanabe, H. J. Phys. Soc. Japan, 14, 511 (1959)). Magnetization curves and hysteresis loops were recorded in magnetic fields of up to 20,000 oe by a pondermotive method. Specimens cooled in the magnetic field displayed asymmetric hysteresis loops with individual cycles. The thermal remanence was removed by a magnetic field of the order of 10,000 oe. This is indicative of the enormous coercive force of these orthoferrites. A partial substitution of nonmagnetic Al^{3+} ions for Fe^{3+} ions was performed in polycrystalline La and Pr orthoferrites. A sharp diminution of both coercive force and thermal remanence phenomena was observed along with a steep rise of magnetization. The latter may be explained by a prevailing diminution of the exchange field. On the other hand, the growth of magnetization is possibly associated with the greater

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Magnetic anisotropy and ...

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difference in the magnetization of the two sublattices of Fe^{3+} ions, when they are partly replaced by nonmagnetic Al^{3+} ions. However, the Curie point is lowered in every case. Compositions in which Fe^{3+} ions were partly replaced by magnetic Cr^{3+} ions were examined. As compared with stoichiometric compositions, the coercive force diminishes sharply in La and Pr orthoferrites, when Cr^{3+} ions are introduced. As expected, and unlike Al^{3+} ions, Cr^{3+} ions do not change magnetization very much. The Debye diagrams taken by A. A. Katsnel'son and K. Yatskul'yan showed that all the examined compositions are solid solutions without any foreign phase. Ye. A. Turov is thanked for his help and for having discussed the results obtained. V. A. Naysh (Fizika metallov i metallovedeniye, 9, 10 (1960); 11, 161 (1960)) is mentioned. There are 5 figures and 6 references: 2 Soviet and 4 non-Soviet. The three references to English-language publications read as follows: Bozorth, R. M., Phys. Rev. Letters, 1, 362 (1958); Gilleo, M. A., J. Chem. Phys. 24, 1239 (1956); Watanabe, H., J. Phys. Soc. Japan, 14, 511 (1959).

Card 3/4

Magnetic anisotropy and ...

30073
S/048/61/025/011/019/031
B117/B102

ASSOCIATION: Fizicheskiy fakul'tet Moskovskogo gos. universiteta im.
M. V. Lomonosova (Physics Division of Moscow State
University imeni M. V. Lomonosov)

Card 4/4

30142

24.2200

S/070/62/007/002/008/022
E132/E160

AUTHORS: Belov, K.P., Zaytseva, M.A., Kadomtseva, A.M.,
Kvitka, S.S., and Ovchinnikova, T.L.

TITLE: The magnetic properties and structures of certain
garnet systems

PERIODICAL: Kristallografiya, v.7, no.2, 1962, 242-246

TEXT: Garnet structures have been synthesized by the
substitution in yttrium iron garnets of Fe and Y ions by Mn, Ge
and Ti and their structures and magnetic properties have been
studied. In the garnet of composition $Mn_{0.5}Y_{2.5}Fe_{4.5}Ge_{0.5}O_{12}$
an anomalous temperature dependence of the spontaneous
magnetisation has been observed at low temperatures (of Neel's
type M). It is established that the garnet of composition
 $MnY_2Fe_4GeO_{12}$ has a Curie point below 0 °C and that the curve of
the temperature dependence of the spontaneous magnetisation tends
asymptotically to zero. The curves are explained qualitatively.
The cell size of the first-mentioned compound is 12.367 Å, and
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The magnetic properties and structures. S/070/62/007/002/008/022
E132/E160

that of the second 12.347 as compared with 12.387 for the pure Y Fe garnet. In garnet there are three magnetic sub-lattices and on Neel's model M the curve observed for the first composition can be satisfactorily explained if the lattice having a weak inherent exchange interaction takes a different course from that of the other (iron) sublattices. The Ti-containing garnets $Mn_{0.5}Y_{2.5}Fe_{4.5}Ti_{0.5}O_{12}$ and $MnY_2Fe_4TiO_{12}$ were examined but showed no anomalies except that the second compound had a "tail" of residual magnetisation which persisted above the Curie point (506 °C) apparently connected with the appearance of another phase (traces of $Y_2Ti_2O_7$ were observed in the X-ray powder photograph).

There are 4 figures.

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

SUBMITTED: June 27, 1961

Card 2/2

ACCESSION NR: AP4011744

S/0181/64/006/001/0101/0107

AUTHORS: Belov, K. P.; Iveronova, V. I.; Zaytseva, M. A.; Kadomtseva, A. M.;
Katsnel'son, A. A.; Yatskul'yak, K.

TITLE: Magnetic and structural properties of lanthanum orthoferrite during partial replacement of Fe $3+$ ions by other trivalent ions

SOURCE: Fizika tverdogo tela, v. 6, no. 1, 1964, 101-107

TOPIC TAGS: magnetic property, structural property, orthoferrite, lanthanum, lanthanum orthoferrite, Fe $3+$, Al $3+$, Sc $3+$, Co $3+$, thermoremanent magnetization, magnetization intensity, hysteresis loop, crystal lattice

ABSTRACT: In these studies the Fe $^{3+}$ ion was replaced, in part, by Al $^{3+}$, Sc $^{3+}$, Cr $^{3+}$, and Co $^{3+}$. Thermoremanent magnetization of LaFeO₃ cannot be reduced to zero even in a field of 20 000 oersteds, but if Al $^{3+}$ ions replace some of the Fe $^{3+}$ ions (LaFe_{0.9}Al_{0.1}O₃), introduced by orthorhombic distortion of the crystal lattice, thermoremanent magnetization almost disappears, and the hysteresis loops become symmetrical. These changes may be explained by the finely dispersed character of the samples. The change in magnetic properties on substitution of the indicated ions

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ACCESSION NR: AP4011744

is associated with change in degree of dispersion and with the orthorhombic distortion of the lattice. Along with these changes, an increase was observed in magnetization intensity. This is explained by the ordered distribution of Al^{+3} ions in the crystal lattice. Orig. art. has: 3 figures.

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

SUBMITTED: 10Jul63

DATE ACQ: 14Feb64

ENCL: 00

SUB CODE: FH

NO REF SOV: 002

OTHER: 002

Card 2/2

ACCESSION NR: AP4041041

S/0120/64/000/003/0157/0159

AUTHOR: Zhegunov, Yu. P.; Kadomtseva, A. M.; Levitin, R. Z.

TITLE: Measuring magnetization in strong impulse magnetic fields by a ponderomotor method

SOURCE: Pribory* i tekhnika eksperimenta, no. 3, 1964, 157-159

TOPIC TAGS: magnetization measurement, intensity of magnetization, ponderomotor magnetization measurement

ABSTRACT: A method is suggested for measuring the intensity of magnetization in small (10-100 mg) specimens, such as single crystals, in strong (up to 300 kilo-oerst.) magnetic fields by the force pulling the specimen into a nonuniform magnetic field. The impulse field is built up in a bronze coil through which a 1,500-microfarad capacitor bank is discharged from an initial voltage of 5 kv. A specimen fastened by means of a thin porcelain rod to an electromagnetic-sensor

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diaphragm was introduced into the coil field. A tiny probe coil placed near the specimen served for measuring the field strength. Emf's from both these sources were recorded on a 2-beam cathode-ray oscillograph, and the oscillogram was used for plotting a field-strength vs. intensity-of-magnetization curve. The error of magnetization measurement is claimed to be 10%. "The authors are deeply grateful to K. P. Belov for his constant interest in the work, and to S. F. Litvinenko for aligning the impulse-magnetic-field outfit." Orig. art. has: 4 figures and 8 formulas.

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

SUBMITTED: 06Jul63

ENCL: 00

SUB CODE: EM

NO REF SOV: 001

OTHER: 003

Cord: 2/2

ACCESSION NR: AP4042559

S/0056/64/046/006/2003/2010

AUTHOR: Zakharov, A. I.; Kadomtseva, A. M.; Levitin, R. Z.;
Ponyatovskiy, Ye. G.

TITLE: Magnetic and magnetoelastic properties of a metamagnetic
iron-rhodium alloy

SOURCE: Zh. eksper. i teor. fiz., v. 46, no. 6, 1964, 2003-2010

TOPIC TAGS: magnetostriction, alloy Young modulus, alloy lattice
parameter, ferromagnetic transition temperature, Curie point, iron
rhodium alloy, alloy magnetization, alloy

ABSTRACT: The temperature dependences of the magnetization, mag-
netostriction, Young modulus, and lattice constant of an iron-rhodium
alloy of close to equiatomic ($Fe_{0.5}, Rh_{0.5}$) composition have been
investigated in the 50—750K temperature range. The experiments
were conducted on vacuum-melted Fe-Rh alloy annealed at 1100C for 5 hr
and then furnace cooled or water quenched from 1100C. In a field up
to 2000 oa, the annealed alloy was antiferromagnetic at room tempera-
ture, with the transition to the ferromagnetic state occurring in a

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ACCESSION NR: AP4042559

field of 1700 oe at 358K with heating and at 352K with cooling. The Curie point of the alloy, determined in a 9-oe field, was about 660K. The transition temperature T_k was found to decrease by about 12K, with the field increasing to 14,500 oe. Isothermal curves for the magnetization in fields up to 140 koe showed that below the critical temperature T_k , the magnetization increases sharply in certain critical fields H_k , i.e., the antiferromagnetic-to-ferromagnetic transition occurs under the action of the field. The critical field H_k , defined as the field magnitude at which the most rapid increase in magnetization occurs, decreases linearly with increasing temperature at a rate of 0.0017 oe/deg. The lattice parameter increases gradually with the temperature increase to $T_k = 353K$, at which a new ferromagnetic phase is formed whose lattice parameter increases abruptly by 0.3%. Above the Curie point ($\theta = 660K$), the lattice parameter increases with temperature more rapidly than in the ferromagnetic region. With an increasing hydrostatic pressure, the transition temperatures, both in heating and cooling, increase approximately linearly at a rate of 0.00433 deg/atm. The Young modulus exhibits a sharp increase at the point of transition from the antiferromagnetic to the ferromagnetic state. The longitudinal magnetostriction λ and the relative change

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ACCESSION NR: AP4042559

of Young modulus $\Delta E/E$ are zero in the antiferromagnetic region but are at a maximum in the region of temperature transition. The maximum probably results from the superimposition of magnetoelastic effects, which are associated with the destruction of the antiferromagnetic structure under the action of the field, on the ordinary ΔE and magnetostriction effects which are caused by domain processes. The use of the data obtained for determining the applicability of the C. Kittel theory to ferromagnetism — antiferromagnetism transition in the Fe—Rh alloy produced inconclusive results — and further research on the alloy is recommended. Orig. art. has: 8 figures.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

SUBMITTED: 18Jan64

ATD PRESS: 3068

ENCL: 00

SUB CODE: MM,SS

NO REF SOV: 006

OTHER: 009

Card 3/3

L 14050-65 EWT(1)/EWT(m)/EWP(t)/EWP(o) IJP(c)/AFWL/SSD/ASD(d)/ESL :
ESB(ga)/ASB(t) JD/JE

ACCESSION NR: AP4043613

S/0056/64/047/002/0439/0443

AUTHOR Belov, K. P.; Kadomtseva, A. M.; Levitin, R. Z. 6

TITLE: Investigation of the magnetic susceptibility of orthoferrites
of rare earth elements in strong magnetic fields 27

SOURCE: Zh. eksper. i teor. fiz., v. 47, no. 8, 1964, 439-443

TOPIC TAGS: ferrite, magnetic susceptibility, rare earth element,
lanthanum, praseodymium, neodymium, samarium, europium, gadolinium,
terbium, dysprosium

ABSTRACT: With an aim at a more thorough study of the magnetic
properties of rare-earth orthoferrites, and especially establishing
the contributions of iron and rare-earth ions to the suscepti-
bility, the authors measured the field dependence of the magnetiza-
tion of orthoferrites (general formula $MFeO_3$, where M -- rare earth
metal ion) of La, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, and Yb. Both

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ACCESSION NR: AP4043613

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¹⁸
single-crystal and polycrystalline samples were investigated in pulsed fields up to 220 kOe. A ponderomotive measurement method was used. The tests show that the main contribution to the susceptibility of the orthoferrites is made by the rare-earth ions. Calculations of the molar susceptibilities of the orthoferrites from the experimental data have shown that at room temperature the magnetic moments of the rare-earth element ions are barely acted upon by the exchange fields of the iron sublattices, and that the magnetic moments of the rare-earth ions are not "frozen in" by the crystal lattice field, so that they can be regarded as free from the magnetic point of view. "In conclusion, we are deeply grateful to V. A. Timofeyeva for supplying the single-crystal orthoferrites, to M. A. Zaytseva and T. L. Ovchinnikova for preparing the polycrystalline orthoferrites and for a discussion of the results, and to Yu. B. Popov for help with the measurements." Original contains 3 figures and 1 formula.

Card 2/5

ADDRESS: [illegible]

ASSIGNMENT: [illegible]

State University

SUBMITTED: 06Mar64

ENCL: 02

SUB CODE: EM, SS

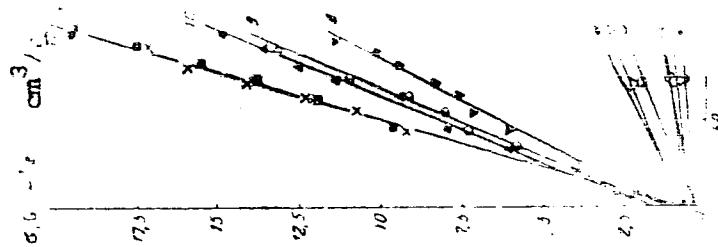
NO REF SOV: 006

OTHER: 004

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Fig. 1.
Dependence of specific magnetization
on the magnetic field for the
following polycrystalline
of the ferrite

HeFeO₃

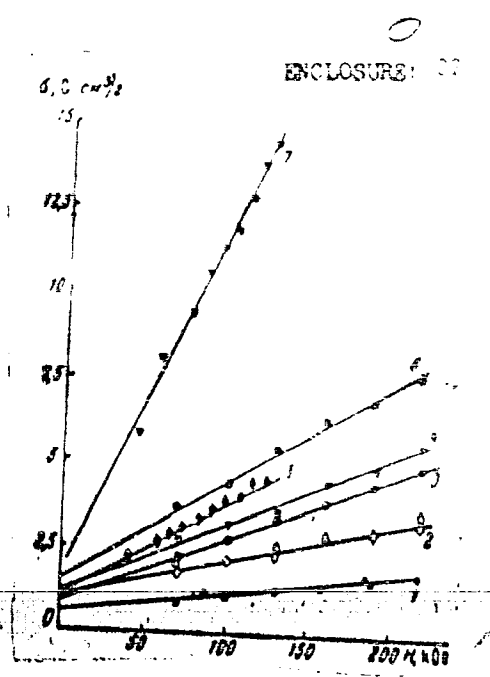


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ACCESSION NR: AP4043613

Fig. 2.
Dependence of the specific magnetization
on the magnetic field for the
following single crystal
orthoferrites:

1 - LaFeO₃, 2 - SmFeO₃, 3 -
NdFeO₃, 4 - PrFeO₃, 5 - EuFeO₃, 6 - YbFeO₃,
7 - GdFeO₃



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Cord

ACCESSION NR: APEC11604

REF ID: A61604

TEMPERATURE DEPENDENCES OF THE ELECTRIC RESISTIVITY OF
POLYCRYSTALLINE SAMPLES OF CERTAIN RARE EARTH
ELEMENTS

SOURCE: Moscow, Universitet, Vestnik. Seriya 3, Fizika,
astronomiya, no. 1, 1961, 90-94

ABSTRACT: The authors investigated the temperature dependences of
the electric resistivity of polycrystalline samples of certain rare
earth elements. The resistivity was measured in the temperature
range 4.2-300°K. The resistivity was found to increase with
temperature. The temperature dependence of the resistivity was
found to be similar for all the elements investigated.

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ACCESSION NO: 44-38861

with direct current. The magnetic properties of the orthoferrites of rare earth elements were investigated by the authors earlier (ZhETF v. 37, 1100, 1959; Izv. AN SSSR ser. fiz. No. 11, 1509, 1961). In these papers it was shown that the orthoferrites showed a nearly linear variation of the magnetic susceptibility with temperature. The temperature dependence of the magnetic susceptibility of the orthoferrites is shown in Figure 1.

The temperature dependence of the magnetic susceptibility of the orthoferrites is shown in Figure 1. The temperature dependence of the magnetic susceptibility of the orthoferrites is shown in Figure 1.

has: 1 figure

SUBMITT • 25 June 64

ENCL: 00

SUB CODE: EM, SS

NR REF SER: 006

OTHER: 003

Card 2/2

L 10174-66 EWT(d)/EWT(1)/EWT(m)/EPE(n)-2/SWP(t)/SWP(b) LJP(c) JD/WW/JD
 ACC NR: AP5026400 SOURCE CODE: UR/0386/65/002/006/0253/0256

AUTHOR: ^{44,55} Belov, K. P.; ^{44,55} Kadomtseva, A. M.; ^{44,55} Ledneva, T. M.; ^{44,55} Ovchinnikova, T. L.; ⁶⁹
 Timofeyeva, V. A. ^{44,55}

ORG: ^{44,55} Physics Faculty of the Moscow State University im. M. Lomonosov (Fizicheskiy
 fakul'tet Moskovskogo gosudarstvennogo universiteta) ²¹

TITLE: Features of the temperature dependence of the magnetization of thulium ortho-
 ferrite

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu.
 Prilozheniye, v. 2, no. 6, 253-256 ^{21, 44, 55}

TOPIC TAGS: thulium compound, temperature dependence, magnetization, magnetic moment ^{21, 44, 55}

ABSTRACT: The authors observed an anomalous temperature dependence in the magnetiza-
 tion of thulium orthoferrite. When the temperature was reduced to 90K the magnetic
 moment was reoriented from the c axis to the a axis of the crystal. Below 90K, the
 spontaneous magnetic moment of the single-crystal thulium orthoferrite remained ri-
 gidly oriented along the a axis of the rhombic crystal. By plotting the rotary mo-
 ments in the (001) plane of the single-crystal thulium orthoferrite at temperatures
 78 to 4.2K, the authors obtain, from the rotary moment $\phi = 90^\circ$, the values of the
 magnetization at different temperatures. The temperature dependence thus obtained
 for the magnetization is shown in Fig. 1. At 92K the spontaneous magnetization along
 the a axis is zero for at this temperature the magnetic moment is still oriented
 along the c axis of the crystal. After a slight decrease in the temperature ($\sim 2^\circ$),

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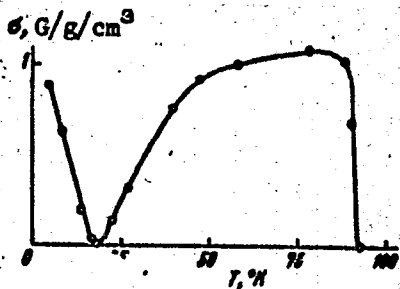


Fig. 1. Temperature dependence of the spontaneous magnetization of single-crystal thulium orthoferrite along the a axis.

measurements that the magnetic-compensation points observed for the majority of rare-earth ferrites with garnet structure are also possessed by some orthoferrites of rare-earth elements. Orig. art. has: 2 figures and 1 formula.

the magnetization along the a axis increases rapidly, reaching a value $1 G/g/cm^3$, owing to the reorientation of the magnetic moment from the c axis to the a axis. With further drop in temperature, the magnetization decreases smoothly, vanishing at 18K. Below 18K, the spontaneous magnetization along the a axis again begins to increase. The vanishing of the spontaneous magnetization is obviously the result of compensation of the magnetic moments of the iron and thulium ions, which should be observed if the exchange interaction between these ions is negative. An analogous phenomenon was apparently observed by the authors earlier for samarium orthoferrite at 4.2K (FMM v. 19, 778, 1965), but it was difficult to present an unambiguous explanation of the phenomenon observed there, since no measurements were made below the compensation point. It follows from the

SUB CODE: 20/ SUBM DATE: 08Jul65/ ORIG REF: 002/ OTH REF: 002

Card 2/2

L 38536-65 EED-2/EWT(1)/EWT(m)/EWP(b)/T/EWA(d)/EWP(w)/EWP(t) I/P(c) ID/JB

ACCESSION NR: AP5005286

S/0181/65/001/002/477/0479

AUTHOR: Belov, K. P.; Zaytseva, M. A.; Kadomtseva, A. M.; Ovchinnikova, T. L. ²⁶₂₄

TITLE: On the electric properties of yttrium ferrites with garnet structure ³¹₁₃

SOURCE: Fizika tverdogo tela, v. 7, no. 2, 1965, 477-479

TOPIC TAGS: yttrium iron garnet, ferrite, temperature dependence, electric resistivity, resistivity anomaly

ABSTRACT: The authors measured the temperature dependence of the electric resistivity of samples of the following composition: $Y_3Fe_5O_{12}$, $Y_{2.5}Mn_{0.5}Fe_{4.5}Ge_{0.5}O_{12}$, $Y_{2.5}MnFe_{4.0}Ge_{0.5}O_{12}$, $Y_{2.5}Mn_{0.5}Fe_{4.5}Ti_{0.5}O_{12}$, and $Y_{2.0}MnFe_{4.0}TiO_{12}$. The samples were prepared under the same conditions as in an earlier investigation (Kristallografiya v. 7, 242, 1962). The resistivity measurements were made in vacuum with direct current, at temperatures from room to 600K. The results show that substitution of the Fe^{3+} ion by the tetravalent ions Ge^{4+} and Ti^{4+} , in different crystallographic places in the iron-garnet structure, leads to a decrease in the electric resistivity (by several orders of magnitude compared with the pure

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ACCESSION NR: AP5005286

iron-garnet). The observed decrease in the electric resistivity is due to the appearance of Fe^{2+} ions, located in both cases in octahedral sites. The temperature dependence of the electric resistivity displays kinks in the region of the Curie temperature. These anomalies are similar to those observed for ferrites with spinel structure. "The authors thank Yu. P. Irkhin for valuable advice and a discussion of the results." Orig. art. has: 2 figures.

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

SUBMITTED: 23Jul64

ENCL: 00

SUB CODE: 84, 84

NR REF SOV: 004

OTHER: 003

Card 2/2 *18*

L 04419-67 EWT(l)/EWT(m)/T/EWP(t)/ETI IJP(c) JD

ACC NR: AP6034269

SOURCE CODE: UR/0386/66/004/007/0252/0255

AUTHOR: Belov, K. P.; Kadomtseva, A. M.; Ovchinnikova, T. L.; Uskov, V. V. 61
58ORG: Physics Department of the Moscow State University im. M. V. Lomonosov (Fizi-
cheski fakul'tet Moskovskogo gosudarstvennogo universiteta) BTITLE: Magnetostriction of thulium orthoferrite single crystals in the region of the
temperature of reorientation of the "weak" ferromagnetic momentSOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu.
Prilozheniye, v. 4, no. 7, 1966, 252-255TOPIC TAGS: thulium compound, ferrite, magnetostriction, magnetic moment, temperature
dependence

ABSTRACT: This is a continuation of earlier work (Pis'ma ZhETF v. 2, 253, 1965). To verify the occurrence of magnetostriction deformations in thulium orthoferrite single crystals following superposition of a sufficiently strong field, the authors measured the magnetostriction by means of strain gauges near the reorientation temperatures, in fields up to ~13 kOe. The results show that when the field is applied along the c axis, which is the antiferromagnetism axis below the transition temperature, positive magnetostriction of appreciable magnitude occurs in the interval from 93 to 67K. In fields up to 13 kOe the magnetostriction first increases with increasing departure from the reorientation temperature, reaching a maximum at 78K ($\Delta l/l \sim 20 \times 10^{-6}$), and then decreases. Above the transition temperature, magnetostriction is observed only

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ACC NR: AP6034269

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when the field is directed along the a axis, which is the antiferromagnetism axis at these temperatures. The magnetostriction deformation produced along the c axis was also measured with the field applied along the a axis of the crystal in the temperature interval from 90 to 114K. The sign of the magnetostriction was different for fields applied along the c and a axes of the crystal, and the magnetostriction decreased at temperatures above 100K. The results are connected with the fact that the threshold fields increase noticeably with increasing departure from the reorientation temperature, and exceed the fields in which the measurements were made. The relatively low threshold fields (~10 kOe) in the temperature interval ~70 - 100K are connected with the fact that the spontaneous magnetic moment can be readily rotated by the field from the c axis to the a axis of the crystal, owing to the low values of the anisotropy constant. When a magnetic field is applied along the b axis of the crystal, no magnetostriction is observed in the entire investigated temperature range, since the b axis is perpendicular to the plane containing the antiferromagnetism vector, and consequently the field cannot cause flipping of the iron²⁺ sublattices and lead to magnetostriction deformation in the crystal. It is noted that it is easy to determine the threshold field from the magnetostriction vs. field curves. This is particularly important for thulium orthoferrite, where it is impossible to determine the threshold field from the jump in the magnetization curves during the instant of flipping of the antiferromagnetic sublattices. The authors thank V. A. Timofeyeva for supplying the single-crystal thulium orthoferrite. Orig. art. has: 2 figures.

SUB CODE: 20/ SUBM DATE: 02Jul66/ ORIG REF: 002/ OTH REF: 007

awm
Card 2/2

ACC NR: AP6037056

SOURCE CODE: UR/0056/66/051/005/1306/1310

AUTHOR: Belov, K. P.; Kadomtseva, A. M.; Levitin, R. Z.

ORG: Moscow State University (Moskovskiy gosudarstvennyy universitet)

TITLE: Character of the magnetization curves for a single crystal of samarium orthoferrite near the reorientation temperature

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, V. 51, no. 5, 1966, 1306-1310

TOPIC TAGS: magnetization curve, single crystal growing, samarium, ferrite, reorientation temperature, Curie point, *magnetic moment, pulsed magnetic field*

ABSTRACT: Magnetization curves of a single crystal of samarium orthoferrite have been measured from room temperature to the Curie point. Reorientation of a magnetic moment in a crystal of samarium orthoferrite from the a axis to the c axis was observed on heating to 210C. In the temperature 150—300C the threshold fields of this compound do not exceed 20 koe and, in the first approximation, increase linearly on removal from the reorientation temperature. The measurements made in pulse magnetic fields showed that the threshold field of samarium orthoferrite is 50—60 koe at room temperature, while for europium and
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ytterbium orthoferrites the value of the threshold field exceeds 200 koe. The experimental magnetization curves near the reorientation temperature coincide well with the calculated values. The authors wish to express their appreciation to V. A. Timofeyeva for growing the single crystal orthoferrites. Orig. art. has: 7 figures and 6 formulas. [Authors' abstract] [AM]

SUB CODE: 20/ SUBM DATE: 31May66/ ORIG REF: 005/ : :

Card 2/2

DONIGEVICH, M.I., kand.med.nauk; GRIGOR'YEVA, R.I., kand.med.nauk; ZHUCHKOVA,
L.O.; KADOMTSEVA, P.P.; SHEINOVA, N.P. (Mordovskaya ASSR)

Organization of psychoprophylactic preparations for all parturients
in Saransk. Vop.okh.mat. i det. 4 no.5:74-78 S-0 '59.

(MIRA 13:1)

(SARANSK--CHILDBIRTH--PSYCHOLOGY)

KADOSHCHUK, T.A. (Vinnitsa, ul. Rosy Lyuksemburg, 18)

A case of cancer of the retrorectal region [with summary in English]
Vop.onk.2 no.3:360-361 '56. (MLBA 9:10)

1. Iz kafedry fakul'tetskoy khirurgii (zav. - prof. I.M.Grabchenko)
Vinnitskogo gosudarstvennogo meditsinskogo instituta (dir. dots.
S.I.Korkhov)

(SARCOCOCYGEAL REGION, neoplasms
scirrhous carcinoma, surg.)

KADOSHCHUK, T.A. (Vinnitsa, ul. Rozy Lyuksemburg, d.18, kv.94)

Cases of teratoid tumors of the coccygeal region [with summary in English]. Vop.onk. 4 no.3:354-356 '58 (MIRA 11:8)

1. Iz kafedry fakul'tetskoy khirurgii (zav. - prof. I.M. Grabchenko) Vinnitskogo gosudarstvennogo meditsinskogo instituta (dir. - dots. S.I. Korkhov).

(SACROCCOCCYGEAL REGION, neoplasms,
teratoma, giant, in newborn (Rus))
(TERATOMA, in inf. & child.
coccygeal region, in newborn (Rus))

KORKHOV, S.I.; KADOSHCHUK, T.A.; STOLYARCHUK, A.A.

**Clinical significance of the indexes of the cholinesterase activity
of the blood serum in tumor patients. Vrach.delo no.11:1153-1156
N '99. (MIRA 13:4)**

**1. Kafedra fakul'tetskey khirurgii (zaveduyushchiy - prof. I.M.
Grabchenko) i kafedra farmakologii (zaveduyushchiy - dotsent G.V.
Tutayev) Vinnitskogo meditsinskogo instituta.
(CHOLINESTERASE) (CANCER)**

KADOSHCHUK, T.A.

Protein fractions in the blood serum in cancer of the gastro-intestinal tract before and after surgery. Vop.onk. 7 no.5: 9-16 '61. (MIRA 15:1)

1. Iz kafedry gosital'noy khirurgii (zav. - prof. I.A. Shrayev)
Vinnitskogo meditsinskogo instituta (dir. - dots. S.I. Karlov)
(BLOOD PROTEINS) (ALIMENTARY CANAL—CANCER)

KUCHERENKO, A.Ye.; KADOSHCHUK, T.A.

Tumor of the thymus with an unusual localization in the neck. Vop.
onk. 7 no.11:88-91 '61. (MIRA 15:5)

1. Kafedra gospiatal'noy khirurgii (sav. - doktor med.nauk M.V.
Danilenko) Vinnitskogo meditsinskogo instituta (dir. - dots.
S.I. Korkhov).

(THYMUS GLAND—TUMORS)

KADOSHCHUK, T.A.

Change in the protein fraction of the blood serum before and after resection of the stomach. Vest.khir. no.9:37-44 '61.

(MIRA 15:3)

1. Iz gospiatal'noy khirurgicheskoy kliniki (zav. - doktor med. nauk M.V. Danilenko) Vinnitskogo meditsinskogo instituta.
(STOMACH--SURGERY) (BLOOD PROTEINS)

KADOSHCHUK, T. A., (Vinnitsa, ul. Rosy Lyuksemburg, d. 2/21, kv. 39)

Changes in the protein composition of the blood serum and in the antitoxic function of the liver in stomach cancer and following surgery. Nov. khir. arkh. no.2:35-39 '62. (MIRA 15:2)

1. Kafedra gosital'noy khirurgii (sav. - doktor med. nauk M. V. Danilenko) Vinnitskogo meditsinskogo instituta.

(BLOOD PROTEINS) (STOMACH—CANCER) (LIVER)

KUCHERENKO, Ye.M., kand. med. nauk (Vinnitsa, ul. L. Tolstogo, d.21);
KADOSHCHUK, T.A.

Comprehensive study of the antitoxic function of the liver in
stomach cancer and complicated peptic ulcers. Klin. khir. no.10:
20-25'0 '62. (MIRA 16:7)

1. Kafedra gospital'noy khirurgii (zav.- prof. M.V. Danielenko)
i kafedra gospital'noy terapii (zav.- dotsent Yu.N. Golovtsev)
Vinnitskogo meditsinskogo instituta.
(LIVER) (STOMACH-CANCER) (PEPTIC ULCER)

DANILENKO, M.V. (Vinnitsa, ul. Gogolya, 1.kv.16); KADOSHCHUK, T.A.
(Vinnitsa, ul. Rozy Ljuksemburg, 2/21, kv.97)

Malignant degeneration of multiple stomach ulcers. Report No.2.
Vop. onk. 9 no.11:87-91 '63. (MIRA 18:2)

1. Iz kafedry gospital'noy khirurgii (zav.- prof. M.V. Danilenko)
Vinnitskogo meditsinskogo instituta imeni Pirogova (rektor -
dotsent S.I. Korkhov).

DANILENKO, M.V., prof.; KADOSHCHUK, T.A.

Diagnostic and prognostic importance of the protein composition of the blood and the antitoxic function of the liver in gastric diseases.
Vest. khir. 93 no.9:22-25 S '64. (MIRA 18:4)

1. Iz gospital'noy khirurgicheskoy kliniki (zav. - prof. M.V. Danilenko) Vinnitskogo meditsinskogo instituta.

KOREPANOV, A.; BERDNIKOV, V.V.; KADOSHNIKOV, B.A.; KAZANTSEV, D.P., red.;
VORONTSOVA, Z.Z., tekhn. red.

[Our experience in fattening young cattle] Nash opyt nagula modod-
nyaka krupnogo rogatogo skota. Izhevsk, Udmurtskoe knizhnoe izd-
vo, 1960. 16 p. (MIRA 14:12)

1. Zaveduyushchiy Molochno-tovarnoy fermy kolkhoza "Rassvet" Igrisko-
go rayona (for Korepanov).
(Cattle--Feeding and feeds)

KADOSHNIKOV, I. S.: Master Biol Sci (diss) -- "Age aspects of the brain arteries of cattle". Kazan', 1958. 21 pp (Min Agric USSR, Kazan' Vet Inst im N. E. Bauman), 150 copies (KL, No 12, 1959, 127)

KADOSHNIKOVA, T.S., Cand Vet Sci --(diss) "Hydrolyzing nutritive
prepared
media from vetch and their usefulness in bacteriological practice."

Omsk, 1959. 16 pp (Omsk State Vet Inst of the Min of Agr RSFSR),

150 copies (II, 31-59, 116)

- 36 -

Translation from: Referativnyy zhurnal, Geografiya, 1957, Nr 7, 14-57-7-14995
p 130 (USSR)

AUTHOR: Kadoshnikova, V. P.

TITLE: Relation of Forests to the Physical and Chemical Characteristics of the Carbonate Soils in the Donbas (Lesorastitel'nyye usloviya na karbonatnykh pochvakh Donbassa v svyazi s ikh fiziko-khimicheskimi osobennostyami)

PERIODICAL: Nauch. tr. Ukr. n.-i. in-ta les. kh-va i agroleso-melior., 1956, Nr 18, pp 196-208

ABSTRACT: Carbonate soils are common in the Donbas, and particularly so on its northern rim. They abound on the right banks of rivers where the relief is broken, where slopes are steep, and where erosion is active. Soil samples were obtained on the eastern edge of the city of Voroshilovgrad and on the right bank of

Card 1/3

Relation of Forests (Cont.)

14-57-7-14995

the Severnyy Donets River, near the village of Bogorodichnoye in the Slavyanskiy Rayon, Stalinskaya Oblast. The investigations demonstrated that the specific physical and chemical properties of the carbonate soils and the particular local climate of the districts where the soils were formed had an unfavorable effect on the growth of trees and shrubs. Light colored carbonate soils which are slow to warm up in spring retard the growth of summer vegetation; furthermore, a short spring quickly followed by hot dry weather decreases vegetable resistance to drought. A large amount of hygroscopically held moisture does not prevent plants from withering. During dry periods plants in these soils are extremely short of water. The carbonate soils resemble heavy clays; more than 70 percent of their particles measure less than 0.01 mm in diameter. Mechanical composition was observed to be uniform throughout the thickness of the soil. The ability of the soil to retain its structure in water is poor and depends on humus content; the chemical reaction of a soil solution was strongly alkaline, a circumstance
Card 2/3

Relation of Forests (Cont.)

14-57-7-14995

which, combined with low humidity and high salinity, may prevent the growth of some plant species. The high chloride and sulfate content obviously exercises a negative influence also. The general climatic and hydrological conditions are likewise unfavorable to plant growth. These conditions are characterized by high summer air and soil temperatures combined with low soil moisture and destructive arid winds, by low winter temperatures with strong winds and a lack of snow cover, and by sharp temperature changes. In solving the problem of horticulture on carbonate slopes, the primary task will consist of choosing the stablest soils with the highest agricultural value.

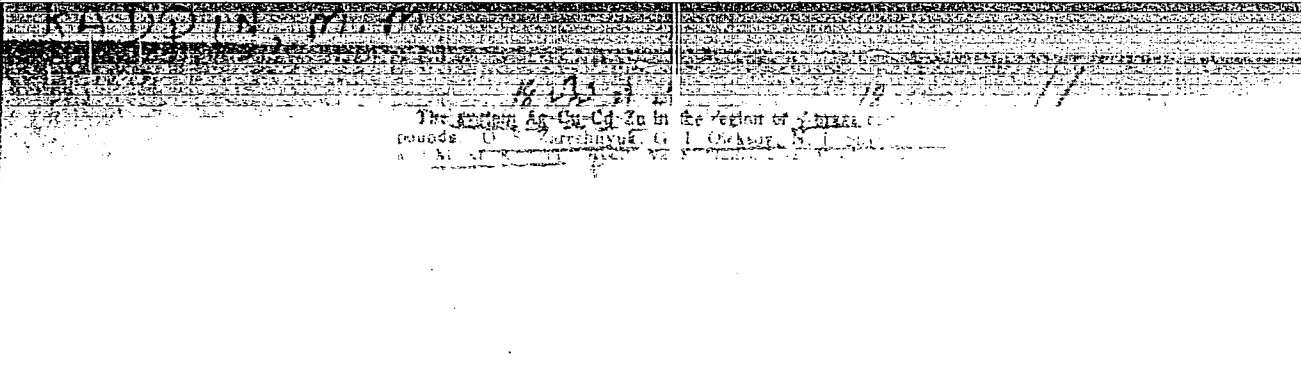
Card 3/3

G. K.

DROZD, A., inz.; KADOUN, M.

Experience with the foundation of bridges. Inz stavby 10
no.11:407-412 N '62.

1. Inzinkerske stavby, n.p., Kosice.



"APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R000519830010-4

MT

APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R000519830010-4"

KADRACKA, Janina: JACH, Zygmunt

Method of determining the acidity of gastric content with "gastrotest"
(cilag) preparation without sounding. Ann.Univ.Lublin; sec. D 14:
207-212 '59.

1. Z Katedry III Kliniki Chorob Wewnętrznych Wydziału Lekarskiego
Akademii Medycznej w Lublinie Kierownik: prof. dr med. Michał Voit.
(GASTRIC JUICE)

KADREVICH, T. A.

SUBJECT: LATVIAN SSR/Drainage of Swamps.

99-3-4/7

AUTHOR: Kadrevich, T.A., Engineer.

TITLE: Reclamation of Swampy Lands by Means of Mechanical Water-Lifting Devices at Coastal Zones in the Latvian SSR.
(Osusheniye s mekhanicheskimi vodopod'yemnymi zabolochennykh zemel' v primorskoj zone Latvijskoj SSR).

PERIODICAL: Gidrotekhnika i Melioratsiya, 1957, Issue #3, pp 28-38, (USSR).

ABSTRACT: Drainage is one of the most important measures to be undertaken in the LSSR in order to increase its agricultural production. Approximately 2.5 million hectares of land are to be meliorated, which constitute more than 1/3 of the total acreage. During the 1956-60 period the reclamation of 1,954,000 hectares has been planned of which 350,000 hectares are to be drained. The sandy and swampy low lands which extend over 500 km along the coast, are especially in need of melioration. The coastal sandy low lands are on the average 0-40 m above sea level, as a result sand dunes are frequently located along the coast line, which hinder the drainage of water into the sea. The coastal zone has a climate typical for such locations - high humidity

Card 1/3

99-3-4/7

TITLE:

Reclamation of Swampy Lands by Means of Mechanical Water-Lifting Devices at Coastal Zones in the Latvian SSR.
(Osusheniye s mekhanicheskimi vedeped "yemom sabelochennykh zemel' v primorskey zone Latviyskey SSR).

and rapidly changing seasons of the year. The vegetation period extends from May to October. The average yearly precipitation ranges from 550 to 700 mm. All rivers of the Baltic basin drain into the Baltic sea. The water table along the coast is raised considerably by back-waters, caused by winds blowing from the sea.

Swamps occupy approx 8 % of the coastal lowlands, and are located mainly in the Riga-Yelgava - Tukhum triangle, and south of Ventspils and Liepaya. The reclamation of swampy land can be accomplished by the application of two methods of melioration: drainage by means of lifting the water mechanically and by gravitational draining. Mechanical drainage embraces the coastal swampy lowlands adjacent to rivers and lakes near the sea, which are subjected to temporary flooding. Practical experience has shown that the application of mobile units can be used to advantage for the removal of surplus water on coastal lowlands, especially where the natural drainage is obstructed by

Card 2/3

99-3-4/7

TITLE: Reclamation of Swampy Lands by Means of Mechanical Water-Lifting Devices at Coastal Zones in the Latvian SSR.
(Osusheniye s mekhanicheskim vodoped "yenom zabolochennykh zemel' v primorskoy zone Latviyskoy SSR).

railroad and highway dams. Till expensive stationary pumps are installed such units can serve for the removal of surplus water. The cost of reclamation of 1 hectare land by pumping amounts to 2,500-3,000 Rubles.

The article contains 1 map, 4 photographs, 2 figures, 2 tables and 1 diagram.

ASSOCIATION:

PRESENTED BY:

SUBMITTED:

AVAILABLE: At the Library of Congress

Card 3/3

PADREVICH, T.A., Cand Tech Sci--(disc) "Study of ~~the~~ ^{the} problem of draining of ^{the} maritime lowlands of Latvian SSR with a ~~mechanical~~ ^{mechanical water wheel} ~~hydraulic~~ ^{hydraulic} ~~system~~." Riga, 1958. 15 pp. Min of Higher Education USSR. Latvian Agr Acad), 150 copies (NL,31-58,103)

KADRI, Kerciku, S., dr.

Necrobiosis lipoidica diabeticorum. *Borgyogy. vener. szemle*
10 no.3:125-127 May 56.

1. A tiranai koskorhas (igazgato: Truncer, Spassen, dr.)
borosztalyanak (foorvos: Kerciku S. Kadri, dr.) kozlemenye.
(DIABETES MELLITUS, compl.
necrobiosis lipoidica, case report (Hun))

Abs Jour : RZHBIOL., NO 6, 1977, NO 27077

Author : Kadrinov, N.

Inst : -

APPROVED FOR RELEASE: 07/19/2001 Hothouse and Hotbed Vegetable Growing in Bulgaria. CIA-RDP86-00513R000519830010-4"

Orig Pub : *Mezhdunar. s.-kh. zh.*, 1957, No. 3, 144-152

Abstract : It was shown that in Bulgaria the basic hothouse culture are tomatoes. Crossbreed heterotic high-yielding varieties - Dawn crossed with Comet and Comet crossed with Dawn - are the most disease-resistant varieties. At the early cultivation of tomatoes, a harvest of 80-90 t is obtained from 1 hectare of the glassed-in area; at middle-early, 100-110 t. The cucumber harvest is, on the average,

Card : 1/3

Country : USSR
Category : Cultivated Plants. Potatoes. Vegetables. Melons. M

Abs Jour : RZhBiol., No 6, 1959, No 24877

Author :
Inst :
Title :

Orig Pub :

Abstract : 120-140 t/ha. From the peppers, the varieties Julian Thorn No. 1021 and Rumanian Thorn are principally grown; the harvest is 300-450 c/ha. About 50 tons of early cucumbers, on the average, are gathered from 1 hectare of hotbeds. Tomatoes (the varieties Dawn crossed with Comet and No. 10 crossed with Bison) are also grown in hotbeds; 5-8 kg of the fruits

Card : 2/3

Country : USSR
Category : Cultivated Plants. Potatoes. Vegetables. Melons. M

Abs Jour : RZhBiol., No 6, 1959, No 24877

Author :
Inst :
Title :

Orig Pub :

Abstract : are gathered from 1 m² in the beginning of May. Plowing of the Belinevlechgard summer squash variety, and the Sax and Chervenbel raddish varieties are most suitable for hot-beds. -- Ye. A. Okorokova

Card : 3/3

Plants - Fruits. Berries. H

Abs Jour : Ref Zhur - Biol., No 10, 1958, 44280

Autor : Kadrinov, A.I.

Inst : ~~_____~~

Title : The prospects of the Development of Fruit Growing, Viticulture and of Vegetable Growing in Bulgaria.

Orig Pub : Sad i ogorod, 1957, No 11, 53-56.

Abstract : No abstract.

Card 1/1

U/17
Dok. 1781, T. 17.; , H. 17.; 1917-1918, 17.

201. 1781, personal case report. Lijec. vjes. 79 no.3-4:142-146 Mar-Apr 57.

I. In Dječjoj; odjela i Zavoda za rentenologiju Once bolnice dr. M. Stjepanovića u Zagrebu.

(TUBERCULOSIS, case report (Ser))

SKARICA, Radoslav, dr.; VIDA KOVIC, Zdenko, dr.; KADENKA, Rajka, dr.

Significance of Ortolani's position in early roentgenological diagnosis of congenital hip dislocation. Lijec. vjes. vjes. 81 no. 11:819-825 '59.

1. Iz Zavoda za rentgenologiju i Odjela za dječje bolesti bolesti Opće bolnice "Dra. M. Stojanovica" u Zagrebu.
(HIP fract. & disloc.)

KADRKA, Silvije. Dr.

~~Incipient cancer of the stomach from the point of view of x-ray diagnosis.~~
Incipient cancer of the stomach from the point of view of x-ray diagnosis. Lijec.vjes. 76 no.9-10:544-559 1954.

1. Iz Zavoda za rentgenologiju Opce bolnice dra Stojanovica u Zagrebu.

(STOMACH, neoplasms,
incipient, x-ray diag. & surg.(Ser))

KADRNKA, Silvijs; KRMPOTIC, Jelena

Contribution to pneumo-stratigraphic anatomy of the brain. Rad. med.
fak. Zagreb 8 no.2:135-156 '60.

(VENTRICULOGRAPHY)

HUDOLIN, VJ; RIESSNER, D.; KADRKA, S.; KNEZEVIC, M.

Giant osteoma of the lamina cribrosa. (Contribution to the diagnosis of frontal lobe syndrome). Neuropsihijatrija 8 no.4:306-316 '60.

1. Iz Opce bolnice dra M. Stojanovica u Zagrebu: Neurolosko-psihijatrijski odjel (Sef: Dr. VJ. Hudolin) Kirurski odjel (Sef: Dr. D. Riessner) Zaved za radiologiju (Sef: Dr. S. Kadrka) Zavod za patologiju (Sef: Dr. M. Knezevic).

(OSTEOOMA case reports) (FRONTAL BONE neopl)

KADROV, G.

Let us justify the confidence. NTO 3 no.8:30-32 Ag '61.
(MIRA 14:9)

1. Predsedatel' soveta Nauchno-tehnicheskogo obshchestva metall-
urgicheskogo kombinata imeni A.K.Serova.
(Serov--Steelworks)

L 8371-63 EWT(1)/REC(b)-2/EED-2 AFETR/RAEM(t)

ACCESSION NR: AR4044024

S/0058/63/000/011/A029/A029

SOURCE: Ref. zh. Fizika, Abs. 11A298

AUTHOR: Chernyayev, V. B.; Kadshevich, V. I.; Panov, V. N.

TITLE: Multi-stable transistorized circuits 15

CITED SOURCE: Tr. 5-y Nauchno-tekhn. konferentsii po yadern. radioelektronike, 1961. M., Gosatomizdat, 1962, 156-160

TOPIC TAGS: circuit, transistorized circuit, multistable circuit

TRANSLATION: Examines transistorized circuits with many stable states. To create such a device with n stable states there are required n triodes. The operational principle of the circuit is similar to that of ring-type thyratron scaling. A-c couplings, assuring stability of the states, are fed from each stage to all others through a set of coupling impedances. Thus, a circuit with n stable states includes $n(n-1)$ coupling impedances. Investigations have shown that multistable circuits with one nonconducting and the rest conducting triodes are considerably

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ACCESSION NR: AR4044024

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~~more reliable and simpler to align than a circuit with one conducting triode.~~ In practice, circuits with $n = 3, 4,$ and 5 were set up and shown to operate. The resolving time of the circuit using P-14 triodes was no worse than $5-8$ micro-seconds. It was shown that such five-stable circuits are very reliable. They permit a change in line voltage within $2-10$ volts and a three-fold change in the amplitude of the trigger signal. There is given a working circuit of a decade scaler in which a five-stable circuit is used.

SUB CODE: EC

ENCL: 00

2/2
Card

FILONENKO, Serafim Nikonovich; KOSTYUKOV, Viktor Aleksandrovich; RODIN, Petr Rodionovich; GUS'KOV, Boris Sergeevich; KADUCHENKO, A.G., inzhener, redaktor; SERDYUK, V.K., inzhener; redaktor; ROLINSKIY, Ya.V.; tekhnicheskii redaktor.

[Concise manual for tool operators at machine-tractor stations]
Kratkiy spravochnik stanochnika MTS. Kiev, Gos.nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1955. 319 p. (MLRA 9:6)
(Machine-tractor stations) (Metalwork)

VASHCHENKO, K.I.; FIRSTOV, A.N.; ZHIZHCHENKO, V.V.; KADUCHENKO, A.G.;
GOLOVAN', N.A.

Bimetallic motor cylinders for motorcycles. Lit. proizv.
no.8:16-18 Ag '61. (MIRA 14:7)
(Motorcycles) (Laminated metals)

KADUK, B. G.
KADUK, B.G., insh.

Universal radiometer. Nauka i pered. op. v sel'khoz. 7 no.10:59-60
0 '57. (MLRA 10:11)

(Radiometer)

KADUK, B.G.

Effect of nonlinear distortions on errors in the measurement of a
phase shift between two voltages. Izv.tekh. no.6:44-45 Je '61.
(MIRA 14:5)

(Electronic measurements)

KADUK, B.G.; SLOBODYANSKIY, L.E.

Effect of the phase shift of harmonic components on the
measurement error of electronic phase meter. Izv. tekhn.
no. 8:54-55 Ag '62. (MIRA 16:4)
(Electronic instruments—Testing)

KADUK, B.

Measurement of nonlinear distortions. Radio no. 12:30-31 D '62.

(MIRA 1613)

(Radio measurements)

(Electric measurements)

KADUK, B.G.; GLADSKIY, A.I.

Analysis and investigation of some square-law detector
circuits. Izv. vuzov. no. 2:38-42 F '63. (MIRA 16:2)
(Electronic circuits)

KADUK, B.G.

Applying the conceptions of the information theory to the design
measuring equipment. Izv. tekh. no.8:5-6 Ag '63.
(MIRA 16:10)

KADUK, B.G., inzh.

Some features of using S6-1 apparatus for measuring nonlinear
distortions. Vest. sviazi 23 no.5:7 My '63. (MIRA 17:4)

KADUK, B.G.; GLADSKIY, A.I.; ONOFRIYCHUK, Yu.A.

Amplifier with composite feedback. Avtom. 1 prib. no.3:
71-73 J1-S '64. (MIRA 18:3)

L 37694-66

ACC NR: AT6021247

SOURCE CODE: UR/3217/65/000/001/0133/0135

AUTHOR: Kaduk, B. G. (Engineer)

27

ORG: none

B+1

TITLE: Circuit for determining the phases of higher harmonics with respect to the first harmonic

9M

SOURCE: Ukraine. Ministerstvo vysshego i srednego spetsial'nogo obrazovaniya. Priborostroyeniye, no. 1, 1965, 133-135

TOPIC TAGS: phase measurement, phase meter

ABSTRACT: Until recently the phase of a higher harmonic with respect to the first harmonic has been measured by isolating the harmonic and dividing its frequency; naturally, this system has had large errors. A new idea is suggested (see Fig.1) in which the test signal $u(t) = \sum_{n=1}^N u_n \cos(n \omega_0 t \pm \varphi_n)$

is applied — via a low-distortion cathode follower or amplifier 1 — to orthogonal converter 2; the latter can be represented by a two-grid-tube mixer, Hall generator, thermoconverter bridge, etc. To the second input of the orthogonal converter, a harmonic signal $u_0 = u_0 \cos(\omega_0 t + \varphi_0)$

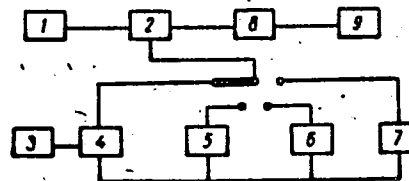


Fig. 1. Measuring circuit

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L 37694-66

ACC NR: AT6021247

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is applied; the signal is taken either from tunable generator 3 via phase shifter 4 (calibration) or from wide-band frequency multipliers 5, 6, 7 (measurement). The above system promises a "satisfactory accuracy" that depends on the phase-shifter accuracy and on the integration constant involved. Orig. art. has: 1 figure and 7 formulas. [03]

SUB CODE: 09 / SUBM DATE: 09Feb66 / ORIG REF: 001 / ATD PRESS: 504/

no
Card 2/2

ACC NR: AT6034601

(N)

SOURCE CODE: UR/3232/66/000/003/0003/0010

AUTHOR: Kaduk, B. G.; Kashlev, V. P.; Skripnik, Yu. A.

ORG: none

TITLE: Raising the accuracy of spectrum analyzers based on orthogonal converters

SOURCE: L'vov. Politekhnicheskiy institut. Kontrol'no-izmeritel'naya tekhnika, no. 3, 1966, 3-10

TOPIC TAGS: orthogonal convertor, spectrum analysis, resolution capacity, signal analysis

ABSTRACT: The matter of raising resolving capacity and accuracy of spectrum analyzers has become urgent at the present time. Analyzers of high resolving capacity and accuracy are used as indicators at the output of time-scale compression systems in the analysis of ELF signals, at the output of IF amplifiers of various HF systems, for studying phase and frequency stability of HF signals, for analyzing the spectrum of their amplitude and phase fluctuations, and for determining the level of parasitic side components. Such analyzers may also be used independently in studying acoustic and hydroacoustic signals, oscillatory processes in various mechanical systems, in medical research, etc. Orthogonal converters are of promise in the construction of accurate spectrum analyzers of high resolving capacity. The circuit of the orthogonal converter uses the orthogonality of trigonometric functions corresponding to two input signals, i.e., the linearity of the conversion characteristic:

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ACC NR: AT6034601

$$A(U_\omega) = \int_0^t U(t) U_r(t) dt, \quad (1)$$

where $U(t)$ is the signal analyzed, $U_r = U_0 e^{j\omega_0 t}$ is the signal of a tunable generator whose frequency determines the analysis frequency, and $A(U_\omega)$ is the signal at orthogonal converter output. Specific cases are discussed. Orig. art. has: 22 formulas and 5 figures.

SUB CODE: 09, 14/ SUBM DATE: none/ ORIG REF: 006

Card 2/2

L 56575-65 HEO-2/ENT(d)/FSS-2/EEC-4/EEC(t)/EED-2 Pn-h/Pp-h/Pac-h

ADDITION NR: AP5015251

GR/0286/65/000/009/000/000

... ..

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SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 9, 1965, 34

REF: low frequency analyzer, data sampling

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ENCL: 00

NO REF SOV: 000

OTHER: 000

Card 1/1 *gh*

KADUK, B.G.; SKRIPNIK, Yu.A.

Measurement of small coefficients of nonlinear distortions
in a wide range of frequencies. Izv.vys.ucheb.zav.; radiotekh.
8 no.4:486-489 JI-Ag '65.

(MIRA 18:11)

1. Submitted January 13, 1965.

CZECHOSLOVAKIA

KONA, E.; HAVASSY, I.; ZIMMERMANN, J.; KADUK, J.; Institute of Pathological Physiology, Veterinary Faculty, College of Agriculture (Ustav Patologickej Fyziologie Veterinarskej Fakulty VSP), Kosice.

"Some Biochemical Changes in the Blood of Sheep After Intensive Bleeding."

Prague, Veterinarni Medicina, Vol 11, No 8, Aug 66, pp 517 - 522

Abstract [Authors' English summary modified]: The response of certain intermediary metabolites in the blood of adult sheep to a blood letting of 1850 ml of blood within 10 days was investigated for a period of 38 days. The curves of the levels of glucose, hexoses bound to serumproteins, and beta-hydroxybutyric acid show a maximum increase between the 5th and 11th days after blood letting and a second maximum after 20 days. Non-esterified fatty acids show an increase to a maximum on the 5th day and then decrease steadily. Albumins and gammaglobulins reach a minimum on the 11th day, and then start increasing. No changes of serum amino nitrogen and alpha globulins were observed. 1 Figure, 22 Western, 4 Czech references. (Manuscript received 1/1 14 Jul 65).

KADUK, J.

New method of alkylating ketones and aldehydes. Wiad chem 18
no.3:177-178 Mr'64

Stereospecific synthesis of olefins from 1,2 diols. Ibid.:178-
179.

KADUKOV, Ya.; MARGOLIN, M.

Cleaning mite-infested grain. Muk.-elev.prom.22 no.12:8-10 D '56.
(MLBA 10:2)

1. L'vovskoye oblastnoye upravleniye Gosudarstvennoy inspeksii po
kachestvu sel'skokhozyaystvennykh produktov i syr'ya.
(Grain--Cleaning) (Mites)

KADUKOV, Ya.; MARGOLIN, M.; BUKHDROKOR, M.; (Tallin, Estonskaya SSR); MANUYLOV, A.; PISHCHETS, S.

Improve record keeping in grain storage. Mak.-elev. prom. 26 no.10:
28-30 0'60. (MIRA 13:10)

1. L'vovskoye meshoblastnoye upravleniye khleboproductov (for Kadukov, Margolin).
2. Glavnyy inzhener Upravleniya po priyemke i sokhrannosti serosvykh, maslichnykh kul'tur i sortovykh semyan Ministerstva khleboproductov Kazakhskoy SSR (for Manuylov).
3. Belotserkovskaya realizatsionnaya baza (for Pishchets).
(Grain elevators--Accounting)

KADULIN, Valentin Gennadiyevich; POLUNIN, Vladimir Sergeyeovich; GUROV, S.,
red.; KUZNETSOVA, A., tekhn. red.

[Caramel production line] Karamel'nyi potok. Moskva, Mosk. rabo-
chii, 1961. 45 p. (MIRA 14:11)

(Caramel)

KADULIN, Ya.I., polkovnik zapasa

Czechoslovakian Aviation Day. Vest.Vozd.Fl. no.9:82-83 S'6C.
(MIRA 13:10)

(Czechoslovakia--Aeronautics)

KADUN, T.

Compensation in surveying differences obtained by instruments for precise optical measurement. p. 280.

GEODETSKI LIST, Zagreb. Vol. 9, No. 7/10, July/Oct. 1955.

SO: EEAL, Vol. 5, No. 7 July 1956

KADURIN, I.M.

Device for surveying the profile of open-pit banks. Rats. i izobr.
predl. v stroi. no.79:23-25 '54. (MIRA 8:4)
(Surveying)

KADURIN, I.M.

Inadvisability of using twin parallel series connections for electric detonators. Gor shmr. no. 3:37-41 Mr '57. (MLRA 10:4)

1. Amrosiyevskiy uchastok Ukrvzryvproma.
(Detonators) (Blasting)

KADURIN, I.N.

Short-delay blasting without failure, Gor.zhur. no.6:38-40 J. 157.

(MLRA 10:8)

(Blasting)

KADURIN, I.M.

SUBJECT: USSR/Mining

127-10-16/24

AUTHOR: Kadurin, I.M.

TITLE: Instantaneous Exploding of Charges without Misfires (O bezotkaznom mgnovennom vsryvanii zaryadov)

PERIODICAL: Gornyy Zhurnal, 1957, #10, pp 66-69 (USSR)

ABSTRACT: The author discusses various methods of connecting electric blasting caps used in conducting large-scale blasting operations and comes to the following conclusions:

1. The series circuit with series connection of caps by pairs is the most reliable and simple when dynamo-electric and condenser exploding machines or a general electric network are used for blasting;
2. The series-parallel circuit with series connection of caps by pairs is more expedient when a great number of charges are exploded from a general electric network.
3. The scheme of a doubling circuit with a detonating fuse must ensure the explosion of all charges when any one of them is exploded, for any direction of the detonation wave;

Card 1/2

ZLOBIN, O.A.; YEVSTIGNEYEV, Ye.V.; KADUSHIN, A.A.; SHOR, G.I.

Automatically maintaining the separation level of media of
different densities. Khim. i tekhn. i masel 4 no.1:20-24
Ja '59. (MIRA 12:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut neftyanoy
promyshlennosti.
(Radioisotopes--Industrial applications) (Petroleum--Refining)

S/115/60/000/010/005/028
B021/B058

5.1210

AUTHORS: Andres, U. Ts., Kadushin, A. A., and Shor, G. I.

TITLE: Measuring the Velocity of Fall of Bodies in a Liquid by a Radiometric Method 19

PERIODICAL: Izmeritel'naya tekhnika, 1960, No. 10, pp. 27-28

TEXT: In publications a great number of various schemes and devices is described for measuring the velocity of the movement of a ball in non-transparent liquids. All these methods become unreliable with an increasing ratio between the diameter of the tube and the diameter of the ball. In 1959, a device was designed at the Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke nefi i gaza (All-Union Scientific Research Institute for the Processing of Oil and Gas) for measuring the velocity of the movement of bodies in a liquid and of the liquid itself respectively, by means of tagged atoms. The scheme of the measuring part of the device is shown in Fig. 1. The valve 6H15II (6N15P), the cell of two diodes ДГЦ-12 (D_1 and D_2)(DGTs-12)(D_1 and D_2) and the relays P₁(R₁) and P₂(R₂) are used for it. In connection with the

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S/534/62/000/022/002/002
I033/I240

AUTHORS: Kadushin, A.A., and Vorob'yev, G.G.

TITLE: A method of investigation of meteorites and tektites

PERIODICAL: Akademiya nauk SSSR. Komitet po meteoritam.
Meteoritika, no. 22. Moscow, 1962, 104-109

TEXT: The application of infrared absorption analysis in chemistry and mineralogy is reviewed. Because of its insensitivity to native metals infrared spectroscopy may be used only for stone meteorites. The spectrometer UR - 10 manufactured by Karl Zeiss of Jena, GDR was used for analysis. The powders to be investigated were mixed with KBr or NaCl and pressed into tablets. ✓

Card 1/2

KADUSHIN, A.A.; VOROB'YEV, G.G.

Using infrared spectrometric analysis in investigating meteorites
and tektites. Meteoritika no.22:104-109 '62. (MIRA 15:8)
(Spectrometry) (Meteorites) (Tektite)

ACCESSION NR: AP4040603

S/0204/64/004/003/0441/0446

AUTHOR: Braudo, Ye, Ye.; Kadushin, A. A.; Dintses, A. I.

TITLE: Structure and thermal conversion of copolymers of ethylene and carbon monoxide

SOURCE: Neftekhimiya, v. 4, no. 3, 1964, 441-446

TOPIC TAGS: ethylene carbon monoxide copolymer, structure, IR spectra, crotonyl condensation, thermal condensation, cross linkage, molecular mobility, polyketone structure, electroconductivity

ABSTRACT: As a continuation of work on the structure and thermal conversion of copolymers of ethylene and carbon monoxide formed by cobalt-60 gas phase gamma-irradiation (Ye. Ye. Braudo, A. I. Dintses, Neftekhimiya 4, No. 1, 68, 1964) the authors made an intensive study of the IR spectra of these copolymers synthesized at different temperatures. Interpretation of the IR spectra of copolymers synthesized at 70-120C indicated they have a polyketone structure. The copolymers synthesized at 215C have a more complex structure and different physical properties. It was assumed that the thermal conversion of the copolymers is caused by crotonyl

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ACCESSION NR: AP4040603

condensation of the ketones. The condensed volatile product was mostly water. The electric conductivity of less than 10^{-13} - 10^{-5} ohm⁻¹ cm⁻¹ indicated an absence of conjugated double bonds in the thermal condensation products. The reduced mobility of the fragments of the molecular chain and inhibition of the condensation reaction indicate the formation of a cross-linked structure. "The authors thank Yu. L. Khmel'nitsko and V. V. Nesterovsk for providing the opportunity of conducting our work, and also collaborator of the Institute of Petrochemical Synthesis I. I. Patalakh for determining the electroconductivity of the products." Orig. art. has: 2 figures and 1 table.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke nefi (All-Union Scientific Research Institute for Petroleum Reprocessing)

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NO REF SOV: 001

OTHER: 012

Card 2/2

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UDC: 541.115

ACC NR: AP7001898

during chemisorption. Authors thank R. F. Vasil'yev for useful methodic suggestions.
Orig. art. has: 1 figure.

SUB CODE: 07/ SUBM DATE: 15Sep66/ ORIG REF: 007/ OTH REF: 003

Card 2/2